

213.3
UNITED STATES DEPARTMENT OF LABOR
BULLETIN OF THE WOMEN'S BUREAU, No. 60

**INDUSTRIAL ACCIDENTS
TO WOMEN
IN NEW JERSEY, OHIO, AND
WISCONSIN**

[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
JAMES J. DAVIS, SECRETARY
WOMEN'S BUREAU
MARY ANDERSON, Director

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WISCONSIN**



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON
1927

U. S. DEPARTMENT OF LABOR
JAMES H. HANCOCK, SECRETARY
WOMEN'S BUREAU
MARGARET ANTHONY, DIRECTOR

BULLETIN OF THE WOMEN'S BUREAU, NO. 28

INDUSTRIAL ACCIDENTS
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WISCONSIN

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LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
WOMEN'S BUREAU,
Washington, March 29, 1927.

SIR: I transmit herewith the report of a study of industrial accidents to women in New Jersey, Ohio, and Wisconsin. This report is of very great importance because it is more comprehensive than any other that has been made on the subject of accidents to women in industry.

Miss Kathleen Jennison, industrial assistant, Women's Bureau, was in charge of this study, and the report was written by Miss Jennison in collaboration with Miss Elisabeth Benham.

Respectfully submitted.

MARY ANDERSON, *Director.*

HON. JAMES J. DAVIS,
Secretary of Labor.

INDUSTRIAL ACCIDENTS TO WOMEN IN NEW JERSEY, OHIO, AND WISCONSIN

PART I

INTRODUCTION

The Women's Bureau, created to promote intelligent standards for women in industry, naturally is keenly interested in the accident and disease hazards connected with woman-employing occupations. In the course of inspections of working conditions in factories, canneries, laundries, and stores the bureau has noted the existence of certain unsafe practices in the industrial processes of some establishments and the efficient way in which such practices are forbidden and hazards are prevented in other establishments. It was deemed advisable, therefore, to study the effects of accidents to wage-earning women and to examine, after a decade under workmen's compensation laws, (1) the relative importance of various factors in accident causation, (2) the regulations passed by legislatures to relieve the victims of industrial accidents, as far as possible, of the burdens inflicted by wage loss and by permanent physical incapacity, and (3) the procedure by which these regulations are being enforced.

The present report covers the findings of a general study of the work accidents to women in New Jersey, Ohio, and Wisconsin from July 1, 1919, to June 30, 1920, and a survey of legislation, administration of laws, and accident prevention in the same States. Limited time and funds prevented the inclusion of more States in the investigation by the Women's Bureau, but in each of the three States included the industries are diversified and employ a considerable number of women, and the accident data available are of such nature, and so filed, as to lend themselves readily to statistical analysis. Moreover, in each of these States the compensation law has been in force for some time and is fairly well worked out, and a good deal of progress has been made toward adequate treatment of injured employees. At this point it is not out of place to call attention to the effect upon American progress along these lines of the conferences of the International Association of Industrial Accident Boards and Commissions. The fact that administrators of workmen's compensation laws have come together annually to exchange their experience with various rulings accounts in no small measure for the phenomenal way in which this branch of labor legislation has increased in effectiveness during the comparatively short period of its existence.

Hazard is so inherent a part of industry, as at present constituted, that various occupations have each a predictable risk, and the cost to the injured employee of the accidents which occur—the wage loss, medical cost, and expense of restoration of earning capacity—is as logically a direct expense of production as is spoiled material or damaged equipment. Furthermore, the supremely important subject of accident prevention should receive unremitting attention. Thorough study of industrial hazard and scientific analysis of causes of accident mean much in a reduction of casualties incurred by men and women while engaged in gainful pursuits.

SOURCES OF INFORMATION

The material studied by the Women's Bureau was secured partly from those records on file with the workmen's compensation boards or commissions in New Jersey, Ohio, and Wisconsin which relate to the women meeting with compensable accidents from July 1, 1919, to June 30, 1920, and partly from interviews with the women who had been left with permanent injuries as a result of those accidents. It seemed an opportune time for such a survey, since the census figures for 1920 made it possible to estimate severity and frequency rates according to industry with a fair degree of accuracy; and also since, by interviewing the women from three to four and a half years after the accident, it was possible to ascertain what family, community, and industrial adjustment they had been able to make in that time.

METHODS USED IN STUDY

Sections II, III, and IV of this report are given over to an analysis of work accidents to women from the points of view of legislation, administration, and prevention. The laws discussed in the report are those on the statute books of the States at the time of the accidents recorded. No attempt has been made to deal with any subsequent changes in these laws. In the sections dealing with legislation, administration, and prevention, not only are State provisions and regulations in regard to the various matters discussed, but in conjunction with each point the State records are analyzed in some detail in order to show by concrete examples the results of the laws. Also, in a number of instances descriptions of cases taken from the records are presented for illustrative purposes. Not only the facts of a case pertaining to a particular point are given but other facts are cited in order to permit of a fuller appreciation of each situation.

In Section V are presented interviews with permanently disabled women, which indicate in a general way the need for legislative and

administrative changes and for the promotion of preventive work, in connection with accidents to women.¹

Because the States classified their disability cases according to slightly different standards, it has been necessary to reduce the cases to a common denominator for the purpose of satisfactory discussion throughout the report. Consequently, the great majority of statistical tables included have been drawn up according to a common standard. The few tables based on the State standards (text Table 2 and Tables I and IV in the appendix) are so designated in the title.

Injuries which originated at one part of the body and resulted in disability of another part of the body—for example, an injury to the eye which affected the central nervous system—may be classified variously in different tables.

NUMBER OF ACCIDENTS STUDIED

Table 1 gives the number of compensable accidents to women occurring in the three States during the period covered, by industry and cause.

¹ It seems advisable to restrict the number of interviews included in this report to less than one-half the total number made by the Women's Bureau agents, but data on the remaining interviews are on file in the bureau and may be consulted by persons interested in a study of work accidents to women.

TABLE 1.—Cause of accident, by industry

A. NUMBER

INDUSTRIAL ACCIDENTS TO WOMEN

Cause of accident	All industries	Manufacturing																				Clerical, professional, etc.					Transportation								
		Total	Agricultural implements	Automobiles	Buttons (composition)	Chemicals and allied products	Clay, glass, and stone products	Clothing (including dressmaking)	Electrical supplies	Food and kindred products	Iron and steel	Laundry work, cleaning, and dyeing	Leather products	Metal goods	Paper boxes	Paper and pulp	Printing and publishing	Rubber	Straw	Textiles	Wagons and carriages	Wood products	Miscellaneous	Not specified	Total	Office employees	Care and custody of buildings	Domestic and personal service	Other	Total	Street railways ¹	Telephone service	Agriculture ²	Public utilities—gas works	Trade
All causes.....	3,268	2,528	581	17	85	97	186	160	297	279	87	108	213	93	41	101	91	4	320	2	83	175	3	493	90	55	309	39	77	22	55	4	1	165	
Hand tools.....	114	90	3	1	2	15	3	24	8	1	4	2	4	1	5	4	8	5	15	1	15	15	15	15	15	15	15	15	15	15	15	15	15	15	4
In hands of injured worker.....	104	86	3	1	2	15	3	20	8	1	4	2	4	1	5	4	8	5	14	1	14	14	14	14	14	14	14	14	14	14	14	14	14	14	2
In hands of fellow worker.....	10	4	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Handling of objects.....	489	340	211	1	15	29	13	29	57	29	7	9	26	7	8	6	29	2	28	15	17	93	19	8	61	5	13	1	12	43	43	43	43	43	
Heavy objects.....	199	133	2	6	6	15	6	11	18	16	3	3	7	4	4	2	8	14	2	6	41	14	3	23	1	8	1	8	1	7	17	17	17	17	17
Sharp or rough objects.....	260	180	3	1	7	13	7	16	35	12	4	5	16	2	3	4	18	1	12	11	10	50	3	5	38	4	5	1	5	25	25	25	25	25	
Hand trucks, wheelbarrows.....	30	27	2	2	2	1	2	4	1	1	3	1	1	1	1	3	1	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1
Falling objects.....	66	45	1	1	2	1	2	9	5	2	1	2	2	1	1	6	5	4	12	3	1	12	6	2	4	2	2	2	2	2	2	2	2	2	7
From elevations.....	54	36	1	1	2	1	2	6	4	2	1	2	2	1	1	4	4	5	2	1	1	11	5	2	4	2	2	2	2	2	2	2	2	2	5
Other.....	12	9	1	1	1	1	3	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Stepping on or striking against objects.....	136	81	3	1	6	4	5	17	5	8	5	1	3	3	10	8	2	31	8	4	17	2	6	6	6	6	6	6	6	6	6	6	6	6	18
Stepping on objects.....	22	12	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Striking against objects.....	114	69	3	1	4	2	5	13	5	8	5	1	3	3	8	6	2	25	6	3	14	2	6	6	6	6	6	6	6	6	6	6	6	6	14
Falls of persons.....	686	348	12	14	8	48	10	61	17	22	13	12	8	9	14	6	1	69	5	17	2	236	45	27	145	10	25	7	18	3	1	73	73		
From elevations.....	293	135	3	4	2	24	2	23	5	7	7	4	4	2	10	2	1	21	1	11	2	95	14	16	61	4	18	6	12	2	1	42	42		
On level.....	368	200	9	9	4	23	8	37	12	15	5	8	4	4	4	4	4	44	4	6	132	28	9	80	15	7	1	6	1	1	20	20			
Into excavations.....	25	13	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	9	3	2	4	1	1	1	1	1	1	1	2	2	

Explosions, electricity, and hot substances.....	117	66	1	3	4	4	12	13	3	10	1	9	1	2	3	41	2	3	34	2	6	4	4
Explosions.....	26	14		1	1	1	5			5				1		7		2	5		4	1	3
Electricity.....	4	3	1				2							1	2	33	1	1	29	2	2	1	1
Hot substances.....	87	49		2	4	3	9	8	3	10	1	4		1	2								
Vehicles.....	37	7	2		1							1			2	14	6		6	2	14	12	2
Steam and electric railways.....	14															2	1			1	12	12	
Auto and other power.....	19	6	2		1							1			2	9	4		4	1	2	2	1
Other.....	4	1														3	1		2				
Poisonous and corrosive substances and occupational diseases.....	93	71	1	3	4	3	6	9	4	5	6	6	2	1	10	6	2	3	15	1	3	4	7
Machinery.....	1,516	1,472	2	44	16	46	41	95	90	111	205	45	66	153	72	73	30	1	192	2	41	129	1
Elevators.....	25	11				4	2	1				1				1			11		7	4	
Power-transmission apparatus.....	79	77	1		2	3	5	5	13	3	1	3	3	4	3	27			1	1			
Power-working machines.....	1,382	1,356	2	42	16	42	36	86	82	81	202	44	62	148	67	70	28	1	165	2	40	122	1
Chemical products.....	5	5			4							1											
Clay and glass.....	32	32			32														14		14		
Food products.....	96	77			3				71			1	2						4		4		
Laundry.....	58	54			1	1	3			1	43					4							
Leather-working.....	63	63										56	1							1			
Metal-working.....	610	609	2	36	1	26	3	4	82	4	192	4	144	4	1	3	6	5	2	90	1		1
Paper.....	109	109			3		1			2	2		151	12	29	2	1		1	4			
Printing and bookbinding.....	63	63			3					1	1		1	1	8	3	38	1		6			
Rubber, celluloid, and composition.....	36	36		15												17				4			
Textile.....	249	249	5			73			1	2	1				1	2	1	155		7	1		
Wood-working.....	59	59	1		2				2	4		1	1					2	36	10			
Miscellaneous.....	2																		2				
Machines other than power-working.....	3	2										1	1		1				2		1	1	
Conveyors.....	25	24	1		2	2		1	15														
Prime movers.....	2	2							1				1										
Miscellaneous causes.....	14	8	1		1				1	2					1			1		1		1	
Cause not reported.....	17	15	1	1	1	3			2	1		1			1	3		1		2		2	1

¹ See p. 6.

² Garden, greenhouse, orchard, and nursery laborers.

³ Excludes 17 cases not reporting cause of accident. See last item in table.

TABLE 1.—Cause of accident, by industry—Continued
B. PER CENT

Cause of accident	All industries	Manufacturing																
		Total	Agricultural implements	Automobiles	Buttens (composition)	Chemicals and allied products	Clay, glass, and stone products	Clothing (including dress-making)	Electrical supplies	Food and kindred products	Iron and steel	Laundry work, cleaning, and dyeing	Leather products	Metal goods	Paper boxes	Paper and pulp	Printing and publishing	Rubber
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools	3.5	3.6		3.7		1.2	8.1	1.9	8.1	2.9	1.1	3.7		2.2	9.8	1.0	5.5	
Handling of objects	15.0	13.4	40.0	13.6	5.9	17.6	7.0	18.1	19.2	10.4	8.0		12.2	7.5	19.5	5.9	31.9	
Falling objects	2.0	1.8		1.2		1.2	2.1	.5	1.3	3.0	2.3		.9	2.2	2.4	1.0	6.6	
Stepping on or striking against objects	4.2	3.2		3.7		1.2	6.2	2.2	3.1	5.7	1.8		7.4	2.3	2.4	3.0	6.6	
Falls of persons	21.0	13.8		14.8		16.5	8.2	25.8	6.3	20.5	6.1		25.3	12.0	5.6	8.6	13.9	
Explosions, electricity, and hot substances	3.6	2.6		1.2		3.5	4.1	2.2	7.5	4.4	1.1		.9	4.2		1.0	2.2	
Vehicles	1.1	.3		2.5											2.4			
Poisonous and corrosive substances and occupational diseases																		
Machinery	2.8	2.8	20.0	3.7		4.7	3.1	3.2	5.6	1.3	1.8		5.6	2.8	2.2	1.0	11.0	
Power-working machines	46.4	58.2	40.0	54.3	94.1	54.1	42.3	51.1	56.3	37.4	73.5	51.7	61.1	71.8	77.4	41.5	72.3	
Miscellaneous causes	42.3	53.6	40.0	51.9	94.1	49.4	37.1	46.2	51.3	27.3	72.4	57.4	69.5	72.0	41.5	69.3	30.8	
	.4	.3		1.2			1.0			.3	.7		50.6	57.4	69.5	72.0	1.0	

Cause of accident	Manufacturing—Continued						Clerical, professional, etc.					Transportation			Agriculture—garden, greenhouse, orchard, and nursery laborers	Public utilities—gas works	Trade
	Straw	Textiles	Wagons and carriages	Wood products	Miscellaneous	Not specified	Total	Office employees	Care and custody of buildings	Domestic and personal service	Other	Total	Street railway conductors and laborers	Telephone service				Trade
															100.0	100.0	100.0
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools		1.3		9.6	2.9		3.0		4.9		6.5		9.1				2.4
Handling of objects	50.0	8.8		18.1	9.7		18.9	21.1	14.5	19.7	12.8	16.9	4.5	21.8			26.1
Falling objects		1.6		3.6	.6		2.4	6.7	3.6	1.3		2.6		3.6			4.2
Stepping on or striking against objects		3.1		9.6	1.1		6.3	8.9	7.3	5.5	5.1	7.8		10.9			10.9
Falls of persons	25.0	21.6		6.0	9.7	66.7	47.9	50.0	49.1	46.9	48.7	32.5	31.8	32.7	75.0	100.0	44.2
Explosions, electricity, and hot substances		.9					8.3	2.2	5.5	11.0	5.1	7.8	9.1	7.3			2.4
Vehicles		.6		1.2			2.8	6.7		1.9	5.1	18.2	54.5	3.6	25.0		.6
Poisonous and corrosive substances and occupational diseases		1.9		2.4	1.7		3.0	1.1	5.5	1.3	17.9	5.2		7.3			1.8
Machinery	25.0	60.0	100.0	49.4	73.7	33.3	6.9	3.3	14.5	7.4		1.3		1.8			5.5
Power-working machines	25.0	51.6	100.0	48.2	69.7	33.3	4.3	2.2		6.1							3.0
Miscellaneous causes		.3			.6		.4				5.1	1.3	1.8				1.8

This table indicates where accidents were occurring and why. A comparison of the numbers injured and the numbers employed will be found on page 125. More than three-fourths of the accidents occurred in the manufacturing group, and over one-half of these, 58.2 per cent, were due to machinery. The next most serious causes were falls of persons, responsible for 13.8 per cent, and the handling of heavy, sharp, or rough objects, which occasioned 13.4 per cent, of the accidents in the manufacturing group. The manufacturing industry responsible for the greatest number of accidents was textile manufacturing. In textile mills three-fifths of the accidents were caused by machinery and approximately one-fifth by falls of persons. The food industry, which followed textiles in number of accidents, had a smaller per cent (37.4) due to machinery, 20.5 per cent and 19.2 per cent, respectively, being due to falls of persons and the handling of objects. The iron and steel industry ranked third in number of accidents. After machinery, which caused nearly three-fourths (73.5 per cent) of the accidents in this industry, the most serious cause was the handling of objects. The metal-goods industry was fourth in regard to number of accidents. In this group machinery accounted for over seven-tenths of the accidents, and the handling of objects, which ranked next, was responsible for one-eighth.

There were 87 accidents to workers in laundries and cleaning and dyeing establishments, over one-half being caused by machinery and one-fourth by falls of persons.

A little over 2 per cent of the accidents occurred to women in the transportation group, almost three-tenths (28.6 per cent) of these occurring to women employed on street railways and about seven-tenths (71.4 per cent) to telephone employees. The occupations grouped as clerical, professional, etc., accounted for slightly more than 15 per cent of the total number of injured women, and trade accounted for 5.1 per cent. Nearly one-half of the accidents to women in these two groups were due to falls.

SUMMARY OF FACTS

I. Scope of survey.

1. Number of records of accidents to women included 3,285
(New Jersey, 1,006; Ohio, 1,545; and Wisconsin, 644.)
2. Number of personal interviews with permanently disabled women (common standard)² 385

II. Cause of accident.

Per cent of all accidents due to—

Machinery	46.4
Falls of persons	21.0
Handling of objects	15.0
Other	17.6

III. Accident frequency rate (see p. 125).

Industries with rates of 10 and over:

	Rate (per 1,000 women employed)
Metal goods	40.42
Iron and steel	27.28
Food products	22.67
Printing and publishing	19.04
Electrical supplies	17.79
Clay, glass, and stone products	13.61
Laundry work, cleaning, and dyeing	12.75
Rubber	11.84
Leather products	10.37

IV. Accident severity rate (see p. 126).

Industries with rates of 0.50 and over:

	Rate (per 1,000 hours' exposure)
Metal goods	4.12
Laundry work, cleaning, and dyeing	1.81
Iron and steel	1.42
Care and custody of buildings	1.13
Electrical supplies .....	.99
Food products .....	.73
Printing and publishing .....	.63

V. Extent of disability.²

Extent of disability	Number of cases in—					
	New Jersey		Ohio		Wisconsin	
	State classification	Common standard	State classification	Common standard	State classification	Common standard
Fatal	3	3	6	6	6	6
Permanent	315	332	132	372	89	99
Temporary	778	761	1,407	1,167	549	539

VI. Nature of injury.

1. Per cent of all injuries due to—

Cut, laceration, puncture	32.9
Bruise, contusion, crush	27.5
Sprain, strain	11.7
Dislocation, fracture	10.4
Amputation	7.7
Burn, scald, crush and burn	4.7

2. Per cent of permanent disability cases due to—

Amputation	30.4
Cut, laceration, puncture	23.5
Bruise, contusion, crush	22.3
Dislocation, fracture	10.2
Sprain, strain	4.8
Burn, scald, crush and burn	3.4

² Because of different standards in the three States in the classification of permanent and temporary disability cases it has been necessary for the purpose of discussion throughout the report to classify such cases according to a common standard.

VII. Location of injury.	Per cent
Upper extremities.....	68.3
Lower extremities.....	15.0
Trunk.....	12.5
Head.....	4.1

VIII. Healing period in relation to age.

Per cent of women for whom healing period was at least 12 weeks:

	All cases	Permanent disability cases
Under 20 years of age.....	3.9	11.6
20 and under 40 years of age.....	7.7	20.8
40 and under 60 years of age.....	14.0	33.1
60 years of age and over.....	24.3	50.0

IX. Permanent disability cases.

1. Per cent of all injuries (State classification):	Per cent
New Jersey.....	29.1
Ohio.....	8.5
Wisconsin.....	13.9
2. Time lost (see p. 35):	
Cause—	Average days lost per case
Falls of persons (66 cases).....	1,033.7
Handling of objects (55 cases).....	889.7
Machinery (574 cases).....	562.1
3. Age of the women:	Per cent
Under 20 years.....	28.8
20 and under 40 years.....	52.3
40 and under 60 years.....	16.2
60 years and over.....	2.7

X. Three hundred and eighty-five cases interviewed.

1. Nativity:	Per cent
Native-born white.....	78.2
Native-born negro.....	6.2
Foreign born.....	15.6
2. Education:	
Native born—	
Had finished the eighth grade or had attended high school.....	36.3
Foreign born—	
Could speak English.....	88.3
Could read English.....	58.3
3. Dependency:	
Responsible for support of others.....	47.8
Sole support.....	12.6
Contributed definitely but not sole support.....	35.2
NOTE.—One hundred and twenty-eight others were in households having several wage earners and may have had some financial responsibility not reported.	
4. Experience:	
In accident occupation—	
Less than 6 months.....	35.6
Less than 1 month.....	14.5
Less than 1 week.....	6.0
5. Industrial rehabilitation:	
Disabled for former work.....	40.8
Disabled for all available work.....	10.4
Of the 338 who definitely returned to industry—	
Returned to former employer.....	79.6
Soon laid off or had to quit.....	18.6
Never since accident had earned so much as before.....	28.1

PART II

LEGISLATION

To facilitate the comparative study of the legislation dealing with accident compensation in New Jersey, Ohio, and Wisconsin, charts have been prepared from the laws on the injuries and occupations included by law, compensation awarded according to nature of injury and extent of disability, method of payment of compensation, provisions in regard to medical aid, and procedure of administration.

It seems advisable to approach the question of compensation from the angle of the legal provisions dealing with the extent of disability incurred as a result of accident. For the layman an understanding of such expressions as "permanent total disability" and "permanent partial disability" may be acquired from the charts on these subjects (II to IV).

INJURIES ACCORDING TO EXTENT OF DISABILITY

FATAL CASES

That there are no significant differences among the laws in the three States in their definition of what constitutes a compensable fatal case is shown by the accompanying chart. When an accident causes a fatal injury, whether death is instantaneous or whether it follows a period of disability, the accident is a compensable one. Compensation is paid during the disability period, medical bills and funeral expenses up to certain amounts are allowed, and compensation is paid to dependents.

The States have formulated slightly different provisions for the protection of those who have been dependent on the deceased. In each jurisdiction the rules seem to have emanated from a desire to compensate dependency. However, although due care has been taken to relieve industry of this debt if for any reason dependency is terminated, the same care has not been taken to provide for dependency during its continuance. In other words, the laws carefully define persons who may be compensated as being total or partial dependents, and the amount of compensation due is determined accordingly, but in each State a time limit is set beyond which payments cease. In New Jersey and Wisconsin this limit is about six years and in Ohio it is eight years. In connection with the discussion regarding definition of dependents it is interesting to note that in New Jersey if a dependent is an alien and not a resident of the

United States he is not entitled to compensation, while in the other two States there is a special provision against discrimination of this kind.

In Wisconsin partial dependents receive by way of compensation four times the amount of money contributed to their support during the year preceding the accident; in New Jersey they receive over a period of about six years a percentage of the amount so contributed the year before the accident, the percentage depending upon the number of dependents; and in Ohio they are allowed two-thirds of the wage over a period the length of which is determined by the commission, the maximum being set at eight years. In compensating total dependents much the same plan is followed in Ohio and Wisconsin except that in the former State the period is set at eight years and in the latter the full wage for four years is paid during a six-year period. In New Jersey the per cent of wage paid over the six-year period depends upon the number of dependents. In each State payments are made weekly.

CHART I.—FATAL CASES UNDER THE LAW

NEW JERSEY	OHIO	WISCONSIN
A. WHAT CONSTITUTES A FATAL CASE		
<p>Death by accident arising out of, and in the course of, employment. <i>First supplement, compiled statutes of New Jersey, 1911-1915, p. 1641, Sec. II, 7.</i></p>	<p>Death resulting from the injury within the period of two years. Compensation having been continuous to the time of death on account of injury and death resulting from such original injury, benefits shall be allowed. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.4.</i></p>	<p>Death resulting proximately from the injury. Death occurring other than as proximate result of accident, benefits shall be the same if the accident has caused permanent total disability as if accident has caused death. <i>Wisconsin statutes, 1919, sec. 2394-9 (3), (4).</i></p>
B. DEPENDENTS		
1. PRESUMED TO BE TOTAL DEPENDENTS		
<p>Decedent's widow and natural children under 18 years of age who are actually part of decedent's household at time of death. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (g).</i></p> <p>[NOTE.—See also second paragraph of 2.]</p>	<p>Wife or husband if living together at time of death. Children under 16 (over 16 if mentally or physically incapacitated from earning). <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.5.</i></p>	<p>Wife or husband if living with decedent at time of death. Child or children under 18 (or over 18 if mentally or physically incapacitated from earning) if living with decedent at time of death, and if there is no surviving dependent parent. <i>Wisconsin statutes, 1919, sec. 2394-10.3</i></p>
2. MAY BE TOTAL OR PARTIAL DEPENDENTS		
<p>Any or all of the following who may be dependent on the decedent at time of accident or death—husband, wife, parents, step-parents, grandparents, children, step-children, grandchildren, child in esse, posthumous child, illegitimate children, brothers, sisters, half brothers, half sisters, niece, nephew. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (g).</i></p> <p>Except in case of husband, wife, parents, and step-parents only those under 18 years or over 40 years shall be included and then only for that period during which they are under 18 or over 40, but no age limit is placed on dependents physically or mentally deficient. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (g, f).</i></p>	<p>In other cases, the question of dependency in whole or in part shall be determined in accordance with the facts in each particular case, but no person shall be considered dependent unless a member of the family of deceased employee or bearing the relation of husband or widow, lineal descendant, ancestor, or brother or sister. "Child" shall include posthumous child or child legally adopted prior to injury. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.5(B).</i></p>	<p>In other cases, question of dependency shall be determined in accordance with the facts. No person shall be considered a dependent unless a member of the family of the decedent or a divorced spouse who has not remarried, or one who bears to him the relation of husband or widow, or lineal descendant, or ancestor, or brother or sister. <i>Wisconsin statutes, 1919, sec. 2394-10.3(c); sec. 2394-10.4.</i></p>

CHART I.—FATAL CASES UNDER THE LAW—Continued

NEW JERSEY	OHIO	WISCONSIN
3. NONRESIDENT ALIEN DEPENDENTS		
<p>Shall not apply to alien dependents not residents of the United States. <i>First supplement, compiled statutes of New Jersey, 1911-1915, p. 1645, Sec. II, 12.</i></p>	<p>Unlawful—to make any discrimination against the widows, children, or other dependents who shall reside in a foreign country. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-107.</i></p>	<p>No person shall be excluded as a dependent who is a non-resident alien. <i>Wisconsin statutes, 1919, sec. 2594-10.5.</i></p>
C. BENEFITS		
1. TO TOTAL DEPENDENTS		
<p>1 dependent, 35 per cent of wage. 2 dependents, 40 per cent of wage. 3 dependents, 45 per cent of wage. 4 dependents, 50 per cent of wage. 5 dependents, 55 per cent of wage. 6 or more dependents, 60 per cent of wage. Maximum, \$12 a week Minimum, \$6 a week Actual wages if less than \$6. Benefit to be paid for 300 weeks. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (a-f, k).</i></p>	<p>66½ per cent of average weekly wage not to exceed \$15 per week—to continue for the remainder of the period between date of death and eight years after date of injury. Maximum, \$5,000. Minimum, \$2,000. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.2.</i> If compensation has been continuous to time of death, amount paid for total or partial disability shall be deducted from final award. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.4.</i></p>	<p>The death benefit shall be a sum equal to four times the decedent's average annual earnings but when added to the disability indemnity paid and due at time of death the benefit shall not exceed six times the average annual earnings. <i>Wisconsin statutes, 1919, sec. 2594-9 (5) (a).</i></p>
2. TO PARTIAL DEPENDENTS		
<p>Benefit to be such proportion of the scheduled percentage allowed for total dependents as the amounts actually contributed to the partial dependent by the decedent shall constitute of his total wage; the provision as to a \$6 minimum shall not apply. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (g).</i></p>	<p>Benefit to be 66½ per cent of average weekly wage, not to exceed \$15 a week and to continue for all or such portion of the period of eight years after date of injury as the commission in each case may determine. Maximum, \$5,000. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.5.</i> If compensation has been continuous to time of death, amount paid for total or partial disability shall be deducted from final award. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-82.4.</i></p>	<p>Benefit not to exceed four times the amount devoted by decedent during year immediately preceding his death, to support of such dependents. Where by reason of minority, sickness, or other causes during such year, the foregoing basis is unfair or inadequate, the death benefit shall be such sum as the commission may determine to be fair and just, considering death benefits allowed in other cases. <i>Wisconsin statutes, 1919, sec. 2594-9 (4) (c).</i></p>

3. DISTRIBUTION OF BENEFIT IF MORE THAN ONE DEPENDENT

<p>Distribution among dependents to be determined by Workmen's Compensation Bureau according to relative dependency. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (h).</i></p>	<p>The benefits to be apportioned among the dependents by commission as it may deem just and equitable. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-83.</i></p>	<p>If more than one total dependent, benefit to be divided equally, and persons partially dependent, if any, to receive no part. Partial dependents shall be compensated according to the relative extent of dependency. <i>Wisconsin statutes, 1919, sec. 2394-10.3 (c).</i></p>
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4. OTHER BENEFITS

<p>Expenses of last sickness not to exceed \$200. (See Chart VIII of this report.) Cost of burial not to exceed \$100. <i>Acts of New Jersey, 1919, ch. 93, par. 12 (i).</i></p>	<p>Medical expenses as in other cases. (See Chart VIII of this report.) Reasonable expenses of burial not to exceed \$150. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-89.</i></p>	<p>Medical expenses as in other cases. (See Chart VIII of this report.) Reasonable funeral expenses not to exceed \$100. <i>Wisconsin statutes, 1919, sec. 2394-9 (4) (d).</i></p>
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Since the object of workmen's compensation laws is to relieve the wage earner of the economic cost of accidents, it would seem equitable that a percentage of the wage earned by the deceased, the exact per cent to be determined by the extent of dependency, should be paid during the period of such dependency; for example, to minor dependents until they are permitted by law to enter industry, to a wife at least as long as there are minor dependents, and so forth.

Table I in the appendix shows that 15 fatal cases occurred in the three States during the period studied. Descriptions of these cases as given in the State records follow:

A woman sorter in a paper-box-board factory, 20 years old and earning \$10 a week, fell into a pulp vat and was killed instantly. A lump sum of \$425 was paid to her mother, who was partially dependent upon her. The funeral expenses were \$100.

A janitress in a public school, age not reported, was earning \$15.81 a week. While she was cleaning lockers in the gymnasium of the school, a section of the lockers fell over on her. The scalp was lacerated in the occipital region. The right temporal region was contused; also the right eye tissue. The right hip and shoulder were contused. She lived 21½ weeks after the accident and received \$222.55 (gratuity \$10) at the rate of \$10.54 a week. There were no dependents. Medical expenses of \$200 and funeral expenses of \$100 were paid.

A housemaid in a private family, 24 years old and earning \$15 a week, lighted the gas heater attached to the boiler in the kitchen and was found dead beside the heater some hours afterward. Death was caused by carbon monoxide poisoning. There were no dependents. Funeral expenses amounted to \$100.

In a plant in which aluminum goods were manufactured the explosion of a dust collector resulted in fatal injury to five women satin finishers. Case descriptions follow: One woman, 31 years old, had had seven and a half years' experience with the firm as a satin finisher. Her wage was \$23 a week. It was estimated that during the previous year she had contributed \$200 to her mother, who was partially dependent upon her. The total compensation paid was \$850 (\$50 gratuity) at the rate of \$14.63 a week. Funeral expenses were \$583. A worker of 24, with seven years' experience, was earning \$21 a week. Her mother and brother, the latter sick since the war, were partially dependent upon her. It was determined that she had contributed \$513 the previous year to their support. Her father was working, but his earnings were small. The total compensation was \$2,107 (\$55 gratuity) which was paid at the rate of \$13.65 a week. Funeral expenses were \$474.60. A 20-year-old woman, of only six weeks' experience, was earning \$15 a week. She had no dependents. Funeral expenses were \$397.35. A woman of 19, with four years'

experience, was earning \$21.60 a week. It was determined that she had contributed \$540 to her family during the previous year. The total compensation was \$2,210 (\$50 gratuity), paid at the rate of \$14.04 a week. Funeral expenses were \$457. A woman of 21, with four and one-half years' experience, was earning \$20 a week. There were no dependents. Funeral expenses amounted to \$468.60.

A 16-year-old girl had been scrubbing and cleaning in a hotel for a month before the accident which was responsible for her death. She earned \$15 a week. While riding on an elevator she was caught between the floor and the platform of the car. Her chest was crushed, and death was instantaneous. It was determined that she had contributed the equivalent of \$212.50 to her parents in the previous year. The treble compensation provision in the Wisconsin law, levied when a minor of permit age is injured while working without a permit, was held to apply in this case. The total compensation allowed was \$2,550 and it was paid at the rate of \$9.75 a week. Funeral expenses were \$100.

A woman operator of a burr-making machine in a plant making dental supplies, 33 years old and earning \$25.65 a week, met with a fatal accident. A small belt came off a pulley at about 6.30 in the morning. The foreman was not due to report until 7. This worker and another girl tried to replace the belt with a pole. Finally the worker climbed a stepladder and attempted to put the belt in position with her hands. Static electricity of the line shaft pulled her hair around the shaft behind her. When her hair gave way she fell to the floor. The scalp was torn from the head from a line just under the eyebrows and including the right ear but was left attached from a point just behind the right ear across the base of the brain and to a point over the left temple. There was a small depressed compound fracture of the skull. She was taken at once to a hospital. Six weeks later the doctor reported, "This girl has lost her entire scalp and the bones of the skull are entirely denuded except for temporal fossæ which contain the temporal muscles. There is a small depressed fracture over the temporal region about one-fourth of an inch in diameter, the result of a round object being driven in, probably a bolt. She has developed a secondary parotitis, and the deeper structures of the neck are being burrowed into by pus, giving the appearance of a general cellulitis of these tissues. She has lost the sight of the left eye by infection. She has been delirious for days and running a temperature of 100° to 104° F. Her pulse is around 110 to 130 all the time. We are giving clysis. I believe that a skin graft will be necessary later if she lives; also probable decompression of the depressed fragment, together with some procedure as Warbasse recommends to start granulation on the bare skull." She died nine weeks after the initial injury. Her mother had been

totally dependent upon her for six years and was allowed \$5,000, the maximum award, which was paid at the rate of \$15 a week. Medical expenses of \$1,064.07 and funeral expenses of \$150 were paid. An investigation was made in this case to determine whether the accident occurred in the course of employment. It appeared that the injured was an employee of a secret-service agency and that it was her duty to keep the machinery moving. The claim was allowed.

A charwoman in a Young Women's Christian Association cafeteria, 57 years old and earning \$10.50 a week, ran a splinter from a broom into her hand. She thought there was no danger and kept on working. She stated to a friend in the afternoon that she had run a splinter into her thumb while at work. The first evening after the accident she went to a doctor's office. He treated her four days and finally sent her to a hospital in a semicomatose condition. Streptococcic septicemia caused death the next day. There were no dependents. Medical expenses of \$16.60 and funeral expenses of \$150 were paid. Investigation was made to determine whether an accident had occurred as stated, since there was no witness. The employer and the doctors attending the injured agreed to the statement without any question.

A forewoman in the stripping department of a cigar factory was shot while endeavoring to protect another employee from the assaults of a divorced husband. She was taken to a hospital, where she died two months after the accident. Death was due to "exhaustion following pulmonary and peritoneal tuberculosis with a local septic peritonitis, following multiple gunshot wounds in the abdomen (small and large intestines) just below the umbilicus." She left no dependents. Medical expenses of \$395.15 and funeral expenses of \$150 were paid. In an investigation to determine whether the accident occurred in the course of employment it appeared that the man who did the shooting had caused a commotion among the employees, and the forewoman had tried to restore order. The commission ruled that the injury was one "arising out of, and what might be considered as an extraordinary hazard of, her employment."

A saleswoman in a department store, 41 years old and earning \$15 a week, met with an accident when she attempted to open the door and take some boxes from a dummy elevator which was a little above the floor. The elevator was suddenly pulled upward, and in trying to hold it the woman was lifted from the floor. As she attempted to remove merchandise, the automatic doors began to close, and she was wrenched by the violent effort which she made. The result was a severe strain of her back and left shoulder. Later it developed that there was a chronic valvular heart disease, of the

existence of which she was unaware, the organ being of an exceptionally large size. From clinical examination she was found to have so little cardiac reserve that the accident was sufficient to throw her into decompensation. The case was diagnosed as mitral stenosis with consequent cardiac hypertrophy and myocardial degeneration. The unusual feature of the case was that prior to the accident she had no knowledge of any preexisting heart disease. She stopped work four days after the accident. Her condition improved slowly and she tried light work about nine months after the accident, but a week later she became dizzy and showed signs of cardiac decompensation and was ordered to quit. She was totally disabled thereafter until her death two years and nine months after the accident. The cause of death was endocarditis, cardiac failure. Compensation was paid to her for 148 weeks, amounting to \$1,485.72. The mother was found to be totally dependent. The commission voted that compensation at the rate of \$10 a week be paid to the mother for eight years or as much thereof as she should live. Medical expenses of \$1,085.05 and funeral expenses of \$150 were paid.

A worker, who was a marker in a laundry, was 37 years old and received a wage of \$14. There was a fire at the plant. She was in the dressing room on the second floor at the rear when the fire was discovered. She must have become frightened at the suddenness of the fire and tried to make her escape through the flames. Her body from the waist up was badly burned. She was taken to the hospital and died the next day. Her foster father and mother were found to be partially dependent on her, the commission ruling that the injury arose out of employment and that the foster parents were entitled to compensation as partial dependents although unable to produce adoption papers. Compensation was allowed them for 89 weeks at \$9.33 a week, the total amount being \$832. Medical expenses of \$21.60 and funeral expenses of \$150 were paid.

A 70-year-old seamstress, earning \$11 a week in a hotel, caught her foot in a step and fell headlong down a narrow unlighted stairway, striking on the edge of a box at the bottom. She bumped her right side, was severely bruised on the entire left side of her body and over her liver, and was injured internally; left ribs were broken and her back was bruised and sprained. About a year after the accident application was made for the payment of medical bills in excess of \$200 (the amount allowed in usual cases). In this application the doctor reported: "The present condition seems to be the effect of an injury received in a fall last year. The liver and spleen are enlarged. Some fluid is present in the abdomen. She has had osteopathic treatment to relieve the soreness. She does not sleep well, is short of breath." About two years and three months after the accident she was examined by the State medical division. The doctor re-

ported, "Examination of the heart shows that it is enlarged three fingers' breadth in all directions and fills practically one-half of the chest cavity." The report indicated conclusively that she was permanently unable to work. "While the fall was in no probability the cause of the enlarged heart, yet the present extreme condition might nevertheless have been hastened by it * * *. If it was severe enough to compel her to remain eight weeks in bed, it certainly might have augmented her symptoms." She was totally disabled till her death three years and four months after the accident. Death was due to an enlarged heart, the contributory cause being a fall on a stairway. Total disability had been allowed for 174 weeks. At the time of her death total compensation of \$1,267.27 had been paid to her. There were no dependents. Medical expenses of \$1,117.50 and funeral expenses of \$150 were paid.

PERMANENT TOTAL DISABILITY CASES

Accidents causing total disability for life are of less frequent occurrence than are accidents resulting fatally. No women were compensated as permanently and totally disabled in the three States during the period studied. It is interesting, however, to note the provisions for such cases in the laws on the chart opposite.

The enumeration of the physical loss which shall constitute permanent total disability is similar in each of the three States. There is a modification in the Wisconsin law which operates to the benefit of the injured worker, namely, that the commission is not to be limited to those cases presenting disabilities enumerated in the law but may decide that there is total and permanent disability in other cases if the facts so warrant.

It is also interesting to note provisions for compensating a worker who has previously lost a major member and who loses a second member in an accident, so that the final condition is permanent total disability according to the definition in each State. If such a worker were compensated for total disability by the firm which employed him when he received his second injury, this firm would be obliged to pay more compensation than the accident, for which it is responsible really demands. Such a requirement would make it extremely difficult for a worker who had lost one major member to find work. If the worker is compensated only for the second injury he receives less than he is entitled to by reason of his disability. In New Jersey, where this second system exists, compensation in any given accident is allowed only for the specific injury resulting from that accident. In Wisconsin and Ohio also the employer is charged only for the second injury, but in these States the amount sufficient to

increase compensation to that allowed for permanent total disability is paid from a special State fund.

The period for which compensation is paid for permanent total disability varies in the three States from nearly eight years in New Jersey to life in Ohio. In Wisconsin the period varies with age but may not be more than 15 years nor less than 9.

CHART II.—PERMANENT TOTAL DISABILITY CASES UNDER THE LAW

NEW JERSEY	OHIO	WISCONSIN
A. WHAT CONSTITUTES PERMANENT TOTAL DISABILITY		
<p>Loss of both hands, or both arms, or both feet, or both legs, or both eyes, or any two of these members as a result of one accident. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (e).</i></p>	<p>The loss of both hands, or both arms, or both feet, or both legs, or both eyes, or any two of these members. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-81.</i></p>	<p>Total blindness of both eyes, or loss of both arms at or near shoulder, or both legs at or near hip, or of one arm at shoulder and one leg at hip. Permanent and complete paralysis of a member shall equal loss. This enumeration shall not be exclusive, but in other cases the commission shall make the award for total disability on the basis of the facts presented. <i>Wisconsin statutes, 1919, sec. 2394-9 (2) (d); (5) (c).</i></p>
B. PERIOD COMPENSABLE		
<p>Period of such disability, but not to exceed 400 weeks. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (b).</i></p>	<p>Life. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-81.</i></p>	<p>Life, but not to exceed the following: 15 years for all persons under 32; reduced by 3 months for each succeeding age group to a minimum of 9 years. <i>Wisconsin statutes, 1919, sec. 2394-9 (2) (d).</i></p>
C. CAUSED BY SECOND INJURY		
<p>No provision.</p>	<p>Second injuries causing permanent total disability are compensated by means of a special fund. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-69.</i></p>	<p>A second injury may result in permanent total disability as above. In such case, the second employer shall pay only what is due because of the second injury. Further compensation making payment equal to that for permanent total due to a single accident to be paid from a special State fund. <i>Wisconsin statutes, 1919, sec. 2394-9 (6).</i></p>

PERMANENT PARTIAL DISABILITY CASES

Classification according to State standards.

The application of the legal provisions in the three States for classifying permanent partial disability as stated in Chart III had an effect on the cases studied as follows: 70.7 per cent of the cases in New Jersey were compensated on a temporary disability basis, as

were 85.2 per cent of those in Wisconsin and 91.1 per cent of those in Ohio. (Appendix Table I.) In New Jersey 14.4 per cent of the cases were compensated as loss-of-use cases; in Wisconsin the per cent for those cases was 6.5 and in Ohio it was 1.3. A consideration of the extent of disability according to nature of injury reveals that fractures in Wisconsin resulted in permanent disability in 1 case in 4½, in New Jersey in 1 case in 4, and in Ohio in 1 case in 12 or 13. These variations indicate the difficulties in the way of a comparative analysis of the extent and degree of industrial disabilities. Differences in the systems of reporting perhaps account in part for these variations, in that in Ohio, where the employer reports directly to the commission, which then pays the compensation, a larger proportion of temporary disabilities are compensated than in New Jersey, where the employer reports to the insurance company, which investigates and pays the claimant and in turn reports to the commission; also in Ohio the fact that under the law only those injuries which result in dismemberment or in complete stiffness at a joint or in some injury to a sense organ are compensated as permanent without further evidence, lowers the proportion of loss-of-use cases which receive compensation. If there is partial impairment—for example, 50 per cent loss of use of the right hand at the wrist—the Ohio law provides that if wage reports are submitted showing lower earning power on account of the injury, compensation shall be paid at the rate of two-thirds the loss of earning power during the time that the wage is so affected. There were 19 cases which were compensated on a wage-loss basis in Ohio.

Classification according to common standard.

New Jersey, Ohio, and Wisconsin have different methods of compensating permanent disabilities. For example, loss of the end of thumb or finger is compensated as follows: In Ohio, loss of one-half or more of the distal phalanx is compensated as permanent; in Wisconsin, if the bone is involved the injury is compensated as permanent; and in New Jersey, the loss of any portion is compensated in the ratio of such loss to loss of the whole phalanx. Inasmuch as the definition of permanent partial disability recommended by the committee on statistics and compensation-insurance cost of the International Association of Industrial Accident Boards and Commissions included the phrase “the loss of any member of the body *or part thereof*” (italics by the Women’s Bureau), the loss of the end of finger or thumb has been considered a permanent disability for the common standard adopted here.

CHART III.—PERMANENT PARTIAL DISABILITY CASES UNDER THE LAW

NEW JERSEY	OHIO	WISCONSIN
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A. BENEFITS

The method of compensating permanent injuries in the three States is that of assigning a certain number of weeks during which compensation shall be paid, according to the extent of the permanent disability. The schedule for the three States follows:

Loss of arm.....weeks.. 200	Loss of arm.....weeks.. 200	Loss of arm at or near shoulder.....weeks.. 320
Loss of hand.....do.... 150	Loss of hand.....do.... 150	Loss of arm at elbow.....do.... 280
Loss of thumb.....do.... 60	Loss of thumb.....do.... 60	Loss of forearm at lower half.....do.... 240
Loss of index finger.....do.... 35	Loss of index finger.....do.... 35	Loss of hand.....do.... 240
Loss of middle finger.....do.... 30	Loss of middle finger.....do.... 30	Loss of palm, thumb remaining.....do.... 140
Loss of ring finger.....do.... 20	Loss of ring finger.....do.... 20	Loss of thumb and metacarpal bone.....do.... 86
Loss of little finger.....do.... 15	Loss of little finger.....do.... 15	Loss of thumb at proximal joint.....do.... 70
Loss of distal phalanx of thumb or any finger is equal to loss of one-half such thumb or finger. Loss of any portion of the thumb or any finger between distal joint and end shall be compensated in the ratio of such loss to loss of the whole phalanx. Loss of the distal phalanx and any portion of the second phalanx shall be considered as loss of the whole finger or thumb. In no case shall the amount received for more than one finger exceed the amount provided for one hand.	Loss of distal phalanx of thumb shall equal loss of one-half of thumb.	Loss of thumb at distal joint.....do.... 30
Loss of leg.....weeks.. 175	Loss of more than one-half of thumb shall equal loss of whole thumb.	Loss of index finger and metacarpal bone.....do.... 45
Loss of foot.....do.... 125	Loss of distal phalanx of a finger shall equal loss of one-third of finger.	Loss of index finger at proximal joint.....do.... 32
Loss of great toe.....do.... 30	Loss of one-half the distal phalanx of thumb or any finger shall equal loss of the whole phalanx.	Loss of index finger at middle joint.....do.... 20
Loss of any other toe.....do.... 10	Loss of less than one-half is not compensated as permanent.	Loss of index finger at distal joint.....do.... 12
Loss of distal phalanx of any toe shall be considered as loss of half of such toe. Loss of the distal phalanx and any portion of the second phalanx shall be considered as loss of the whole toe.	Loss of middle phalanx shall equal loss of two-thirds of finger.	Loss of middle finger and metacarpal bone.....do.... 30
<i>Acts of New Jersey, 1919, ch. 93, par. 11.</i>	Loss of more than these two phalanges shall equal loss of whole finger.	Loss of middle finger at proximal joint.....do.... 20
Amputation between the elbow and the wrist shall be considered as the equivalent of the loss of a hand, and amputation at the elbow shall be considered equivalent to the loss of an arm. Amputation between the knee and ankle shall be considered as the equivalent of the loss of a foot, and amputation at the knee shall be considered equivalent to the loss of the leg.	For loss of metacarpal bone 10 weeks is added to amount allowed for loss of corresponding finger or thumb.	Loss of middle finger at middle joint.....do.... 12
<i>Acts of New Jersey, 1919, ch. 93, par. 23 (d).</i>	Loss of leg.....weeks.. 175	Loss of middle finger at distal joint.....do.... 8
Loss of eye.....weeks.. 100	Loss of foot.....do.... 125	Loss of ring finger and metacarpal bone.....do.... 22
Total loss of hearing in both ears by one accident.....weeks.. 160	Loss of great toe.....do.... 30	Loss of ring finger at proximal joint.....do.... 12
	Loss of other toe.....do.... 10	Loss of ring finger at middle joint.....do.... 8
	More than two-thirds loss of any toe shall equal total loss.	Loss of ring finger at distal joint.....do.... 6
	Loss of eye.....weeks.. 100	Loss of little finger and metacarpal bone.....do.... 24
	For partial loss of sight of eye compensation shall be based on percentage of vision actually lost by accident, but no compensation shall be allowed for less than 25 per cent of vision.	Loss of little finger at proximal joint.....do.... 14
	In cases in which ankylosis (total stiffness) or contractures (due to scars of injuries) render a member more than useless, the weeks allowed follow the schedule stated	Loss of little finger at middle joint.....do.... 10
		Loss of little finger at distal joint.....do.... 6
		Loss of four fingers of one hand, thumb and palm remaining.....weeks.. 90
		Loss of leg at hip or so near as to preclude use of an artificial limb.....weeks.. 300
		Loss of leg at or above knee with stump sufficient for an artificial limb.....weeks.. 220
		Loss of foot at ankle.....do.... 180
		Loss of great toe with metatarsal bone.....do.... 60
		Loss of great toe at proximal joint.....do.... 25
		Loss of great toe at middle joint.....do.... 15
		Loss of second toe with metatarsal bone.....do.... 25
		Loss of second toe at proximal joint.....do.... 10

CHART III.—PERMANENT PARTIAL DISABILITY CASES UNDER THE LAW—Continued

NEW JERSEY	OHIO	WISCONSIN
A. BENEFITS—Continued		
<p>Total loss of hearing in one ear.....weeks.. 40 Loss of natural tooth (for each tooth).....do.... 4 <i>Acts of New Jersey, 1919, ch. 93, par. 11.</i> In cases in which the usefulness of a member or any physical function is permanently impaired, the weeks allowed shall be in such relation to the time stated above as the disability bears to those produced by the injuries named above. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (w).</i> That is, complete stiffness of the hand at the wrist would be compensated over a period of 150 weeks; if the injury resulted in 50 per cent loss of strength and motion the compensated period would be 75 weeks. NOTE.—The extent of the impairment is determined at the end of the healing period. The healing period is compensated in all cases of permanent disability.¹</p>	<p>above. Where a case involving partial disability is not covered by the schedule, the only basis of compensation for such disability is the appraisal of the man's earning capacity. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-80.</i> That is, amputation or complete ankylosis of hand at wrist would be compensated over a period of 150 weeks, if the injury resulted in 50 per cent loss of strength and motion, and if on returning to work there was a 50 per cent impairment of wage, two-thirds of 50 per cent of his old wage would be paid during the period of such wage impairment. The healing period is compensated in all cases of permanent disability.¹</p>	<p>Loss of second toe at middle joint.....weeks.. 7 Loss of second toe at distal joint.....do.... 5 Loss of third, fourth, or little toe with metatarsal bone.....do.... 20 Loss of third, fourth, or little toe at proximal....do... 8 Loss of third, fourth, or little toe at distal.....do.... 5 Loss of all toes on one foot.....do.... 70 Amputation of finger tip, thumb tip, or toe tip involving bone compensated as though amputated at distal joint. If bone is not involved, the injury is not compensated as permanent. Amputation between two joints except between knee and hip is compensated according to the amount allowed at nearest joint. Loss of eye by enucleation or evisceration....weeks.. 160 Total blindness, one eye.....do.... 140 Total deafness, both ears.....do.... 160 Total deafness, one ear.....do.... 40 Total deafness, second ear.....do.... 120 In cases in which permanent and complete paralysis results from the injury, the weeks allowed follow the schedule stated above. In compensating partial loss of use of any member or faculty, payments cover a period of 80 per cent of the time allowed for total loss. <i>Wisconsin statutes, 1919, sec. 2394-9 (5) (a, d, e).</i> That is, total loss of sight of one eye would be compensated over a period of 140 weeks; if the injury resulted in 50 per cent loss of vision, the compensated period would be one-half of 80 per cent of 140 weeks or 56 weeks. The extent of impairment is determined at the end of the healing period, and compensation is paid during the period of temporary total disability. When it is possible to determine the extent of the permanent disability at once, that is, in cases of amputation, etc., the healing period is not compensated.¹</p>

B. MULTIPLE INJURIES

<p>No provision.</p>	<p>No provision.</p>	<p>In case an accident causes more than one permanent injury to the hands or feet the allowance for each additional injury in the order of severity of such injury from minimum to maximum shall be increased as follows: For the first additional injury allowance as specified plus 10 per cent, for the second and each additional injury allowance as specified plus 20 per cent additional; but compensation for more than one injury to members of hand or foot resulting from one accident shall not exceed compensation for amputation of hand or foot. <i>Wisconsin statutes, 1919, sec. 2394-9 (5) (em).</i></p>
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C. DISFIGUREMENT

<p>No provision.</p>	<p>No provision.</p>	<p>If an employee is so permanently disfigured about the face, head, neck, hands, or arms as to occasion loss of wage, the commission may allow such sum for compensation as it may deem just, not to exceed \$750. <i>Wisconsin statutes, 1919, sec. 2394-9 (5) (f).</i></p>
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¹ For definition of "healing period," see p. 28.

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To show clearly the extent to which the 3,285 women were disabled it was necessary, first, to classify the injuries as they are grouped in the first table in Appendix A (pp. 272-275)—that is, as they were classified by the compensation bureau in each State to determine the compensation due according to law—and, second, to classify them according to the extent of physical disability incurred. The second classification does not contradict the first; it shows the extent to which women were disabled by accident according to a common standard. In other words, in the interest of presenting a clear picture of the disabilities suffered by the 3,285 women it was deemed advisable to classify them according to whether they merely lost time from their work or suffered any permanent effect from their injury.

TABLE 2.—Extent of disability according to State classification compared to extent according to common classification, by location (cases of permanent disability)

Extent and location of disability	New Jersey		Ohio		Wisconsin	
	Classified according to State law	Classified according to common standard	Classified according to State law	Classified according to common standard	Classified according to State law	Classified according to common standard
All cases.....	315	332	132	372	89	99
Dismemberment.....	146	157	107	200	42	47
One finger.....	99	109	74	143	26	29
Two fingers.....	25	25	14	27	4	4
Thumb.....	9	10	3	14	5	7
Other dismemberment.....	13	13	16	16	7	7
Impairment.....	167	157	21	133	42	42
Arm above elbow.....	4	4		5	1	1
Hand.....	17	17	1	16	5	5
Thumb.....	15	15	2	12	4	4
One finger.....	86	86	8	46	21	21
Two fingers.....	6	6	1	7	3	3
Three fingers.....	2	2		1	2	2
Four fingers.....	2	2	7	10	1	1
Thumb and four fingers.....			1	2		
Leg above knee.....	5	5		4		
Leg at or below knee.....	4	4		10	1	1
Foot.....	10	10		5	2	2
Back.....	4	4		6		
Genitals.....				6		
Body not otherwise classified.....	1	1		2		
Other impairment.....	1	1	1	1	2	2
Central nervous system.....	4	4		26		1
Disfigurement.....		6		3		4
Eye.....	5	5	4	19	5	5
Teeth.....	3	3		1		

¹ Five cases of loss of less than 25 per cent of the total sight of an eye.

Classifying the cases according to the common standard here described was found to present no difficulties in Wisconsin. The 6 fatal cases and the 89 cases which were compensated as permanent in that State have been classified in the same way according to the common standard. Of the 549 cases compensated on a temporary disability basis according to the State, 10 showed a permanent disability not compensated as such by law. There was disfigurement

in 4 cases, slight dismemberment in 5, and injury involving the nervous system for which a money settlement was made in 1 case. These 10 have been classified as permanent disability cases according to the common standard.

In New Jersey also there was no difficulty in classifying according to physical disability. The 3 fatal cases and the 315 cases compensated as permanent in that State have been classified in the same way according to the common standard. There were 778 cases which were compensated on a temporary disability basis, 17 of which showed a permanent disability not compensated as such by law, there being slight dismemberment in 11 cases and disfigurement in 6. These 17 have been classified as permanent disability cases according to the common standard.

In Ohio the six fatal cases and the 132 cases which were compensated as permanent by the State have been classified in the same way according to the common standard. The 132 permanent disability cases involved dismemberment, complete ankylosis, or injury to a sense organ. In addition, in 15 cases of loss of use the commission found that there had been a loss of earning power due to the injury. These 15 cases were classified as temporary partial according to the State law and as permanent partial according to the common standard. In four cases there was no loss of use; however, there was loss of wage for a time, and compensation was paid for that loss. These 4 were classified as temporary partial according to the State law, and in the same way according to the common standard. The remaining cases, 1,388, were compensated as temporary total in Ohio. Of these 1,388 records, 225 showed a permanent disability not compensated as such by law, since the State had found no loss of earning power. There was slight dismemberment in 93 cases, loss of use in 98 cases, injury involving the nervous system in 25 cases, disfigurement in 3 cases, and injury to the eye in 5 cases and to the teeth in 1 case. These 225 cases have been classified as permanent disability cases according to the common standard.

In Ohio the State paid the medical bills in 79.2 per cent of the cases, and the doctors' reports as to extent of disability were very full, which made it possible to classify the cases secured from the commission's files according to the common standard. The classification was based on State record material.

With the exception of 11 loss-of-use cases, which did not lend themselves to such classification, the degree of disability was coded in the 112 cases of loss of use and 109 cases of dismemberment in the three States, classified according to the common standard as permanent disability cases. In cases of injury involving the nervous system, in disfigurement cases, and in cases of injury to the eye or teeth, no such attempt to code degree has been made.

An attempt was made to locate all women left with a permanent disability, whether it was compensated as such or not. Of these permanent disability cases, 385, almost one-half of the total number on the records, were found. For the cases interviewed, which had been reclassified as permanent according to the common standard, the interview schedule has been examined not as a source from which to determine extent and degree of disability but as a check upon the estimate determined by the study of the State record material. It was found that in no case had there been an overestimate on the part of the agent. A classification of extent of disability according to the common standard reveals that 30.3 per cent of all cases in New Jersey were permanent, 15.4 per cent of all in Wisconsin, and 24.1 per cent of all in Ohio.

It will be noted that changes in the classification of cases of dismemberment were all cases of injury to fingers or thumb. These injuries involved the loss of less than one-half of the distal phalanx of such members. There were no changes in the classification of impairment cases in either New Jersey or Wisconsin. In Ohio a little more than six times as many such cases have been classified as permanent according to the common standard as according to the State law. None of the three States classified disfigurement as a permanent injury, although the Wisconsin law provided additional indemnity in such cases if the wage suffered thereby.

Severity of permanent disability.

In terms of cause of accident and healing period.—One measure of the severity of an injury is the time required to recover as fully as possible from its effects, this time being known as the healing period. The following summary, compiled from Appendix Table II, shows for cases of permanent disability the length of this healing period according to the cause of accident.

TABLE 3.—Length of healing period, by cause of accident (cases of permanent disability)

A. PER CENT DISTRIBUTION BY CAUSE OF ACCIDENT

Cause of accident	Total	Length of healing period				
		Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes.....	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools.....	2.1	4.7	1.2	2.1	2.1	-----
Handling of objects.....	7.5	10.6	4.8	7.2	9.1	12.5
Falling objects.....	1.5	-----	3.0	1.3	.7	4.2
Stepping on or striking against objects.....	1.3	2.4	-----	.8	2.8	4.2
Falls of persons.....	9.8	4.7	4.2	4.8	26.6	45.8
Explosions, electricity, and hot substances.....	1.1	2.4	-----	.5	1.4	12.5
Vehicles.....	.6	1.2	-----	.8	.7	-----
Poisonous and corrosive substances and occupational diseases.....	1.8	-----	2.4	1.6	2.8	-----
Machinery.....	74.0	74.1	84.5	80.9	52.4	20.8
Miscellaneous causes.....	.3	-----	-----	-----	1.4	-----

B. PER CENT DISTRIBUTION BY LENGTH OF HEALING PERIOD

All causes.....	100.0	10.7	21.1	47.3	17.9	3.0
Hand tools.....	100.0	23.5	11.8	47.1	17.6	-----
Handling of objects.....	100.0	15.0	13.3	45.0	21.7	5.0
Falling objects.....	100.0	-----	41.7	41.7	8.3	8.3
Stepping on or striking against objects.....	100.0	20.0	-----	30.0	40.0	10.0
Falls of persons.....	100.0	5.1	9.0	23.1	48.7	14.1
Explosions, electricity, and hot substances.....	100.0	22.2	-----	22.2	22.2	33.3
Vehicles.....	100.0	20.0	-----	60.0	20.0	-----
Poisonous and corrosive substances and occupational diseases.....	100.0	-----	28.6	42.9	28.6	-----
Machinery.....	100.0	10.7	24.1	51.7	12.7	.8
Miscellaneous causes.....	100.0	-----	-----	-----	100.0	-----

Almost three-fourths of the permanent disability cases were caused by machinery, no other cause reaching 10 per cent. It is interesting to note that although 65 per cent of the machine accidents resulted in a healing period of at least 4 weeks, the machine accidents show their largest proportion as a cause in the 2-and-under-4-weeks group. With two exceptions the other causes of accidents were responsible for more lost time per injury. In only two groups—hand tools and falling objects—was the per cent of accidents resulting in a healing period of at least 4 weeks lower than that of the machine group, and these were only slightly lower. Falls of persons were responsible for almost 46 per cent of the cases requiring a healing period of 52 weeks and over. This in connection with the fact that falls caused less than 10 per cent of all permanent injuries indicates that, in spite of their relative infrequency as a cause, they are to be viewed with seriousness when they do occur. Practically 86 per cent of the injuries due to this cause required a healing period of at least 4 weeks, and for 62.8 per cent the healing period was at least 12 weeks. Roughly speaking, one-tenth of the permanent disability cases required a healing period of less than 2 weeks; one-fifth, 2 but under 4 weeks; one-half, 4 but under 12 weeks; one-sixth, 12 weeks but less than 1 year; and one-thirty-third, a year or longer.

In terms of location, extent, and degree.—In addition to relating time loss to cause of accident, it is interesting to consider this measure of the seriousness of an accident in connection with the nature and location of the injury. The largest group of injuries resulting in permanent disabilities were in the nature of traumatic amputations; the next largest group were cuts, lacerations, and punctures; and the third consisted of bruises, contusions, and crushes. (Appendix Table III.)

The healing period was less than 4 weeks in length in 43 per cent of the amputations, in 33 per cent of the bruises, contusions, and crushes, and in 29 per cent of the cuts, lacerations, and punctures. Sprains and fractures were responsible for 14 per cent of the permanent disability cases, and they formed 36 per cent of the injuries requiring 12 weeks or more to heal. Two-thirds of the burns required a healing period of at least 12 weeks.

Table 4 correlates with location the nature of the injury, and the extent of the disability, in cases of permanent disability.

TABLE 4.—*Nature of injury and extent of disability, by location of disability (cases of permanent disability)*

Location of disability	All cases	Nature of injury and extent of disability																												
		Bruise, contusion, crush				Burn, scald, crush and burn				Concussion ¹	Cut, laceration, puncture				Amputation			Dislocation, fracture				Sprain, strain				Other				
		Total	Dismemberment	Loss of use	Other disability	Total	Dismemberment	Loss of use	Other disability		Total	Dismemberment	Loss of use	Other disability	Total	Dismemberment	Loss of use	Total	Dismemberment	Loss of use	Other disability	Total	Dismemberment	Loss of use	Other disability					
All cases—Number.....	816	182	89	81	12	28	7	13	8	27	192	47	119	26	248	243	5	83	14	67	2	39	1	35	3	17	3	10	4	
Per cent distribution.....	100.0	22.3				3.4				3.3	23.5				30.4			10.2				4.8				2.1				
Fatal cases—Number.....	15	2			2	7			7		2			2				1			1	1			1	2			2	
Per cent distribution.....	100.0	13.3				46.7					13.3							6.7			6.7				13.3					
Permanent partial cases—Number.....	801	180	89	81	10	21	7	13	1	27	190	47	119	24	248	243	5	82	14	67	1	38	1	35	2	15	3	10	2	
Per cent distribution.....	100.0	22.5				2.6				3.4	23.7				31.0			10.2				4.7				1.9				
Arm above elbow.....	10					1	1								1	1		6		6		4		4						
Arm at or below elbow.....	5																	2		2		1		1						
Hand.....	41	4	1	3		5	3	2			10		10					17		17		5		5						
Thumb.....	62	17	9	8		24	7	17			24	7	17		15	14	1	1		1						5	1	4		
One finger.....	432	104	56	48		6	1	5			108	35	73		178	175	3	28	11	17		2	1	1		6	2	4		
Two fingers.....	72	14	11	3		2	1	1			10	2	8		42	41	1	4	1	3										
Three fingers.....	21	11	8	3		1	1				3	1	2		4	4		2	2											
Four fingers.....	21	5	3	2		4		4			8	2	6		3	3									1		1			
Thumb and one finger.....	5	5	3	2							4	4	4		4	4		1		1										
Thumb and three fingers.....	1										1		1		1	1														
Thumb and four fingers.....	2										1		1													1		1		
Leg above knee.....	8	1		1														6		6		1		1						
Leg at or below knee.....	15	3		3							1		1					4		4		7		7						
Foot.....	17	4		4							1		1					8		8		4		4						
Lesser toe.....	1	1	1																											
One eye (loss of sight).....	19	4			4				1		12		12													2			2	
Central nervous system.....	31					1			1	26	1		1					1		1		2		2						
Disfigurement.....	13	2		2							11		11																	
Body not otherwise classified.....	25	10		6	4	1		1										2		2		12		12						

¹ Other than dismemberment and loss of use.

² Excludes 2 cases not reporting nature of injury.

A little over one-half of the permanent injuries involved one finger. In 24 per cent of these cases the original injury was a bruise, contusion, or crush, which resulted ultimately in dismemberment in 56 cases and in loss of use in 48. In 25 per cent of the cases of accident to one finger the original injury was a cut, laceration, or puncture, and the final result in 35 cases was dismemberment and in 73 loss of use. In 41 per cent of the cases the original injury was traumatic amputation, and naturally the permanent disability was dismemberment in almost all of them; in 3 cases, however, because of a complicating infection, the final and more serious result was loss of use of the remaining portion of the member affected.

Although there was a preponderance of finger injuries, there were also a considerable number of injuries involving other parts of the body. Dislocations, fractures, and sprains or strains were the original nature of injuries to the shoulder and upper arm, and the result in these cases was loss of use. The injuries involving the hand, and the arm at or below the elbow, were more varied in nature, including bruises, contusions, crushes, burns, scalds, cuts, lacerations, punctures, amputations, dislocations, fractures, and sprains or strains, but the disability in all but 6 of the total of 46 cases of this type was loss of use. The 40 hip, knee, and ankle injuries were almost as varied in nature, excluding only burns, scalds, and amputations, and all of them resulted in loss of use. There were 19 injuries causing impaired vision. In 31 cases the central nervous system was involved. There were injuries to the body, not otherwise classified, which resulted from dislocations, fractures, sprains or strains, bruises, contusions, crushes, burns, or scalds.

After linking in this way the nature of the injury with the location and extent of the permanent disability, it is interesting to correlate the location of disability with the exact degree of impairment of the member involved.

TABLE 5.—Degree of disability in terms of per cent of impairment of member, by location of injury (cases of permanent disability)

Location of injury	All cases	Degree of disability in terms of per cent of impairment of member							Cases having no per cent assigned
		Under 16½ per cent	16½ and under 33½ per cent	33½ and under 50 per cent	50 and under 66½ per cent	66½ and under 83½ per cent	83½ and under 100 per cent	100 per cent	
All injuries	803	280	63	198	51	75	12	45	79
Head	37							3	34
Eye	20							3	17
Scalp	11								11
Teeth	4								4
Head not otherwise classified	2								2
Trunk	49	3	1						45
Central nervous system	30								30
Back	10	1	1						8
Abdomen (internal)	1	1							
Genitals	6	1							5
Trunk not otherwise classified	2								2
Upper extremities	675	253	52	197	45	75	12	41	
Shoulder joint	10	6	1	1		1	1		
Elbow joint	4	1	1	1				2	
Wrist joint	34	17	4	1		2	2	6	
Wrist and arm	9	5	1			4		1	
Thumb	62	33	4	4	14	2		5	
Index finger	245	100	12	82	9	29	1	12	
Middle finger	129	43	9	53	2	14	1	7	
Ring finger	38	14	4	11		9			
Little finger	18	4	2	5		4		2	
Thumb and index finger	3				1				
Thumb and middle finger	2				1				
Thumb, index, middle, ring, and little fingers	2						1		
Index and middle fingers	34	7	3	18	1	5			
Index, middle, and ring fingers	10	1	2	2	1	1	2	1	
Index, middle, ring, and little fingers	22	2	1	5	3	6	1	4	
Middle and ring fingers	29	16	3	6	3			1	
Middle, ring, and little fingers	10	1	1	5		1	2	1	
Ring and little fingers	7	2	2	1			2		
Fingers not otherwise classified	7	2	2	1	1	1			
Lower extremities	42	24	10	1	6			1	
Hip joint	8	3	3		2				
Knee joint	14	8	3		3				
Lower leg	1	1							
Ankle joint	16	10	4	1	1				
Leg not otherwise classified	1	1							
Foot	1	1							
Lesser toe	1							1	

In 9 per cent of the cases the permanent disability did not lend itself to the assignment of a definite per cent; that is, in injuries involving the central nervous system, the back, or the genitals, disfiguring injuries, and (since a common standard for measuring partial loss of vision has not been accepted) injuries in which there was less than total loss of vision in one eye.

As already noted, more than one-half (53.9 per cent) of the cases of permanent disability involved one finger. In three-fourths of these finger injuries the disability amounted to less than 50 per cent of total impairment of member. Permanent disability of the

finger in all but very slight injuries constitutes a considerable handicap to the manual worker. This is especially true when the thumb and index finger, or two or more fingers, are involved. In one-fifth of these injuries more than one member was permanently disabled.

A reduction of the usefulness of the shoulder, elbow, or wrist joint is apt to constitute an exceedingly hampering disability. There was such a condition in 57 cases, in 22 of which the disability at the joint involved was at least $33\frac{1}{3}$ per cent. In 39 cases there resulted a permanent disability of the hip, knee, or ankle joint, of which 7 measured at least $33\frac{1}{3}$ per cent loss of use of the member at the joint involved.

In terms of estimated time lost.—In an attempt to express the loss of earning power caused by permanent partial disabilities of varying degree in terms of one common denominator, the International Association of Industrial Accident Boards and Commissions has estimated the severity of each injury in terms of time lost.

The scale, which is here presented, is based on a study of the permanent disability schedules available, including those adopted by the Canadian Provinces, European countries, and the United States.

Scale of time losses for weighting industrial accident disabilities so as to show severity of accidents ¹

Nature of injury	Degree of disability in per cent of permanent total disability	Days lost
Death	100	6,000
Permanent total disability	100	6,000
Arm above elbow, dismemberment	75	4,500
Arm at or below elbow, dismemberment	60	3,600
Hand, dismemberment	50	3,000
Thumb, any permanent disability of	10	600
Any 1 finger, any permanent disability of	5	300
2 fingers, any permanent disability of	12½	750
3 fingers, any permanent disability of	20	1,200
4 fingers, any permanent disability of	30	1,800
Thumb and 1 finger, any permanent disability of	20	1,200
Thumb and 2 fingers, any permanent disability of	25	1,500
Thumb and 3 fingers, any permanent disability of	33⅓	2,000
Thumb and 4 fingers, any permanent disability of	40	2,400
Leg above knee, dismemberment	75	4,500
Leg at or below knee, dismemberment	50	3,000
Foot, dismemberment	40	2,400
Great toe, or any 2 or more toes, any permanent disability of	5	300
1 toe, other than great toe, any permanent disability of	0	---
1 eye, loss of sight	30	1,800
Both eyes, loss of sight	100	6,000
1 ear, loss of hearing	10	600
Both ears, loss of hearing	50	3,000

1. Injuries not involving amputation should be rated as a proportion of the weight assigned to the entire loss of the member involved in accordance with the degree of impairment.

2. The weighting for impairment of function of any member should be such percentage of the weighting for dismemberment as may be determined by the adjudicating authority in fixing the compensation for such impairment—i. e., if loss of an arm is compensated by 240 weeks' indemnity, then an impairment of the arm for which 160 weeks' compensation was paid should rate as two-thirds of the loss of the arm in the above scale.

3. Hernia should be included only as a temporary disability on the basis of the actual time lost.

4. For the weighting of temporary disabilities the actual duration of disability in calendar days less one-seventh should be used.

¹ U. S. Department of Labor, Bureau of Labor Statistics. Bulletin No. 276, p. 77.

Each of the 803 permanent disabilities encountered in the present study (with the exception of the 5½ per cent which did not lend themselves to such rating) has been assigned a severity weight.

A compilation of the information on extent of disability according to this measure of severity shows that there was a total of more than 500,000 days lost by the 758 women involved.

TABLE 6.—Extent of disability in terms of estimated days lost, by cause of accident (cases of permanent disability)

Cause of accident	All cases			Estimated days lost due to—																	
				Death			Other permanent disability														
	All classes						Dismemberment			Ankylosis			Impairment			Other					
				Number of women	Days lost		Number of women	Days lost		Number of women	Days lost		Number of women	Days lost		Number of women	Days lost		Number of women	Days lost	
Number	Per cent	Number	Per cent		Number	Per cent		Number	Per cent		Number	Per cent		Number	Per cent		Number	Per cent			
All causes.....	1 758	521,594	100.0	15	90,000	100.0	743	431,594	100.0	402	203,000	100.0	54	47,100	100.0	265	155,802	100.0	22	25,692	100.0
Hand tools.....	17	8,112	1.6				17	8,112	1.9	10	3,900	1.9	1	300	0.6	5	3,750	2.4	1	162	0.6
Handling of objects.....	55	48,936	9.4	2	12,000	13.3	53	36,936	8.6	18	9,000	4.4	7	7,200	15.3	23	12,636	8.1	5	8,100	31.5
Falling objects.....	4	3,060	.6				4	3,060	.7							3	1,260	.8	1	1,800	7.0
Stepping on or striking against objects.....	10	4,200	.8				10	4,200	1.0	1	300	.1				7	3,360	2.2	2	540	2.1
Falls of persons.....	66	68,226	13.1	2	12,000	13.3	64	56,226	13.0	1	300	.1	1	3,000	6.4	61	52,026	33.4	1	900	3.5
Explosions, electricity, and hot substances.....	12	41,910	8.0	6	36,000	40.0	6	5,910	1.4				1	300	.6	3	2,550	1.6	2	3,060	11.9
Vehicles.....	3	2,850	.5				3	2,850	.7							2	900	.6	1	1,950	7.6
Poisonous and corrosive sub- stances and occupational diseases.....	15	15,450	3.0	1	6,000	6.7	14	9,450	2.2	3	1,200	.6	1	1,800	3.8	9	6,000	3.9	1	450	1.8
Machinery.....	574	322,670	61.9	3	18,000	20.0	571	304,670	70.6	369	188,300	92.8	43	34,600	73.2	152	73,320	47.1	7	8,550	33.3
Miscellaneous causes.....	2	6,180	1.2	1	6,000	6.7	1	180											1	180	.7

¹ Excludes 60 cases not reporting complete data.

As before stated, machinery was the cause of 75 per cent of the injuries resulting in permanent disability but of only 61.9 per cent of the total time lost. Almost two-thirds of the machine accidents resulted in dismemberment, and of the dismemberment cases 91.8 per cent, involving 92.8 per cent of the time lost by all dismemberment cases, were caused by machinery. Falls of persons caused 8.7 per cent of all injuries and were responsible for 13 per cent of the time lost. Over 90 per cent of the accidents due to falls of persons resulted in impairment. Such falls were accountable for a little less than one-fourth of all the impairment cases and for one-third of the total time lost by these cases.

In averaging the time lost according to cause it is found that among the three groups which were responsible for the largest number of accidents, falls of persons ranked first with 1,033 days per case, handling of objects next with 889 days per case, and machinery third with 562 days per case.

The 574 accidents caused by machinery constituted three-fourths of the total 758 permanent disability cases reporting cause of accident and degree of disability. Consequently, it is of interest at this point to consider in more detail the machine accidents. There was a great variety of types of machines responsible for these injuries. Certain types, however, appeared frequently on the records.

Power punch presses were responsible for 349 accidents. Of these, 61 per cent resulted in some permanent disability. One woman had the left middle finger traumatically amputated at the middle joint, and the thumb so injured as to cause complete loss of use; another woman lost the entire thumb; another lost the distal phalanx of the right index and middle fingers; another lost the entire middle and ring fingers of the right hand. In each of these cases the woman was operating the punch press and her finger or thumb was caught under the die.

Drill presses caused injuries in 33 cases, 10 of which resulted in some permanent disability. In two cases the woman's hair was caught in the drill and some hair was torn from the scalp. One woman was struck on the left index finger by the stock, which stuck in the drill, and the injury necessitated amputation at the distal joint.

Of 32 women injured on printing presses, 12 were left with a permanent disability. One girl tried to straighten the paper while feeding a job press. The right index and middle fingers were caught in the press, crushed, and lacerated, and bones of the middle finger were broken. The extent of disability was total loss of the middle finger and two-thirds loss of the index finger due to ankylosis.

Corner stayers, the cause of accident in 22 cases, resulted in 6 cases of permanent injury. A girl operating a corner stayer reached over

to pick up a box and her foot slipped and struck the pedal, causing the machine to operate. The left index finger was caught, fractured, and lacerated, and it was necessary to amputate the entire finger.

Of 17 injuries caused by heel-building machines, 9 resulted in some permanent disability. One girl's right middle and ring fingers were caught under the plunger while operating a heel builder, and the distal phalanx of the middle finger and the tip of the ring finger were cut off. Another worker's index finger was caught under the die, and the tip was lacerated so badly as to necessitate amputation of the distal phalanx; the left index finger of another, caught in the same way, was cut off at the base of the nail.

Power sewing machines were the cause of injury in the case of 69 women, 11 being left with some permanent disability. One woman's right index and middle fingers were lacerated by the needle while operating a machine. Infection set in, resulting in 66 $\frac{2}{3}$ per cent loss of use of the index finger and 20 per cent loss of use of the middle finger. Another woman while operating had the right thumb pierced by the needle, the accident causing 50 per cent loss of use of the thumb. A third woman's right middle finger was pierced by the needle; infection set in and resulted in 50 per cent loss of use of the finger.

In 39 cases accidents were caused by looms, 4 of these injuries being permanent. In one case a flying shuttle struck the woman, bruising the abdomen and causing injury rated as 5 per cent of permanent total incapacity. In another case, while a woman was trying to put up filling thread her left hand was caught and squeezed against the beam; 25 per cent loss of use of the palm of the hand was the result.

Spinning frames were the cause of accident in 40 cases, 10 resulting in permanent disability. One woman slipped while reaching for the end of a broken roving and the right index finger was caught in the small gear. The finger was badly crushed and had to be amputated at the distal joint. The left index finger of another woman was lacerated while operating a spinning frame, and the accident caused 60 per cent loss of use of the finger. The foot of a third woman, a mule spinner, was caught on the carriage truck, severely spraining the right knee. She was left with a disability rated as 50 per cent loss of use of the right leg.

Of 19 women injured by saws in woodworking plants, 7 were left with some permanent disability. One woman, while "taking away," brushed some sawdust from the machine, bringing her hand in contact with the saw, the accident causing compound fractures of the distal and middle phalanges of the right index finger and resulting in total loss of use of the finger. Another woman was operating a miter saw; her hand slipped from the piece of lumber and came in

contact with the saw, which inflicted an incised wound halfway through the middle phalanx of the right index finger, causing complete stiffness at the distal joint.

Of 16 women injured on flat-work ironers, 12 were left with some permanent disability. In two cases a hand was drawn into the rolls and crushed and burned so badly that it was necessary to amputate it, at the wrist in one case and two inches below the elbow in the other. A third woman whose hand was crushed in the rolls lost four fingers by amputation.

The standard for rating severity of permanent disability in terms of time lost as given in the scale presented on page 35 of this report has been applied to the cases which were classified as permanent in each State. (Appendix Table IV.) As in the case of the preceding table, the total amount of time lost in dismemberment cases in the three States was greater than that in the cases of impairment, but the average time loss per case was greater in the latter group. In New Jersey the average time loss ascribed in both dismemberment and impairment cases was lower than in the other two States, which is partly explained by the fact that the New Jersey law compensates certain less severe disabilities as permanent which the other two States do not recognize as such. In Ohio the average time loss ascribed to impairment cases was nearly twice that of either of the two other States, while the actual number of cases was much smaller.

In terms of total incapacity.—The location of a disability and its extent in terms of total incapacity constitute another measure of the severity of permanent disabilities—that is, if one woman has lost an arm and another an index finger it indicates to what extent the usefulness of each has been reduced. Table 7 shows that nearly two-thirds of the permanently disabled women whose degree of disability could be stated in terms of per cent had disablement rated as less than 10 per cent of total incapacity.

TABLE 7.—Degree of disability in terms of per cent of permanent total incapacity, by location of disability (cases of permanent disability)

Location of disability	Number of women	Degree of disability in terms of per cent									Cases having no per cent assigned
		Under 10 per cent	10 and under 20 per cent	20 and under 30 per cent	30 and under 40 per cent	40 and under 50 per cent	50 and under 60 per cent	60 and under 70 per cent	70 and under 80 per cent	100 per cent	
All cases.....	818	488	169	44	30	3	9	3	1	15	56
Fatal cases.....	15									15	
Permanent partial cases.....	803	488	169	44	30	3	9	3	1		56
Arm above elbow.....	10		7	1			1	1			
Arm at or below elbow.....	5		2	1				2			
Hand.....	41	20	6	6	1	1	7				
Thumb.....	62		62								
One finger.....	434	434									
Two fingers.....	72		72								
Three fingers.....	21			21							
Four fingers.....	21				21						
Thumb and one finger.....	5			5							
Thumb and three fingers.....	1				1						
Thumb and four fingers.....	2					2					
Leg above knee.....	8		5	1	2						
Leg at or below knee.....	15	10	2	2	1						
Foot.....	17	14	2	1							
Lesser toe.....	1	1									
One eye (loss of sight).....	19	6	7	3	3						
Central nervous system.....	31		1		1				1		28
Disfigurement.....	13										13
Body not otherwise classified.....	25	3	3	3			1				15

The scale on page 35 was used in making these estimates. There were 90 cases in which the injured woman was left with a disability amounting to at least 20 per cent of total incapacity. These constituted 12 per cent of the permanent partial disability cases to which a per cent of impairment was assigned. Accidents involving the hand and arm made up a considerable number of the most disabling injuries.

The following cases are quoted from this group to illustrate the correlation between the cause of accident and the extent and degree of disability.

A girl of 17 working as a flat-work ironer in a laundry received a severe burn when the four fingers and thumb of her left hand were caught in the rolls of her machine. The treatment included ligation of arteries, skin grafting on the palmar surface, an operation to remove the webbed condition which developed between two fingers, and an attempt to repair the tendons of the index and middle fingers. The final disability was total loss of four fingers due to ankylosis. This impairment amounts to 30 per cent of permanent total incapacity.

A woman street-car conductor in a collision of cars sustained a "fractured spine" and was left with a permanent disability rated as 32½ per cent of permanent total.

A girl of 17, operating a can-sealing machine, while trying to remove a can suffered a severe laceration of her arm and a "wrist bone cut." The healing period required 32 weeks, and the final disability was rated as 75 per cent loss of use at the wrist, which amounts to 37½ per cent of permanent total incapacity.

A factory cleaner fell down three or four steps, landing on the left shoulder. The humerus was fractured at the shoulder joint. She lost 18½ weeks and was left with an impairment at the shoulder of 66⅔ per cent, which in terms of permanent total incapacity amounts to 50 per cent.

TEMPORARY DISABILITY CASES

If an industrial accident results in injury which prevents a person from working for some days—at least one week in Wisconsin or Ohio and at least 10 days in New Jersey—that person is eligible for compensation during the ensuing healing period, otherwise designated as the period of temporary disability. Temporary disability may be either total or partial in degree. If it is total, a fixed per cent of the wage is paid during the period of such disability, the compensated period beginning with the expiration of the waiting period. The time over which such compensation may extend is limited in each of the three States, as shown by Chart IV. In New Jersey the maximum is 300 weeks, in Wisconsin it is 308 weeks, and in Ohio it is 6 years, in the last named the total payments not to exceed \$3,750. In New Jersey if the temporary disability is partial, that is, if the person returns to work after the accident, though unable to work full time or to earn as much as he could previous to the accident, the disability is not recognized as compensable. In Wisconsin and Ohio provision for compensating such wage loss is made.

CHART IV.—TEMPORARY DISABILITY CASES UNDER THE LAW

NEW JERSEY	OHIO	WISCONSIN
A. BENEFITS—TEMPORARY TOTAL DISABILITY		
For injury producing temporary disability, 66⅔ per cent of wages is paid during disability (except for waiting period of 10 days) for not over 300 weeks; weekly maximum—\$12; minimum—\$6, or actual wages if less than \$6. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (a), 13.</i>	For injuries producing temporary total disability, 66⅔ per cent of average weekly wages is paid during disability (except for a waiting period of one week) for not over six years; weekly maximum—\$15; minimum—\$5, or actual wages if less than \$5; total not to exceed \$3,750. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-78, 1465-79.</i>	For injury producing temporary total disability, 65 per cent of wages is paid during disability (except for waiting period of one week, which also is compensated if the disability extends for as much as 4 weeks), for a maximum of 308 weeks; weekly maximum—\$14.63; minimum—\$6.83. <i>Wisconsin statutes, 1919, sec. 2304-9 (2) (a) (d); 2304-10.1.</i>
B. BENEFITS—TEMPORARY PARTIAL DISABILITY		
No provision.	If injury results in partial disability causing impairment of earning capacity, injured shall receive two-thirds of the wage loss, not to exceed \$12 a week, as long as loss continues [no weekly minimum]; maximum total amount, \$3,750. This compensation is paid in addition to compensation due for temporary total disability. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-80.</i>	If injury results in partial disability, 65 per cent of weekly loss in wages is paid during such partial disability. This compensation is paid in addition to compensation due for temporary total disability. <i>Wisconsin statutes, 1919, sec. 2304-9 (2) (b) (c).</i>

Length of healing period of temporary disability cases—common standard.

In relation to cause of accident.—The measure of severity in the case of injuries resulting in temporary disability obviously is the extent of the healing period—the duration of absence from work on account of the accident. In studying the relative seriousness of various causes of temporary disability it is found that whereas machinery was responsible for 74 per cent of the permanent disability cases, it caused only 37.5 per cent of those that were temporary. (Appendix Table II.) In the machine group metal-working machinery caused a larger proportion of the permanent disability cases than of the cases where only lost time was involved, and textile machinery was responsible for a larger proportion of the temporary disability cases than of those resulting in permanent disability. The handling of objects caused 17.4 per cent of the injuries resulting in temporary disability and only 7.5 per cent of those resulting in permanent disability, while falls of persons, responsible for 24.7 per cent of the temporary disability cases, were responsible for only 9.8 per cent of the permanent ones.

The following table, compiled from Appendix Table II, shows in terms of percentages the lost time in temporary disability cases, according to cause.

TABLE 8.—Length of healing period, by cause of accident (cases of temporary disability)

Cause of accident	Total	Length of healing period				
		Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes.....	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools.....	4.0	7.0	4.0	1.7	3.0	-----
Handling of objects.....	17.4	18.6	18.1	15.6	16.0	25.0
Falling objects.....	2.2	1.8	2.3	2.0	3.0	25.0
Stepping on or striking against objects.....	5.1	6.1	5.7	4.2	1.0	-----
Falls of persons.....	24.7	16.4	19.7	34.7	57.0	-----
Explosions, electricity, and hot substances.....	4.1	2.8	4.9	4.3	2.0	-----
Vehicles.....	1.3	.9	1.3	1.4	2.0	25.0
Poisonous and corrosive substances and occupational diseases.....	3.2	2.6	3.6	3.0	2.0	25.0
Machinery.....	37.5	43.5	40.2	32.3	13.0	-----
Miscellaneous causes.....	.4	.4	.3	.7	1.0	-----

B. PER CENT DISTRIBUTION BY LENGTH OF HEALING PERIOD						
	100.0	22.1	45.3	28.3	4.1	0.2
All causes.....	100.0	22.1	45.3	28.3	4.1	0.2
Hand tools.....	100.0	39.2	45.4	12.4	3.1	-----
Handling of objects.....	100.0	23.7	47.1	25.3	3.7	.2
Falling objects.....	100.0	18.5	48.1	25.9	5.6	1.9
Stepping on or striking against objects.....	100.0	26.2	50.0	23.0	8.0	-----
Falls of persons.....	100.0	14.7	36.1	39.8	9.4	-----
Explosions, electricity, and hot substances.....	100.0	14.9	53.5	29.7	2.0	-----
Vehicles.....	100.0	15.6	43.8	31.3	6.3	3.1
Poisonous and corrosive substances and occupational diseases.....	100.0	17.9	51.3	26.9	2.6	1.3
Machinery.....	100.0	25.7	48.6	24.3	1.4	-----
Miscellaneous causes.....	100.0	18.2	27.3	45.5	9.1	-----

Machinery, responsible for 37.5 per cent of all temporary disability cases, was responsible for only 13 per cent of those requiring a healing period of from 12 to 52 weeks. Falls of persons contributed heavily to the group in which the healing period was long, for though less than one-fourth of the temporary disability cases were caused in this way, well over one-half of the injuries requiring from 12 to 52 weeks to heal were due to falls.

Of the injuries caused by hand tools, 39.2 per cent were healed in less than two weeks and 84.5 per cent in less than four weeks. While 76.2 per cent of the injuries caused by stepping on or striking against objects, 74.3 per cent of those caused by machinery, and 70.7 per cent of those incurred in the handling of objects healed in less than four weeks, on the other hand, 49.2 per cent of the injuries due to persons falling, 40.6 per cent of those caused by vehicles, and 33.3 per cent of cases in which persons were struck by falling objects, required a healing period of at least four weeks.

In relation to nature and location of injury.—Consideration of severity in temporary disability cases in terms of nature and location of injury shows that cuts, lacerations, or punctures made up more than one-third (36.1 per cent) of these injuries, and bruises or contusions 29.2 per cent, but that in these groups the healing period was comparatively short. (Appendix Table III.) Sprains or strains, which made up only 14 per cent of the temporary disability cases, formed 22.3 per cent of the cases requiring a healing period of 12 weeks or more; and fractures, which constituted only 8.9 per cent of the temporary disability cases, formed 29.1 per cent of the cases with a healing period of 12 weeks or more.

In relation to age.—A correlation of healing period and extent of disability with the age of the injured woman reveals a very definite curve in favor of the young person. (Table V in the appendix.) In the group in which the healing period was less than two weeks are found 23.7 per cent of those under 20 years of age, 19.6 per cent of those 20 and under 40 years of age, 15.4 per cent of those 40 and under 60 years of age, and 6.8 per cent of those 60 and over; while in the group in which the healing period was 12 but less than 52 weeks are 3.8 per cent of those under 20, 7.2 per cent of those between 20 and 40, 11.3 per cent of those between 40 and 60; and 21.6 per cent of those 60 and over. The median healing period for the women under 40 is 2 and under 4 weeks, while for the women of 40 and over it is 4 and under 6 weeks. In the serious permanent disability cases the healing period was extensive regardless of age; but in the minor permanent and the temporary total disability cases, there was a difference in the healing period in favor of young persons.

The following cases of accidents offer further evidence of this difference due to age.

A 30-year-old seasoner in a leather tannery, earning \$13 a week, stumbled and fell downstairs while going from the sixth to the fifth floor of the building. The right side of the forehead, the right shoulder, the back, and both knees were seriously bruised. She lost four weeks and four days. Medical expenses were paid. Her total compensation was \$27.42.

A 65-year-old bookkeeper in a florist's shop, earning \$15 a week, slipped on ice and fell. Her left wrist was fractured and she lost 13 weeks. Medical expenses were paid. Her total compensation was \$115.

A 33-year-old woman who was private secretary in a hotel had a weekly wage of \$26. She walked into an open trapdoor on the first floor and fell into the cellar. Both ankles were sprained, and her back and one knee were bruised. She lost four and one-half weeks. Medical expenses amounted to \$12.95 and were paid. Her total compensation was \$36.

A cleaner in a textile mill, 65 years old, was earning \$19.98 a week. She tripped and fell over the scales used for weighing machinery. The result was a fracture of the right wrist. She lost 12½ weeks. Medical expenses amounted to \$31 and were paid. Her total compensation was \$132.

A girl of 16, employed in a bakery at \$8 a week, fell from a bench, tearing the ligaments at the elbow and fracturing the ulna. She lost two and one-third weeks. Medical expenses amounted to \$25 and were paid. Her total compensation was \$9.11.

A domestic servant, 62 years old, with weekly earnings of \$20.82, slipped on the floor and suffered a fracture of the hip. She lost 46 weeks and 4 days. Medical expenses amounted to \$615.15 and were paid. For four months following her return to work her earnings were reduced, because of the injury, to \$13 a week. She received partial compensation for this loss of wage, as well as full compensation during the temporary total disability period. Her total compensation was \$717.61.

A label inspector in the packing department of a food factory, 18 years old and earning \$12.50 a week, fell from a conveyor table in the workroom, the result being a Colles fracture of the left wrist. An X ray was taken, showing the bones in good position. She lost three and two-sevenths weeks. Medical expenses amounted to \$30 and were paid. Her total compensation was \$19.04.

A 63-year-old cleaner in a department store, whose wage was \$12 a week, fell over a roll of carpet. The back, right knee, left side, left shoulder, and left lumbar region were seriously bruised; there was partial separation of cartilage and bone of the sixth and seventh ribs, and bursitis involving the right knee joint developed. She was treated over a period of three months and lost 14²/₇ weeks.

Medical expenses amounted to \$20 and were paid. Her total compensation was \$106.29.

An office employee in a furniture factory, 18 years old and earning \$13.50 a week, stumbled over a truck in the packing room while on her way to correct an order number and the left radius was dislocated at the elbow and the left ulna broken at upper third. The fracture and dislocation were reduced, and the arm was put in a plaster cast. She lost two and two-sevenths weeks. Medical expenses amounted to \$25 and were paid. Her total compensation was \$11.57.

A woman of 26, employed in a varnish factory at \$18.08 a week, stepped into a manhole on her way out of the factory and fell backwards against the sidewalk. The seventh and eighth right ribs were fractured and there were extensive subcutaneous lacerations over the entire left side of the body. She lost three and six-sevenths weeks. Medical expenses amounted to \$35.50 and were paid. Her total compensation was \$34.43.

A scrubwoman in a candy factory, 68 years of age, was earning \$10 a week. While going downstairs she tripped and fell from the steps and landed in the engine room. The fall caused a severe bruise of the scalp, a lacerated cut of the left forearm, sprains of the right shoulder, of the left hip, and of the left knee, and general body bruises. There was some infection. She received medical care over a period of eight months. The attending physician reported the progress of the case from time to time as follows: June 9, 1920 (seven weeks after the accident)—"Right shoulder painful and stiff; patient consequently unable to work." August 22, 1920—"Unable to use right shoulder fully and without pain. Left knee and ankle swollen and painful." October 8, 1920—"Ankle and shoulder still painful and stiff. Can not keep shoe on foot because of swelling. Pain makes sleep difficult." November 9, 1920—"Still unable to raise right arm without great pain in shoulder; left hip, knee, and ankle joints stiff and painful. Greatly incapacitated." December 11, 1920—"Still complains of pain in shoulder, knee, and hip, and of inability to use parts satisfactorily." January 1, 1921—"Able to resume work." She lost $36\frac{2}{7}$ weeks. Medical expenses amounted to \$106.50 and were paid. Her total compensation was \$235.35.

A 28-year-old saleswoman in a retail store, earning \$14 a week, was standing on a chair removing merchandise from an upper shelf when the chair slipped and she fell to the floor. The left foot and ankle were badly sprained and bruised and the ligaments torn. She was unable to put the foot to the ground and lost two and three-sevenths weeks. Medical expenses amounted to \$3 and were paid. Her total compensation was \$13.33.

A worker 66 years old was earning \$20 a week as an operator on calender rolls in a paper mill. While feeding paper into the rolls she

was seated on a chair which was placed on a board platform 4 feet high but not provided with a guardrail. She fell, and the chair, a table, a large stack of paper, and the platform fell with her. Her foot was caught between the platform and a stack of paper. The right side of her chest struck against a corner of the platform. The eighth rib on her right side was fractured, the right ankle was badly sprained and dislocated, and the ligaments were badly torn. The dislocation was reduced and the ankle immobilized. Two and one-half months after the accident the doctor reported that "she wears a brace on the ankle, limps, and favors the foot in every way. The injured chest is gradually regaining usefulness, but she can not reach up to anything." Ninety days after the accident she was reported as able to work. "She limps, but time will improve the walking." Three weeks later she was reported with "no disability." Medical expenses amounted to \$35 and were paid. Her total compensation was \$146.63.

A telephone operator of 35 years, earning \$18 a week, slipped and fell on the stairs, the fall causing contusion of the left side of the head and of the lower part of the back and left thigh. She lost three and one-seventh weeks. Medical expenses amounted to \$5 and were paid. Her total compensation was \$25.71.

A 27-year-old office worker in an automobile factory, earning \$17.50 a week, was at work in a building which caught fire. She made for the exit, taking her calculating machine with her. Blinded by smoke she fell down the stairs, striking against them and the machine she was carrying. The fall bruised the back and the region of the coccyx and of the left hip. The region of the right hip was bruised and swollen. She lost one and six-sevenths weeks. Medical bills amounted to \$10 and were paid. Her total compensation was \$10.

INJURIES INCLUDED BY LAW

The injuries which are compensated without any opposition as accidental and compensable are those fortuitous ones (see Chart V) in the nature of bruises, burns, cuts, amputations, fractures, and sprains which cause lost time or permanent impairment.

NATURE OF INJURIES RECORDED IN THE THREE STATES

In view of the specifications in the laws in the three States it is interesting to analyze and to sum up the nature of the injuries as shown in the records, in this way emphasizing the types of injury considered compensable without dispute.

CHART V.—INJURIES COMPENSABLE UNDER THE LAW

NEW JERSEY	OHIO	WISCONSIN
A. INJURIES INCLUDED		
<p>Personal injuries by accident arising out of, and in course of, employment, unless intentionally self-inflicted or due to intoxication. <i>First supplement, compiled statutes of New Jersey, 1911-1915, p. 1641, Sec. II, 7.</i></p>	<p>Injuries sustained in the course of employment, unless purposely self-inflicted. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-68.</i></p>	<p>Personal injury proximately caused by accident, unless intentionally self-inflicted. <i>Wisconsin statutes, 1919, sec. 2394-5 (3).</i></p>
B. OCCUPATIONAL DISEASE		
<p>No provision.</p>	<p>No provision.</p>	<p>Occupational disease is specifically included. <i>Wisconsin statutes, 1919, sec. 2394-52.</i></p>
C. HERNIA		
<p>Hernia is a disease which ordinarily develops gradually, being very rarely the result of accident. Where there is real traumatic hernia resulting from the application of force directly to the abdominal wall, either puncturing or tearing the wall, compensation will be allowed. Conclusive proof must be offered that, (1) the descent of the hernia immediately followed the cause, (2) there was severe pain in the hernial region, (3) there was such prostration that the employee was compelled to cease work immediately, (4) the condition was so acute as to be noticed by the claimant and communicated to the employer within 24 hours after the occurrence, (5) there was such physical distress that the attendance of a licensed physician was required within 24 hours after the occurrence of the hernia. If an operation is required, medical expenses (not to exceed \$150) plus compensation for temporary total disability shall be paid; if the operation is refused by the claimant, temporary total disability up to 20 weeks shall be paid. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (x).</i></p>	<p>Traumatic hernia is considered compensable. It is defined as hernia resulting from the application of force directly to the abdominal wall, either puncturing or tearing the wall. Conclusive proof must be offered that, (1) the immediate cause which called attention to the hernia was such as a sudden effort, severe strain, or bruise, (2) the descent of the hernia immediately followed the cause, (3) there was severe pain, and (4) the foregoing facts were communicated immediately to one or more persons. <i>Ohio Industrial Commission. Rules on hernia. Rule III.</i></p>	<p>If injury is particularly violent, and followed by severe pain, hernia is held to be traumatic. "Except such incident was particularly violent or was followed immediately by severe pain, it can not with any degree of certainty be said to be a probable cause [of hernia]." <i>Wisconsin Industrial Commission. Workmen's compensation. Fourth annual report, 1914-15, pp. 19-20. (Award in case of Andrew Kozlowski v. Illinois Steel Co.)</i></p>

TABLE 9.—Degree of disability in terms of per cent of permanent total incapacity in permanent disability cases and of time lost in temporary disability cases, by nature and location of injury

INDUSTRIAL ACCIDENTS TO WOMEN

Nature and location of injury	All women	Fatal cases	Degree of disability in terms of per cent of permanent total incapacity in permanent disability cases and of time lost in temporary disability cases										
			Permanent disability cases						Temporary disability cases				
			Total number	Under 33% per cent	33% and under 50 per cent	50 and under 66% per cent	66% and under 100 per cent	No per cent assigned	Total number	Under 2 weeks	2 weeks and under 3 weeks	3 weeks and over	Time not reported
All cases.....	1 3,263	15	801	724	8	12	1	56	2,447	546	672	1,227	2
Bruise, contusion, crush—Number	897	2	180	170		1		9	715	182	101	341	1
Per cent.....	27.5	13.3	22.5	23.5		8.3		16.1	29.2	33.3	28.4	27.8	50.0
Head.....	26		6	4				2	20	6	5	9	
Face and neck.....	14		4					4	10	2	4	4	
Trunk.....	125	2	6	3				3	117	25	28	64	
Upper extremities.....	573		155	154		1			418	118	121	178	1
Lower extremities.....	159		9	9					150	31	33	86	
Burn, scald, crush and burn—Number	152	7	21	14	1	5		1	124	20	41	62	1
Per cent.....	4.7	46.7	2.6	1.9	12.5	41.7		1.8	5.1	3.7	6.1	5.1	50.0
Head.....	6		1					1	5	3		2	
Face and neck.....	5								5			2	
Trunk.....	29	7	1	1					21	4	7	10	
Upper extremities.....	80		19	13	1	5			61	8	25	27	1
Lower extremities.....	32								32	5	6	21	
Cut, laceration, puncture—Number	1,075	2	190	175	2	1		12	883	250	279	354	
Per cent.....	32.9	13.3	23.7	24.2	25.0	8.3		21.4	36.1	45.8	41.5	28.9	
Head.....	59	1	21	12				9	37	13	7	17	
Face and neck.....	12		2					2	10	5	2	3	
Trunk.....	17		1					1	16	4	6	6	
Upper extremities.....	921	1	164	161	2	1		1	756	216	242	298	
Lower extremities.....	66		2	2					64	12	22	30	
Amputation (traumatic), upper extremities—Number	250		248	246	1	1			2		1	1	
Per cent.....	7.7		31.0	34.0	12.5	8.3			.1		.1	.1	

Dislocation, fracture—Number	339	1	82	76	2	3		1	256	12	30	214
Per cent	10.4	6.7	10.2	10.5	25.0	25.0		1.8	10.5	2.2	4.5	17.4
Face and neck	2								2		1	1
Trunk	39	1	2	1				1	36	1	5	30
Upper extremities	222		62	59		3			160	9	19	132
Lower extremities	76		18	16	2				58	2	5	51
Sprain, strain—Number	381	1	38	27	1	1		9	342	66	91	185
Per cent	11.7	6.7	4.7	3.7	12.5	8.3		16.1	14.0	12.1	13.5	15.1
Trunk	106	1	13	3		1		9	92	10	19	63
Upper extremities	121		12	12					109	32	33	44
Lower extremities	154		13	12	1				141	24	39	78
All other—Number	169	2	42	16	1		1	24	125	16	39	70
Per cent	5.2	13.3	5.2	2.2	12.5		100.0	42.9	5.1	2.9	5.8	5.7
Head	12		3	3					9	2	4	3
Trunk	90	2	26	1			1	24	62	4	17	41
Upper extremities	63		13	12	1				50	10	18	22
Lower extremities	4								4			4

¹ Excludes 22 cases not reporting nature of injury.

According to Table 9, about one-third of the accidents in which nature of injury was reported were due to cuts, lacerations, and punctures, and about 86 per cent of these involved the upper extremities. A little over one-fourth of the total were due to bruises and contusions, and in almost a third of these cases the trunk or the lower extremities were affected. The dislocations and fractures, which formed 10 per cent of the total, involved the upper extremities in about two-thirds of the cases and the lower extremities in a little more than one-fifth of them. An analysis of the temporary disability cases reveals that a large percentage of the lost time was due to cuts, lacerations, and punctures, and to bruises and contusions; but the time loss per case was higher in the group due to dislocations and fractures than in any other. In studying the nature of the permanent disabilities it is found that of the 21 injuries amounting to at least $33\frac{1}{3}$ per cent of permanent total incapacity, 6 were due to burns and scalds, 5 to dislocations and fractures, and 3 to cuts, lacerations, and punctures.

The location of the injuries is shown in more detail in Appendix Table VI. In more than two-fifths of the head injuries an eye was affected and in nearly one-fifth of them the scalp. That the greater number of injuries involved the upper extremities was to be expected, since the arm, the hand, and the fingers are in constant use, and the fingers especially are in close proximity to the work. Not far from 1,300 of the 2,243 injuries to the upper extremities involved a single finger. Among the 494 injuries to the lower extremities, the ankle joint was involved in over one-fourth of all cases and the knee and foot each in nearly one-fifth. In regard to trunk injuries, the back was involved in about three-tenths of all cases and the central nervous system in a little more than one-sixth.

HERNIA

There were 11 cases of hernia compensated in the three States. The acceptance of hernia as a compensable injury has been open to a good deal of costly dispute. The question in each individual case as to whether its origin is congenital or industrial is the point at issue. It would seem no more unreasonable to charge to industry a strain resulting in hernia due to a preexisting weakness in the abdominal wall than to charge to industry the electrocution of a person with a defective heart who is electrocuted in handling telephone wiring, except that a cardiac disease can be diagnosed when the person is first employed and the weakness of the abdominal wall can not.

The following eight cases indicate the cause of accident and the extent of disability in this type of injury. It will be noted that the chief item of expense in these cases was the medical treatment.

The industrial efficiency of the injured person was then restored, and, with the exception of one case in which there were other complications following the injury, so that a healing period of $131\frac{4}{7}$ weeks was allowed, the average time lost per case was 7.9 weeks. The average cost for these seven cases was \$253.33 for both compensation and medical aid, the average for compensation being \$75.57 and for medical treatment \$177.75.

A domestic servant in a private family, who was 42 years old, was receiving a weekly wage of \$15 and board. A fall over a suit case resulted in a hernia. She lost five weeks and six days, during which time medical expenses amounted to \$150 and were paid. The compensation was \$54.

An 18-year-old girl was a silk weaver, earning \$22 a week. Lifting some heavy object caused a hernia. She was operated upon and was completely cured. She lost nine and one-half weeks. Medical expenses amounted to \$150 and were paid. The total compensation was \$96.

A weaver in a carpet and rug manufacturing plant, 18 years of age, was receiving a wage of \$14.85, but as a minor she was compensated at her prospective wage at 21, which was estimated at \$15.50 a week. In the process of operating her loom she received a right inguinal hernia. She lost five weeks. Medical expenses amounted to \$82 and were paid. Her compensation was \$50.32.

A woman 54 years old was a ware gatherer in a pottery plant and earned \$15.30 a week. Dipping boards 6 feet by 12 inches were piled 8 to 10 feet high by the kiln placers. This worker was ordered to lift the boards from the pile to another place. She always carried six or eight at once. On November 22, 1919, she reached on tiptoe to get the boards, when a board holding ware started to slip; while the woman was trying to stop it, several boards from the top of the pile slid down, striking her a violent blow just above the hip. The result was a right femoral hernia, with immediate swelling and extreme pain. She became faint and sick, convulsions followed, and she had to be taken in an ambulance to the hospital. Although regaining consciousness that evening she stayed in the hospital four days. She then went home, hoping an operation would not be necessary. She had convulsions on December 2 and returned to the hospital, remaining there 19 days. Herniotomy was performed the second day. There was a continuous heavy discharge from the uterus. She returned to the hospital January 6, 1920, and remained 15 days. She was cured January 7. On January 5 an affidavit was taken from the injured woman which set forth the above account of the accident. Affidavits also were taken of fellow workers, who stated that the injured was "an extra good steady worker," "never lost time on account of illness," "was stronger than the average woman," "had

never complained of rupture," "did not wear a truss." No one saw the accident, but fellow employees found her lying on a bench in convulsions almost immediately. At this time the employer wrote, "injured is weak mentally and the claim questionable," and stated that he had told her "before you shall have a dollar out of this, or five cents, I'm going to see it through." He added, "Why is she supporting a lazy husband anyway?" (The husband had been ill for some time.) "She was ruptured before the accident, and no compensation is due." The commission ordered an investigation. Affidavits from fellow employees and the foreman affirmed, "carried no boards that morning," "fell from a box car two months before," "struck on abdomen by a bushel basket." At an oral hearing ordered, following the investigation, the employer refused to testify. The attending doctor stated: "The femoral hernia and uterine condition were caused by a violent blow, nothing else on which to base an opinion." Her own doctor stated that she had "a splendid physique, wiry and strong, that there had been no complaint in regard to the femoral region previous to the accident, and that the cause of the hernia was traumatism." Compensation for temporary total disability was ordered and paid over a period of 131 weeks 4 days. Medical aid, including the cost of the herniotomy, came to \$212.20. According to a medical examination during the compensated period, she was unable to work, there was traumatic neurasthenia, she was emaciated, had lost 30 pounds, and was sleeping badly. The total compensation was \$1,331.83.

A woman of 27 worked at the steam table of a restaurant, her wage being \$13. While carrying a large pan of meat, she slipped on a wet floor which had been mopped with soap suds and fell on a scrub bucket. The accident caused injury to back, right arm, and right leg, and severe strain of the muscles of the abdomen. It caused menstruation every two weeks. There was some bruising just below the umbilicus in the median line. There resulted a ventral hernia in the region of an incision made by an abdominal operation (appendicitis) eight years before. She first noticed the hernia tumor three months after the accident and stopped work the day following. She entered a hospital on the fifth day and stayed five weeks. She was at once operated on for the repair of the hernia and for liberation of adhesions, which were very firm and extensive. Recovery was delayed by an acute intestinal obstruction, for which an operation was performed eight days after the herniotomy. The medical report was as follows: "She complains only of weakness. There is a large linear scar from the umbilicus to the pubes. She complains of a slight tenderness in this region. She states that at the time of the accident the abdomen was severely bruised and that there was an abrasion of the scar of a former incision. She menstruated profusely

and at frequent intervals up to the time of the operation for repair of the hernia, since which time she has had no menstrual trouble. She states that she had always been normal in this respect up to the time of her fall. Whether the adhesions liberated at the time of this operation were the result of the operation for appendicitis or of an inflammation of peritonitis that followed the fall, her doctor was unable to state." The following statement of facts was made for the commission: "The connection between this hernia and the fall has not been definitely established * * * however, I believe that the opinion as expressed by the State medical examiner after having examined and interviewed the claimant, as well as of the doctor who performed the operation, should be accepted, their statements indicating that the hernia resulted from the injury." She lost 12 weeks. Medical expenses came to \$436 and were paid. Her compensation was \$95.37.

A woman of 23, a saleswoman in a department store at \$12 a week, was moving a model from one side of the room to the other. She felt a sudden sharp pain and noticed a lump at that time. She did not cease work right away, as she hoped that the pain would pass. There was a shortage of help in the store, and she needed money. She stopped work nine days after the accident, at which time her injury was diagnosed as right inguinal hernia. She had never been troubled with hernia prior to the accident. She was in a hospital 18 days and was operated on for repair of the hernia. She lost nine weeks and one day. Medical expenses amounted to \$124.40 and were paid. Her compensation was \$65.14.

A woman of 35, employed in a bakery at \$18 a week, was carrying a large basket of bread from the bakery to the front of the store when she felt a pain which "seemed like cramps." She stopped work at once. A doctor was called the next morning. The effort had caused a right inguinal hernia—unilateral, acute, strangulated, incarcerated, and irreducible. The ring was small and tense. She was operated on for the repair of the hernia and was in a hospital 15 days. Affidavits of witnesses stated that injured ceased work at once after carrying a heavy basket and that there was no previous rupture; one witness stated that she had known the applicant 15 years and knew that she never wore a truss. The legal department decided that there had been "traumatic hernia." She lost six weeks and two days. Medical expenses amounted to \$108.60 and were paid. Her compensation was \$63.43.

A woman of 20 was a core maker in a brass foundry. Her wage was \$22 a week. Lifting and carrying a riddle of sand from the elevator to the bench caused a pain in her abdomen. The doctor reported "a left internal inguinal hernia, discoloration incident to hernia undergoing strangulation, condition good with no evidence of con-

genital impairment, inflamed and swollen, painful to pressure and in breathing, protrusion of intestine through abdominal wall." She was in the hospital 17 days, and an operation was performed for repair of the hernia. The affidavit of the injured woman stated that six or seven months before the scheduled accident, while carrying a tray of cores from the bench to the elevator, she had strained herself and noticed severe pain. She had suffered no noticeable inconvenience from the injury but had discovered a small lump on the left side of the abdomen. She did not report her condition to anyone until on the day of the scheduled accident, when in lifting a box she experienced pain and discovered that the lump had increased in size. She noticed the hernial tumor the night following the accident. She did not have a hernia prior to the accident. She had never worn a truss. These statements were corroborated by affidavits of fellow workers. She continued at lighter work, using extreme care for six weeks after the accident until the claim was allowed by the commission. She lost eight weeks and one day. Medical expenses amounted to \$193.30 and were paid. Her compensation was \$104.79.

OCCUPATIONAL DISEASE

In the large group of fortuitous injuries mentioned earlier in this section as being compensated without dispute, the fact that disease or abnormality enters in to extend the temporary disability or increase the permanent impairment does not prevent compensation being paid to cover the total loss. At times cuts received at work subsequently become infected, even with the best of care; bone injuries are very much complicated and their severity is increased by the existence of syphilis; and injury to the ankle or knee joint in the case of abnormally heavy persons is considerably aggravated. In these cases compensation is paid for the existing disability. This procedure is eminently equitable, yet when the disease which enters in and produces a definite disability is caused by the occupation itself, there is reluctance to consider the injury a compensable one.

The group of injuries in which the effects come on slowly as a result of continued contact with some substance which is harmful to human beings is named the occupational-disease group. If the disabilities resulting from such cause were compensated in all cases, it undoubtedly would promote careful analysis of the chemicals and other harmful substances used in production, not merely in regard to their usefulness to the industrial process but from the point of view of their effect on human beings.

TABLE 10.—Compensation paid in cases of occupational disease, by nature of disease and by State

Occupational disease	All States			New Jersey			Ohio			Wisconsin		
	Number of women	Compensation paid		Number of women	Compensation paid		Number of women	Compensation paid		Number of women	Compensation paid	
		Total	Average per case		Total	Average per case		Total	Average per case		Total	Average per case
All cases.....	193	\$6,648	72.26	22	\$2,111	\$100.52	50	\$3,116	\$62.32	21	\$1,421	\$67.67
Handling or contact with poisonous or corrosive substances.....	41	3,531	86.12	9	556	61.78	26	2,314	89.00	6	661	110.17
Alkalis.....	6	319	53.17	2	67	33.50	4	252	63.00			
Anilin.....	1	258	258.00				1	258	258.00			
Arsenic.....	1	13	13.00				1	13	13.00			
Brass and copper.....	6	270	45.00	3	47	15.67	3	223	74.33			
Creosote.....	1	4	4.00				1	4	4.00			
Cyanids.....	1	8	8.00	1	8	8.00						
Hexamethylenetetramin.....	1	115	115.00				1	115	115.00			
Hydrochloric acid.....	5	928	185.60				5	928	185.60			
Iodine.....	1	30	30.00				1	30	30.00			
Metol.....	1	39	39.00				1	39	39.00			
Paraphenyldiamin.....	1	43	43.00				1	43	43.00			
Sulphuric acid.....	1	15	15.00				1	15	15.00			
Turpentine.....	1	13	13.00				1	13	13.00			
Poisonous or corrosive substances not otherwise classified.....	14	1,476	105.43	3	434	144.67	5	381	76.20	6	661	110.17
Inhaling fumes.....	12	123	123.00	1			1	123	123.00			
Carbon monoxid.....	2			1								
Hydrocyanic and cyanogen chlorid.....	1	123	123.00				1	123	123.00			
Irritant dusts and fibers.....	6	131	21.83	1	7	7.00				5	124	24.80
Yarn particles.....	1	7	7.00	1	7	7.00						
Other.....	5	124	24.80							5	124	24.80
Infectious disease.....	4	486	121.50	1	29	29.00	1	64	64.00	2	393	196.50
Smallpox.....	1	16	16.00							1	16	16.00
Infectious disease not otherwise classified.....	3	470	156.67	1	29	29.00	1	64	64.00	1	377	377.00
Miscellaneous irritants—plants.....	3	45	15.00	1	9	9.00	2	36	18.00			
Other harmful conditions.....	37	2,332	63.03	9	1,510	167.78	20	579	28.95	8	243	30.38
Extremes of temperature.....	1	5	5.00							1	5	5.00
Continuous sprain or strain finally affecting joint or tendon.....	13	881	67.77	2	391	195.50	8	387	48.38	3	103	34.33
Prolonged rubbing or chafing resulting in callosities, blisters, or bruises.....	23	1,446	62.87	7	1,119	159.86	12	192	16.00	4	135	33.75

¹ Includes a fatal case not compensated; no dependents.

² Death instantaneous. Not compensated; no dependents.

Of the injuries which were compensated in the three States, only 93 were occupational-disease cases. Of this number 1 resulted fatally, 14 resulted in some permanent disability, and the remaining 78 in temporary total disability. In 88 cases enough evidence appeared on the record to classify cause with certainty. In the remaining 5, anilin (infection from handling dye in merchandise), metol (infection from developing pictures), paraphenyldiamin (infection due to dye from leather), arsenic (infection from filling paper bags; red from sacks came off on the hands of the workers), and hexamethylenetetramin (infection from handling rubber) were indicated as the causes. Two of the cases of brass poisoning were caused by the handling of brass switch plugs in telephone operating and 3 by the handling of brass in the process of manufacture. Three of the women injured by alkali were cleaners. Of the injuries due to irritant dusts or fibers, 5 occurred in textile manufacturing plants and 1 in a shoe factory. Cases of continuous sprain or strain finally affecting a joint or tendon are included in this discussion because the effects of the injury come on gradually, in contradistinction to the accidental injury in which there is a definite time of occurrence. An example is the case of a trimmer in a millinery shop, who by pushing and pulling a needle through heavy material gradually developed a stretching of the ligaments and a severe dislocation of the thumb. Cases of prolonged rubbing resulting in disabling injury also are included here for the same reason as are continuous sprains or strains. Such an injury occurred to a woman winding mica; the handle of her machine caused a blister to form, which later became infected.

About 15 per cent of these 93 injuries, as compared with 24.5 per cent of all injuries, resulted in permanent disability. The average compensation cost was \$72.26, as compared with \$100.30 for all injuries. The average cost of medical treatment was \$34.64, which is almost the same as the average cost for all injuries. One-half of the permanent injuries due to occupational diseases followed continuous sprain or strain or prolonged rubbing. One case which was exceptionally expensive was that due to handling dye in merchandise, in which a palmar abscess developed and was later followed by cellulitis of the right forearm and by lymphangitis involving the entire right arm. The injured woman received medical treatment over a period of five months and was in the hospital seven weeks of that time. Compensation was paid over a period of $17\frac{4}{7}$ weeks.

TABLE 11.—Medical aid furnished in cases of occupational disease, by nature of disease

Occupational disease	Number of women	Cases having medical aid				No medical aid furnished
		Number reporting amount	Amount furnished		Number not reporting amount	
			Total	Average per case		
All cases.....	93	64	\$2,217	\$34.64	25	4
Handling or contact with poisonous or corrosive substances.....	41	30	1,338	44.60	10	1
Alkalis.....	6	4	123	30.75	2	
Anilin.....	1	1	260	260.00		
Arsenic.....	1	1	16	16.00		
Brass and copper.....	6	6	139	23.17		
Creosote.....	1	1	8	8.00		
Cyanids.....	1				1	
Hexamethylenetetramin.....	1				1	
Hydrochloric acid.....	5	4	47	11.75	1	
Iodine.....	1	1	73	73.00		
Metol.....	1	1	17	17.00		
Paraphenylenediamin.....	1	1	28	28.00		
Sulphuric acid.....	1	1	13	13.00		
Turpentine.....	1					1
Poisonous or corrosive substances not otherwise classified.....	14	9	614	68.22	5	
Inhaling fumes.....	2	1	57	57.00		1
Carbon monoxid.....	11					1
Hydrocyanic and cyanogen chlorid.....	1	1	57	57.00		
Irritant dusts and fibers.....	6	6	123	20.50		
Yarn particles.....	1	1	5	5.00		
Other.....	5	5	118	23.60		
Infectious disease.....	4	3	199	66.33	1	
Smallpox.....	1	1	55	55.00		
Infectious disease not otherwise classified.....	3	2	144	72.00	1	
Miscellaneous irritants—plants.....	3	2	19	9.50	1	
Other harmful conditions.....	37	22	481	21.86	13	2
Extremes of temperature.....	1	1	12	12.00		
Continuous sprain or strain finally affecting joint or tendon.....	13	11	319	29.00	2	
Prolonged rubbing or chafing resulting in callouses, blisters, or bruises.....	23	10	150	15.00	11	2

¹ Death instantaneous; no medical aid.

There follow summaries of the information taken from State records in a number of cases of occupational disease.

A girl of 18 was earning \$10 a week as a telephone operator. Poison from the brass terminals of the plugs used in operating was carried to her eyes by her fingers. The conjunctiva became inflamed and purulent conjunctivitis developed. The doctor stated that the case was one of "occupational disease." She lost two and five-sevenths weeks. Medical treatment covered a period of practically two weeks; the expenses amounted to \$24 and were paid. Her total compensation was \$11.43. An investigation was made to determine whether or not an accident had occurred. The injured made affidavit that the cause as stated was the true one and that she had received

no blow to the eye nor any foreign substance in the eye. The claim was certified to by the employer and approved by the medical division. The commission concluded "that claimant was injured in the manner alleged." The claim was allowed.

A press operator of 18, earning \$14.30 a week in a factory making electrical supplies, ran a sliver of brass into her arm at the elbow while cleaning a brush. Infection set in. She lost three weeks and four and a half days. Medical expenses amounted to \$5 and were paid. Her compensation was \$21.66.

A woman of 33 was earning \$12.38 a week in a factory making registers. Her work involved the handling of brass. An eruption appeared on the hands and also on the face near the eyes. She lost two and three-sevenths weeks. Medical expenses amounted to \$11 and were paid. Her total compensation was \$11.79.

A woman of 30 was filling paper bags with coffee from an automatic coffee hopper in the warehouse of a grocery company. She was earning \$15 a week. Some substance from the coffee bags spread about the face and eyes, causing a burning sensation of the right eyelid and also great pain as though something had struck the eye. She was also troubled with watering of the eye. An investigation was made to determine whether the injury was compensable. The investigator observed the process and described it as follows: "The bags were of red paper, holding about 1 pound and filled very rapidly. It was necessary for the filler to work quickly; in this process it was noticed that some particles of substance were constantly rising, whether from the bags or from the coffee could not be told. The red from the bags rubbed off on the hands of the workers, especially when the fingers were damp as they would be in moistening stickers which were used to seal the bags." The investigator interviewed the employer and took affidavits of the claimant. The following facts were brought out: Injured had suffered a similar accident 10 months before, when the left eye had been affected; she had lost no time, but medical bills were paid; she had never had trouble with her eyes except on these two occasions; at that time the attending doctor stated that her eyes had been irritated by some foreign substance and that her eyes were especially strong and good and gave no evidence or suggestion of trachoma. The investigator could find no other employees who had ever been similarly affected. At the time of the inquiry there were two women suffering from irritation of the eyes, but they were not willing to state that the trouble came from their employment. The doctor on the case reported, "Traumatic acute conjunctivitis, the onset of which was rapid and acute, of mechanical origin indicating trauma." The State medical division stated, "While injury is quite different from that usually considered traumatic conjunctivitis, it is quite possible

that irritation of the eyes may have been produced in the manner described." The commission concluded that there was "no doubt but what claimant did sustain injury to her eyes while engaged in her regular employment." The claim was allowed. She lost two and two-sevenths weeks. Medical expenses amounted to \$16.15 and were paid. Her total compensation was \$12.86.

A girl of 19 was earning \$16.94 in the finishing department of a shoe factory, cutting strings and scratching heels. Acid from the polish on the shoes came in contact with a scratch on the dorsal surface of the middle finger. The result was an acid burn and a slow developing infection. She did not call the attention of the foreman to the injury until about a month later. Two months after the injury she was obliged to stop work. At that time the left hand was badly infected between the thumb and index finger and on the dorsal surface of the middle finger. She lost two and two-sevenths weeks. Medical expenses amounted to \$13 and were paid. Her total compensation was \$14.52.

A woman of 54 was earning \$12.50 a week fluxing spouts for tea kettles in a plant manufacturing aluminum ware. In reaching into a box to get spouts she scratched the left thumb and the right middle finger. The flux came in contact with the scratches, causing an acid burn. There was inflammation around the nail of the left thumb and of the right index and middle fingers, followed by ulceration of the index finger and loss of the nail. The woman lost four and four-sevenths weeks. Medical expenses amounted to \$9 and were paid. Her total compensation was \$29.75.

A can wiper in the varnish department of a can factory, 47 years old, was earning \$21 a week. Her fingers came in contact with soldering flux, and an infection developed between the ring and little fingers. She lost three and four-sevenths weeks. Medical expenses were paid. Her total compensation was \$36.

A woman of 21 was earning \$10 a week soldering in a plant manufacturing jewelry. At the time of the accident she was placing work to be soldered on a hot plate. She burned the thumb and index and middle fingers of her right hand with acid (second degree burns). She lost one and five-sevenths weeks. Medical expenses amounted to \$8 and were paid. Her total compensation was \$4.76.

A tread builder in the stock-cutting department of an automobile tire and tube factory, 29 years old and earning \$22.80 a week, scratched her finger on a nail. Following this the handling of rubber products in the process of manufacture resulted in rubber poisoning. She reported to the firm doctor with a typical case of poisoning all over the limbs and trunk. A few days later she came to him with a crop of small boils due to infection from scratching the rash. Nineteen days after the accident she called a doctor to the house. She was in bed

with severe pain in the groin. There was lymphatic infection in groin, adenitis of the deep inguinal and femoral glands producing severe pain and flexion of the right thigh. The temperature ranged from 101° to 103°. The deep glands in the Scarpa's triangle and in the deep iliac region were swollen and painful. She had fever for five weeks and was in bed for two weeks after that. The nature of the disease was given as dermatitis. There was no evidence of syphilis, gonorrhoea, or tuberculosis. She lost 10⁴/₇ weeks. The State medical division wrote to the firm inquiring as to the connection between her handling of rubber and the succeeding infection. The firm doctor answered, "Few persons who work with raw rubber develop dermatitis. Some work at the same job for months and then get poisoned. Perhaps poison is a foreign substance which occasionally gets into crude rubber in gathering." The claim was disallowed. The firm later wrote the commission: "Employee says injury was sustained in course of employment, will put matter in the hands of an attorney. Please advise. We submit an article from India Rubber World, November 1, 1918, on rubber poisoning, indicating that she is correct. This states that organic accelerators of vulcanization have toxic properties. It is necessary to study them not only from the standpoint of the accelerating action but also as regards poisonous properties. Locally mildly irritant. Perspiration plays an important part in the production of this rash. Becomes almost epidemic with rise in temperature. Marked immunity observed among workers next to virulent case. Formaldehyd produced under the influence of the sweat acids. Bicarbonate of soda the antidote, preventive not curative, arrests absorption."—The commission reversed the order and allowed the claim. Her total compensation was \$114.86.

A shoe maker in the fitting department of a shoe factory was earning \$15 a week. The edge of a finger nail became torn loose while the woman was at work, and dye from shoe leather entered the abrasion. (Paraphenyldiamin may have been involved.) Septicemia developed. She lost five and two-sevenths weeks. Medical expenses amounted to \$28.40 and were paid. Her compensation was \$42.86.

A 20-year-old worker was earning \$12 a week developing pictures for a photograph company. She was following her usual routine, handling (1) the developing agent (formula 40 oz. water, 15 gr. metol, ½ oz. sodium sulphate, 60 gr. hydrochinon, ¾ oz. sodium carbonate, 15 gr. potassium bromide), (2) the acetic acid solution (very dilute, 0.05 per cent), and (3) the hypo solution (soda ash). Her fingers and thumbs became swollen and discolored, brownish, cracked, and fissured. There were water blisters followed by a toughening of the outer skin, after which the toughened skin came off, leaving the fingers raw. The State medical division wrote the employer as follows: "Were the chemicals used mild or sufficiently strong to act as

an irritant? Was there any accident or was she following her usual routine?" The employer answered, "Following usual routine. It may be that injured is more susceptible to the action of some chemicals than other workers, for we have never had this difficulty with anyone else. On return to work injured was instructed to wear gloves. The first day's work in the developing room caused perceptible blistering. She was then changed to other work." The State medical division approved the claim "on the grounds that claimant appears to be inordinately susceptible to the action of the chemical used (probably metal) and that the injury was one arising out of, and in the course of, her employment." She lost five and six-sevenths weeks. Medical expenses amounted to \$17 and were paid. Her compensation was \$38.86.

A woman, 41 years old, was earning \$25.20 a week cleaning offices in a factory which made electrical machinery. Her hands were cracked through contact with the alkali in a washing powder. The disability was not continuous, but covered $10\frac{2}{7}$ weeks in all. Her medical treatment included hospital care. The trouble was pronounced "trade dermatitis." An investigation to determine how the injury was received found it "arose from the nature of the work." Medical expenses amounted to \$24 and were paid. Her compensation was \$139.29.

A 25-year-old telephone operator was earning \$10.95 a week. Contact with the celluloid on the back of the transmitter resulted in an eruption on the chest. She lost two and five-sevenths weeks. Medical expenses were paid. Her compensation was \$12.55.

A dipper in a candy factory, 18 years old and earning \$14.50 a week, was skinning peanuts and then dipping them in chocolate. The peanut skins worked under the finger nails and infection set in around the nails of the right thumb and index finger. An investigator from the commission reported, "Doctor M. stated that he did not remove any foreign particles from the abscesses on the fingers but that the fingers were badly infected at the time the claimant came to him. He stated further that he had been called upon several times to treat smaller abscesses caused from similar accidents; that the small particles of peanut skin get under the cuticle and the sugar or chocolate in which the girls work seals these particles in and helps to bring on the infection, and that the work which the girls do at the factory consists of scraping and rubbing the peanuts to remove the skins, so it can be readily seen that the small skins could get under the cuticle as described by the claimant." The commission allowed the claim as a "disease arising in the course of occupation." The woman lost four and two-sevenths weeks. Medical expenses amounted to \$11 and were paid. The compensation was \$31.77.

A carton folder in a rubber-goods factory, 46 years old and earning \$17 a week, was injured by continuous work on a new kind of carton. Tenosynovitis of the wrist developed. She lost three and six-sevenths weeks. Medical expenses amounted to \$6 and were paid. Her compensation was \$32.37.

A woman of 29 was earning \$25 a week sewing bias strips in a rubber-goods factory. Constant strain resulted in tenosynovitis of the right wrist. She lost two and five-sevenths weeks. Medical expenses were paid and her compensation was \$25.71.

A winder in a woolen-goods factory, 22 years old, was earning \$14 a week. "Particles of yarn breathed through the nostrils caused poisoning of the throat and eyes." She lost two and one-sixth weeks. Medical expenses amounted to \$5 and were paid. Her compensation was \$6.80.

A girl of 17 was earning \$12.10 a week in a knit-goods factory. "Irritant dusts and fibers caused her hands, face, and body to swell." She lost one week and five days. Medical expenses amounted to \$29.90 and were paid. Her compensation was \$6.55.

A pupil nurse in a hospital, 24 years old and earning \$5 a week, got an infected right arm from cleaning the operating room after an operation for virulent peritonitis. She lost seven weeks and six days. Medical expenses were paid, including hospital care during the healing period. Her compensation was \$29.29.

An 18-year-old assembler in a factory making electrical supplies was earning \$15 a week. While she was assembling brass in porcelain, contact with a small piece of brass resulted in a festering of her left index finger. It became necessary to lance the finger. She lost two and two-thirds weeks. Medical expenses amounted to \$17 and were paid. Her compensation was \$11.66.

A woman of 26 was earning \$19.31 a week as service observer in a telephone exchange. The wearing of a head-set receiver caused inflammation of the external auditory meatus and ear drum, with tenderness of the pinna and inflammation of the eustachian tube. She lost two weeks. There were no medical expenses incurred. Her total compensation was \$12.87.

A woman of 23 was earning \$25 a week as a laboratory worker. She received infection while working with contaminated cultures in the pathological laboratory. She first contracted influenza in this way, then measles, followed by otitis media (inflammation of the middle ear). The commission had the case investigated to determine how the infection occurred. The findings indicated that the injured went off duty with influenza, unquestionably contracted in the taking of routine throat cultures that were ordered in the hospital at that time. She was in the hospital as a patient but a short period of time and then returned to work. A few days later she contracted

measles and was sent to the city hospital. There were three cases of measles in the institution at that time, on all of which laboratory material was handled by the laboratory. The influenza infection had reduced her vitality, and in this state of lowered resistance she contracted measles from the laboratory material. On account of heavy pressure of work she had not left the hospital for practically a month. The superintendent of the hospital wished a test case made of this, as he felt that the rate charged hospitals was too high unless it included cases of infection. The State legal division reported, "We doubt if measles and 'flu' are more likely to be contracted in a hospital where more unusual sanitary conditions prevail than elsewhere, unless it can be shown that the employee's work itself involved specific exposure to such infection * * * the danger of contracting infection from laboratory specimens would be one of the chief hazards peculiar to such employment. This can not be taken to mean that all infections contracted by hospital employees necessarily arise out of that employment. Each case to be compensable must show that it was the result of some definite specific exposure to such infection or contagious disease. Proceeding on this theory it would be our suggestion that the instant claim be allowed, with the distinct understanding that it is not to serve as a precedent for the payment of all cases of infection contracted by hospital employees." She lost five and two-sevenths weeks. Medical expenses amounted to \$138.53 and were paid. Her compensation was \$64.29.

A woman of 40 was earning \$14 a week in the dry-house of a factory making ink. There was a leak in the pipe conducting gas from the laboratory, and a mixture of hydrocyanic and cyanogen chloride gas was carried up to the floor where she was working. The case was investigated by the commission, and an oral hearing held, at which time the following facts were brought out: Injured was a new employee and had not been instructed as to the danger of inhaling gas, the need for getting to a window immediately, and so forth. The chemist smelled the gas in his laboratory downstairs. He knew that the electric fan would carry it to the third floor and went upstairs to see if any one were there. The second floor, the location of the leak, was full of gas, and a good deal was on the third floor. The chemist found the injured woman insensible on the third floor and had difficulty in getting himself and her to the fire escape. Inhaling this gas caused asphyxia, the results of which were that the woman had headache and slight affection of sight, some hysteria, with possibility of mild acute indigestion. At the oral hearing the nature of the gas was explained, and the possibility of its accelerating latent pathology, such as kidney or heart trouble, was brought out.

The claim was allowed. The woman lost $14\frac{1}{7}$ weeks. Medical expenses amounted to \$56.75 and were paid. Her compensation was \$122.62.

A punch-press operator 35 years old was earning \$18 a week in a factory which made chains and sprockets. She claimed that in using the handle of the punch press there was a bruising of her left hand on the palmar side near the thumb, and a subsequent infection. The resulting permanent disability was rated as 25 per cent loss of use of the index finger. She lost two and one-half weeks. Medical expenses were paid. Her total compensation was \$116.58.

A 20-year-old coil tester was earning \$20 a week. While she was taping coils in a bench machine, the tape caused a blister to form at the base of her right index finger, which became infected several days later. She lost two weeks. Medical expenses were paid. Her compensation was \$8.

A woman employed in a factory making player rolls, 37 years old and earning \$12 a week, was picking up paper labels when the constant action of these labels on the thumb resulted in an abrasion under the nail, which later became infected. It was necessary to amputate the entire right thumb. She lost $23\frac{1}{2}$ weeks. Medical expenses were paid. Her total compensation was \$656.

A woman of 32, whose weekly wage was \$19.50, was filling quart cans with paint in a paint factory. These cans were heavy and tended to slip, and the continual holding of them while filling, and lifting them to a shelf, injured the left thumb at both joints, causing permanent dislocation due to markedly relaxed capsule. There was no bone pathology, but the stretched capsule resulted in abnormal mobility of the thumb joint. She lost two and one-seventh weeks. Medical expenses amounted to \$20 and were paid. Her compensation was \$14.86. She stated that the doctor told her she could not do the same work again on account of the injury.

A 29-year-old worker was earning \$20 a week at soldering wire connections for electrical appliances. A broken blister in the palm of the right hand left a wound which was acted upon by soldering acid (hydrochloric acid). It caused a burn about the size of a penny and one-fourth of an inch deep. She lost three and six-sevenths weeks. Medical expenses amounted to \$4.50 and were paid. Her total compensation was \$38.09.

OCCUPATIONS INCLUDED BY LAW

ACT ELECTIVE OR COMPULSORY

Chart VI shows that the compensation law is elective in New Jersey and Wisconsin as far as private employers and employees are concerned; that is, those private employers and employees who are covered by the law may elect whether or not they will come under the provisions of the act. Employers in these two States, as a rule, choose to accept the act for two reasons. First, election is presumed on the part of the employer covered unless by a written notice to the commission and to his employees he states that he has elected not to come under the act. In the same manner the employee may choose not to be covered by the act by giving written notice to his employer. Second, employers who choose not to be covered by the act lose certain defenses which ordinarily are used in defending a suit for damages. The defenses so lost are: (a) That the employee had accepted the risk of hazard of his employment; (b) that the injury was caused by the negligence of a fellow employee; (c) that the injury was due to the negligence of the injured employee.¹ In New Jersey the employer covered by the act may bring as defense that the accident was caused by willful act, intoxication, or reckless indifference of the employee;² and in Wisconsin, that the injury was intentionally self-inflicted or caused by willful want of care.³ The employee who elects to come under the act forfeits the right to sue for damages in case he believes his injury entitles him to more indemnity than the law allows.⁴

¹ First supplement, compiled statutes of New Jersey, 1911-1915, pp. 1639-1640, Sec. I, 1-2. Wisconsin statutes, 1919, sec. 2394-1.

² First supplement, compiled statutes of New Jersey, 1911-1915, p. 1639, Sec. I, 1; p. 1641, Sec. II, 7.

³ Wisconsin statutes, 1919, sec. 2394-1. 1 (3); 2394-3 (3).

⁴ First supplement, compiled statutes of New Jersey, 1911-1915, p. 1642, Sec. II, 8. Wisconsin statutes 1919, sec. 2394-3.

CHART VI.—OCCUPATIONS COVERED BY THE LAW

NEW JERSEY	OHIO	WISCONSIN
A. PRIVATE EMPLOYMENTS		
<p>Elective as to all employments except casual employment, that is "employment the occasion for which arises by chance or is purely accidental; or if not in connection with any business of the employer, as employment not regular, periodic, or recurring." <i>Acts of New Jersey, 1919, ch. 93, par. 23 c.</i></p>	<p>Compulsory as to all employments except those employing less than five employees, and casual employees not in usual course of employer's business. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-60, 1465-61.</i> That is, "One who is employed solely to perform a particular piece of work, the performance of which requires but a very short period of time, the term of his employment to cease upon the completion of such work, is a casual employee." <i>Ohio Industrial Commission Bulletin, v. 4, no. 5, Apr. 2, 1917, p. 19. (Ruling in re Pryor, Jan. 15, 1915.)</i> Voluntary as to employments having less than five employees. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-71.</i></p>	<p>Elective as to all employments except those having less than three employees, farm labor, and employees not in the usual course of employer's business, that is, "Usual as here used is interpreted to modify course and not to modify trade, business, profession, or occupation." Any person in the service of another, doing work in the employer's trade, business, profession or occupation, is covered by the law, providing such work is in the usual course of such trade, business, profession, or occupation. Voluntary as to steam railroads. <i>Wisconsin statutes, 1919, sec. 2394-5.2; sec. 2394-7 (4); sec. 2394-8 (4). Industrial Commission. Workmen's compensation act (with 1919 amendments). p. 7, footnote 22.</i></p>
B. PUBLIC EMPLOYMENTS		
<p>Compulsory as to all employees except elective officials or those receiving a salary over \$1,200. <i>First supplement, compiled statutes of New Jersey, 1911-1915, p. 1643, Sec. 11, 10 c.</i></p>	<p>Compulsory as to all employees except officials or firemen and policemen in cities having a pension fund. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-61. 1.</i></p>	<p>Compulsory as to all employees except officials. <i>Wisconsin statutes, 1919, sec. 2394-7 (1).</i></p>

OCCUPATIONS COVERED

The New Jersey law is the most inclusive of the three in respect to occupations covered. The types of employment excluded are—

- (a) Casual employees.⁵
- (b) Minors illegally employed (a court decision).⁶
- (c) Public employees receiving salaries of over \$1,200, and elective officials.⁷

Exclusions under the Wisconsin law are—

(a) Employers of less than three employees. Such employer may choose to come under the act by filing a written notice with the commission. When the employer thus elects to come under the act, his employees are covered unless they withdraw by a written notice. If such employer does not elect to come under the act and an employee brings suit in case of injury, he loses as a defense that the employee assumed the risk of the employment.⁸

(b) Employers of farm labor without regard to the number of employees. Such employer may elect to come under the act but loses none of the three usual defenses if he does not.⁹ Thus farm laborers are left practically unprotected.

(c) Employees not in the usual course of the employer's trade, business, profession, or occupation.¹⁰

(d) Employees on steam railways, unless both employer and employee elect to come under the act by a written notice to the commission.¹⁰ No defenses are lost if the law is not accepted.

(e) Public officials.

In Ohio those not covered by the law are—

(a) Domestic servants. A decision of the attorney general excludes domestic or household servants in or about a private residence, even though five or more are employed by one person, and rules that the employer of such servants may not elect to come under the act.¹¹

(b) Employers of less than five employees. Such employer may elect to come under the law, but since he loses no defenses if he does not, there is little incentive to elect.¹² This provision practically excludes farm laborers.

(c) Casual employees of private employers, not in the usual course of employer's business.¹³

⁵ Acts of New Jersey, 1919, ch. 93, par. 23 (c).

⁶ *Hetzel v. Wasson Piston Ring Co.* June 19, 1916. *In New Jersey Law Reports*, v. 89, pp. 201-205.

⁷ First supplement, compiled statutes of New Jersey, 1911-1915, p. 1643, Sec. II, 10c.

⁸ Wisconsin statutes, 1919, sec. 2394-1; 2394-5.

⁹ *Ibid.*, sec. 2394-1.3; 2394-5.2.

¹⁰ *Ibid.*, sec. 2394-7 (4); 2394-8 (4); 2394-7 (1).

¹¹ Ohio Industrial Commission, *Workmen's Compensation Law*, with amendments and annotations, 1924, p. 86.

¹² General code of Ohio, Page's compact edition, 1920, sec. 1465-71, 1465-73.

¹³ *Ibid.*, sec. 1465-61.2.

(d) Minors illegally employed.¹⁴

(e) Public officials, firemen, and policemen in cities having pension funds.¹⁵

NUMERICAL EXCLUSION PROVISION

The provision excluding employers of less than three employees in Wisconsin, and of less than five in Ohio, practically excludes from the benefits of the law domestic servants in private homes in those two States. In Ohio in addition there is a ruling from the attorney general expressly excluding that group. This numerical provision also rules out the workers in small workshops and retail stores, the very smallness of which militates against proper inspection and control by the State agency interested in the promotion of safety. The fact that in Wisconsin the small employer may elect to come under the act has not resulted in such acceptance by employers of domestic servants in private homes to any appreciable extent, and this fairly large group of wage earners is therefore excluded both in that State and in Ohio from any compensation in cases of injury.

In New Jersey, where the domestic-servant group is included in the law, there appeared no evidence of difficulty in its administration. Accidents had not occurred with any degree of frequency. However, there were severe injuries.

During recent years there has been a decrease in the number of women applicants for jobs as domestic workers, due largely to the fact that conditions of employment have not been satisfactorily standardized. There seems to be no valid reason for adding one more unsatisfactory condition by excluding from benefits under the compensation law persons injured while working in the capacity of private domestic servants.

Cases of compensation to domestic servants.

Seventy-one domestic servants were compensated in New Jersey, slightly over 6 per cent of all women compensated in that State. There was one fatal case. (See details of fatal cases, p. 16.) Twelve women were left with a permanent disability and 58 women had a temporary disability. Case descriptions of typical accidents to domestic servants follow:

Permanent disability cases.—A chambermaid, age not reported, whose wage was said to be \$7 a week, ran a needle into her wrist while cleaning the floor of the bathroom. The needle broke, part of it remaining in the wrist. The woman lost 11 weeks. After the healing period she was left with a permanent disability, that is, with 50 per cent loss of use of the right little finger. Medical expenses amounted to \$50 and were paid. Her total compensation was \$103.

¹⁴ Aeklin Stamping Co. v. Kutz. Apr. 2, 1918. In Ohio State Reports, v. 98, pp. 61-72.

¹⁵ General code of Ohio, Page's compact edition, 1920, sec. 1465-61.1.

A domestic servant of 62, earning \$9.63 a week, had climbed a ladder to clean a bay window when the ladder toppled over and she fell, causing a fracture of the right leg at the ankle. She lost 22½ weeks. The permanent disability amounted to 10 per cent loss of use of the right foot. Medical expenses were paid, and her total compensation was \$215.07.

A 24-year-old cook in a private residence, whose wage was \$14 a week, was being transported in an automobile belonging to her employer when an accident occurred, in which she was thrown forward and two front teeth were knocked out and the gum was injured. After the roots of the teeth were extracted, and the gums treated, two false teeth were put in with bridge work to hold them. Medical expenses amounted to \$50 and were paid. She lost no time, but in New Jersey the loss of natural teeth is considered a permanent disability. Her total compensation was \$74.56.

A cook in a private residence, 57 years old and earning \$17.50 a week, suffered serious bruises of the thumb from the fall of an ironing table. The thumb became infected. She lost five weeks. The permanent disability amounted to loss of thumb at distal joint by amputation. Medical expenses amounted to \$20 and were paid. Her total compensation was \$307.66.

A cook, 55 years old and earning \$18 a week, fell down stairs and broke and tore her arm. She lost 12½ weeks. The resulting permanent disability was 50 per cent loss of use of the left hand. Medical expenses amounted to \$14 and were paid. Her total compensation was \$1,032.

A domestic servant, 50 years old and receiving \$11.25 a week, slipped on the ice in front of the house and fractured her wrist. She lost 25½ weeks. She was left with a permanent disability—25 per cent loss of use of the left hand. Medical expenses were paid. Her total compensation was \$461.25.

A laundress in a private residence, 32 years old, was earning \$9 a week when her right middle finger was caught in the wringer while doing the weekly washing, the end of the finger being traumatically amputated. She lost 10½ weeks. The permanent disability amounted to amputation of this finger at the distal joint. Medical expenses were paid. Her total compensation was \$145.

A domestic servant, age not reported, with a wage of \$9 a week, was chopping wood and got a splinter in her finger. The splinter could not be seen at the time. Infection set in. She lost five and one-half weeks. She was left with a permanent disability of 50 per cent loss of use of the right index finger. Medical expenses of \$21 were paid. Her total compensation was \$129.

A domestic servant, 50 years old and earning \$17.58 a week, slipped and fell on the floor, and her left hip was broken. She lost

44½ weeks. The resulting permanent disability amounted to 50 per cent loss of use of the left leg. Medical expenses amounted to \$50 and were paid. Her total compensation was \$1,529.46.

A housekeeper in a private residence, 70 years old and earning \$13.84 a week, slipped and fell on the stairs, and the bone of the left hip was cracked, without displacement. She lost 90½ weeks. In this case there was permanent disability amounting to 15 per cent loss of use of the left leg. Medical expenses amounted to \$208.50 and were paid. Total compensation was \$1,063.76.

Temporary disability cases.—A domestic servant, age not reported, was earning a wage of \$8.08 a week at the time she ran a rusty nail into her hand. Infection set in. She lost eight weeks. Medical expenses amounted to \$9 and were paid. Her total compensation was \$39.

A domestic servant, 70 years old and earning \$15, was standing on a chair adjusting pictures when she fell, both arms being broken above the wrists. She lost nine weeks. Medical aid amounted to \$50 and was paid. Her total compensation was \$75.

A laundress, 50 years old and earning \$8.40 a week, was hanging clothes in the yard when she fell, and her shoulder and back were wrenched. She lost 11½ weeks. Medical expenses were paid. Her total compensation was \$60.

A woman of 46, earning \$16 as housekeeper in a private home, in some way slipped from the top step of a stairway, falling from the second to the first floor. Her right shoulder was dislocated and the ligaments were torn. She was bruised over the entire body. She lost 17½ weeks. Medical expenses amounted to \$30 and were paid. Her total compensation was \$172.25.

A domestic servant aged 48, with a wage of \$15, while cutting bread received a slight cut between the thumb and index finger. Two days later she cleaned a copper utensil and the wound became infected. She lost two weeks and five days. Medical expenses amounted to \$30 and were paid. Her total compensation was \$13.34.

A woman of 50, whose wage was \$20 a week as a domestic servant, was operating an electric wringer in connection with an electric washing machine. Her hand was drawn into the wringer, and the fingers and hand were bruised. She lost eight and one-half weeks. Medical expenses were paid. Her total compensation was \$84.

A domestic servant of 45, earning \$13 a week, was injured when a pan of baking fat fell from the kitchen stove, badly burning her left leg. She lost one week and five days. Medical expenses were paid. Her total compensation was \$1.71.

A cook, 26 years old and earning \$17.49, dropped a pan of hot milk and burned her left leg and foot. She lost three and a half weeks. Medical expenses were paid. Her total compensation was \$23.32.

A domestic servant aged 40 was receiving a wage of \$18. One foot slipped through a hole in the flooring of the back porch, and the left knee and thigh were severely bruised and lacerated. She lost two weeks. Medical expenses amounted to \$21 and were paid. Her total compensation was \$8.

A woman 65 years old was employed as a domestic servant at a wage of \$10.08 a week. The railing on a porch gave way, and she fell to the ground, bruising head, face, and arms. She lost five weeks and one day. Medical expenses were paid. Her total compensation was \$24.96.

Summary.—In summing up the recorded accidents to domestics in private residences in New Jersey in regard to cause, it is found that 1 was the result of carbon monoxid poisoning, 1 of copper poisoning, 1 of ivy poisoning, and 1 of an infection, cause unknown. Falls were responsible for 48, of which 19 occurred on stairs, 8 on ice, 4 from ladders, and 3 from chairs or tables. Five accidents were due to the worker's coming in contact with hot substances, 5 to handling sharp or rough objects (under this classification being included injury from slivers or wire), 1 to being struck by a falling object, and 2 to stepping on or striking against a rusty nail. Fingers caught in the rollers of clothes wringers resulted in 4 injuries. Two accidents were caused by automobiles. Of the remaining 14 domestic workers injured, 10 slipped or stumbled on floors or in yards, 2 fell from a porch when the railing gave way, 1 stepped through a hole on a porch, and 1 stepped into a drain gully in the yard.

There is no way of ascertaining from the State record whether the injured persons returned to work, but it is interesting to sum up the length of time compensated as the healing period, or the period of total temporary disability, in connection with these accidents to domestic servants. One woman lost no time. About one-third lost less than 4 weeks, one-third 4 and under 8 weeks, and one-third 8 weeks and over. In the group losing most time, 6 lost between 12 and 18 weeks, and 4 lost 5 months or more.

Data on age recorded for 61 women indicate that these injured domestic servants were found among the older groups. Only 6 were under 30; 32 were 50 or more, and of these 10 were at least 60.

The wage on which compensation is based in the case of domestic and personal servants is not the cash wage in every case. When room and board are furnished to an employee, the New Jersey law provides that a value of \$5 shall be placed on such accommodation, this amount to be added to the cash wage,¹⁶ and two-thirds of the total thus arrived at to constitute the weekly compensation. In some cases in New Jersey the report showed that room and board had been furnished during the disability period. In such cases compen-

¹⁶ Acts of New Jersey, 1919, ch. 93, par. 23 (g).

sation was based on the cash wage. As already stated, domestic servants in Ohio were excluded from the workmen's compensation law. In Wisconsin the commission directed that "the fair value of these benefits should be added to the money wage in computing compensation due."¹⁷ The median of the wages on which the compensation of the 71 domestic servants was based was \$14.85; that is, one-half were compensated as earning less than \$14.85 a week, and one-half as earning more than this. The highest wage recorded was \$22, for only one woman. For 17 women a wage of less than \$10 was reported.

Cases of compensation to farm laborers.

The other occupational group left unprotected, on the whole, in the three States was that of farm laborers. However, New Jersey compensation board records show that three women agricultural workers were compensated in that State during the period studied. One woman doing farm work in Wisconsin who was injured in an accident also was compensated, her employer having elected to come under the act. The cases are as follows:

A 17-year-old servant on a farm received a wage of \$10 a week. She was in a tree, picking cherries, when a limb broke and she fell to the ground. The left ankle was sprained. She lost 34½ weeks. There was permanent disability amounting to 40 per cent loss of use of the ankle. Medical expenses amounted to \$34 and were paid. Her total compensation was \$553.61.

A farm laborer, 50 years old and earning \$10.50 a week, was being transported from one of her employer's farms to another and was sitting on a basket in the vehicle when, on turning a corner, she was thrown to the ground. The collar bone was broken, and she also received minor bruises. She lost 19 weeks and 2 days. There was no permanent disability. Medical expenses were paid, and total compensation amounted to \$125.

A cherry picker, 16 years old and earning \$6.88 a week, while picking cherries fell out of the tree, and the left arm was broken at the wrist. She lost eight and one-half weeks. There was no permanent disability. Medical expenses amounted to \$20 and were paid, and her total compensation was \$42.55.

An agricultural laborer of 34 years, receiving a wage of \$9 a week, fell into a pit or bin. There were multiple bruises made on her head, back, shoulders, both legs, and chest. She lost two weeks. There was no permanent disability. Medical expenses amounted to \$36 and were paid, and her total compensation was \$7.97.

¹⁷ Wisconsin Industrial Commission. Workmen's compensation act (with 1919 amendments), p. 21, footnote 56.

METHOD OF PAYMENT

The methods of payment of compensation in the three States differ in regard to the proportion of wage allowed, the maximum and minimum amounts paid, the time which must elapse before compensation begins (the waiting period), the method of determining weekly wage, the adjustment of wage in relation to age, and the plan for paying the actual money. These points are brought out in the accompanying chart.

RATIO BETWEEN COMPENSATION AND WAGE LOSS

If industry is to bear the economic cost of industrial injury, changes will have to be made in the method of estimating wage loss on account of accident and in the method of repayment therefor. In theory, in the three States at the time of this survey two-thirds of the burden was to be handled by industry during the period of impairment. However, the uncompensated waiting period and the setting of a maximum weekly compensation rate both militated to reduce the percentage of wage loss borne by industry. If the actual weeks lost during the healing period are added to the estimated weeks lost according to extent of permanent disability, and if the total of the estimated earnings lost for this whole period is compared with the compensation actually paid, the ratio between compensation and wage loss is arrived at. (Table 12.) The same information, by State, may be found in Appendix Table X.

TABLE 12.—Ratio of compensation to wage loss, by degree of disability

Degree of disability ¹	Number of women	Estimated weeks lost			Weekly wage (arithmetical average)	Estimated amount of earnings lost (5×2)	Amount of compensation paid	Ratio of compensation to wage loss (7÷6)	Average compensation paid per case (7÷1)
		Total	Extent of disability in terms of estimated weeks lost	Healing period					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All cases.....	23, 225	104, 674 $\frac{3}{8}$	87, 132 $\frac{1}{8}$	17, 542	\$14. 79	\$1,548,133.39	\$315, 847	² 20. 40	³ \$97. 94
Fatal cases.....	15	15, 360	15, 000	360	16. 33	250, 828. 80	21, 124	8. 42	1, 408. 27
Permanent disability cases.....	746	79, 967 $\frac{3}{8}$	72, 132 $\frac{3}{8}$	7, 835	14. 74	1, 178, 713. 58	214, 451	18. 19	287. 47
Under 33 $\frac{1}{2}$ per cent.....	725	69, 020	62, 024	6, 996	14. 72	1, 015, 974. 40	179, 710	17. 69	247. 88
33 $\frac{1}{2}$ and under 50 per cent.....	8	3, 334 $\frac{1}{8}$	3, 033 $\frac{1}{8}$	301	16. 94	56, 477. 96	11, 531	20. 42	1, 441. 38
50 and under 66 $\frac{2}{3}$ per cent.....	12	6, 813	6, 325	488	14. 71	100, 219. 23	19, 722	19. 68	1, 643. 50
66 $\frac{2}{3}$ and under 100 per cent.....	1	800	750	50	15. 00	12, 000. 00	3, 488	29. 07	3, 488. 00
Temporary disability cases.....	2, 464	9, 347	-----	9, 347	14. 79	138, 242. 13	80, 272	58. 07	32. 58
Under 2 weeks.....	547	547	-----	547	14. 61	7, 991. 67	2, 982	37. 31	5. 45
2 and under 3 weeks.....	678	1, 356	-----	1, 356	14. 88	20, 177. 28	9, 239	45. 79	13. 63
3 and under 4 weeks.....	436	1, 308	-----	1, 308	14. 83	19, 397. 64	10, 289	53. 04	23. 60
4 weeks and over.....	803	6, 136	-----	6, 136	14. 80	90, 812. 80	57, 762	63. 61	71. 93

¹ In terms of per cent of permanent total incapacity in permanent disability cases and of time lost in temporary disability cases.

² Excludes 60 cases not reporting complete data.

³ The provision for a maximum weekly compensation rate in each State obviously operates to reduce the ratio of compensation to wage loss below the two-thirds of weekly wage otherwise prescribed.

CHART VII.—METHOD OF PAYMENT OF COMPENSATION

NEW JERSEY	OHIO	WISCONSIN
A. PER CENT OF WAGE ALLOWED; MAXIMUM AND MINIMUM AMOUNTS		
<p>66$\frac{2}{3}$ per cent of wage. Maximum—\$12 a week. Minimum—\$6 a week, or actual wage if less than \$6. To dependents in case of death of injured—300 weeks. Permanent total disability—400 weeks. Permanent partial disability—healing period plus scheduled number of weeks for permanent disability, in all not to exceed 400 weeks. Temporary total disability—300 weeks. <i>Acts of New Jersey, 1919, ch. 93, par. 11, par. 12 (k).</i></p>	<p>66$\frac{2}{3}$ per cent of wage. Maximum—fatal, \$15; permanent, \$12; temporary partial, \$15. Minimum—\$5 a week or actual wage if less than \$5. To dependents in case of death of injured—416 weeks. Permanent total disability—life. Permanent partial disability—healing period plus the scheduled number of weeks for permanent disability. Temporary total disability—312 weeks. Maximum benefits—Total benefits shall not exceed \$3,750 except in cases of death, for which the maximum is \$5,000. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-79, sec. 1465-80, sec. 1465-81, sec. 1465-82.</i></p>	<p>65 per cent of the average weekly wage. Maximum—\$14.63 a week. Minimum—\$6.83 a week. If earnings are \$6.83 or less, compensation is paid at minimum rate. To dependents in case of death of injured—308 weeks. Permanent total disability—15 years. Permanent partial disability in cases of amputation or enucleation shall run from the time of occurrence through the scheduled number of weeks, but in cases of loss of use, from end of healing period. Temporary total disability cases shall be compensated up to approximately 308 weeks. <i>Wisconsin statutes, 1919, sec. 2394-9 (2) (a-d); 2394-9 (3); 2394-9 (5) (a, e).</i></p>
B. WAITING PERIOD		
<p>10 days in length, whether disability is consecutive or not. <i>Acts of New Jersey, 1919, ch. 93, par. 13.</i></p>	<p>1 week in length. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-78.</i></p>	<p>1 week in length, this week to be compensated if disability continues four weeks or more. <i>Wisconsin statutes, 1919, sec. 2394-9 (2) (d).</i></p>
C. WEEKLY WAGE, HOW DETERMINED		
<p>Wage on which compensation is based shall be rate in force at time of accident exclusive of gratuities. Board and lodging when furnished shall be included and valued at \$5 per week unless the money value is otherwise fixed at time of hiring. If wage is fixed by output, the daily wage shall be calculated by dividing the number of days actually employed into the total amount actually earned during the preceding 6 months, or such part of it as injured was actually employed by same employer. If wages are fixed by the hour, the hourly rate shall be multiplied by the customary number of working hours. The daily wage shall be multiplied by 5$\frac{1}{2}$, 6, 6$\frac{1}{2}$, or 7 according to the customary number of working days. <i>Acts of New Jersey, 1919, ch. 93, par. 23 (g).</i></p>	<p>The average weekly wage of the injured person at the time of the injury. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-84.</i></p>	<p>Average weekly wage shall be one-fiftieth of the average annual earnings. Average annual earnings shall equal 300 times average daily earnings if employee has worked a full year at the same employment. If not, it shall be based on earnings of workers in same or similar employment in same or neighboring place. Average daily wage—no day of less than 8 hours shall be used unless by agreement or custom a shorter day is considered a full day. Average annual earnings shall in no case be set at less than actual annual earnings. <i>Wisconsin statutes, 1919, sec. 2394-10.1; sec. 2394-10.1 (a-d).</i></p>

D. ADJUSTMENT OF BASIC WAGE BECAUSE OF AGE OF INJURED

<p>No provision.</p>	<p>If it is established that the injured employee was of such age and experience when injured as that under natural conditions his wages would be expected to increase, the fact may be considered in arriving at his average weekly wage. <i>General code of Ohio, Page's compact edition, 1920, sec 1465-85.</i></p>	<p>If employee is a minor and is permanently disabled, his weekly earnings shall be determined on the basis of the earnings that such a minor, if not disabled, probably would earn after attaining age of 21. In cases of permanent injury to employees over 55, compensation shall be reduced by 5 per cent; if over 60, by 10 per cent; and if over 65, by 15 per cent. <i>Wisconsin statutes, 1919, sec. 2394-10.1 (e); 2394-9 (5) (g).</i></p>
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E. HOW COMPENSATION SHALL BE PAID

<p>In the same manner in which wage shall be paid. Lump sum payment may be commuted at a discount of 5 per cent simple interest upon the application of either party, that is, of the injured or his dependents, upon due notice to the other if it appears to be to the best interests of either party, or will avoid undue expense or hardship to either party, or if either party has removed, or is about to remove from the United States, or if employer has disposed of the greater part of his business or assets. <i>Acts of New Jersey, 1919, ch. 93, par. 21 (b, d).</i></p>	<p>Biweekly, unless a lump sum payment is deemed advisable by the commission. The commission, under special circumstances and when the same is deemed advisable, may commute payments of compensation or benefits to one or more lump sum payments. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-87.</i></p>	<p>Weekly payments. After 6 months from the date of injury, commission may order payment of compensation in gross or in such manner as it may determine to be the best interests of the parties. Present worth based on 3 per cent annual interest. <i>Wisconsin statutes, 1919, sec. 2394-9 (2), (5) (l).</i></p>
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In Table 12 the estimated number of weeks lost in the permanent cases is arbitrary, but the figures were assigned according to the scale of the International Association of Industrial Accident Boards and Commissions (see p. 35), a scale based on a very inclusive study of accident statistics and as nearly accurate an expression of such loss as has yet been formulated.

The average compensation received by the 803 women included in the present study who were left with a temporary total disability of at least four weeks' duration was 63.61 per cent of their weekly wage. In this group the uncompensated waiting period had least effect in lowering the ratio between compensation and wage loss. In the case of the temporary total disability group losing less than two weeks, the waiting period consumed more than half the lost time and the ratio of compensation to wage loss was reduced to 37.31 per cent.

In the permanent disability group the ratio of compensation to wage loss is much lower. It is difficult to allocate the influence of various factors which tend to effect this result. In 97.2 per cent of these cases the permanent disability amounted to less than $33\frac{1}{2}$ per cent of permanent total incapacity. The remaining cases are too few to discuss statistically. For the 97.2 per cent the uncompensated waiting period and the arbitrary maximum-compensation rate both tended to lower the ratio between compensation and wage loss. Another factor in this lowering process is that relating to the importance assigned to finger injuries in the scale of the International Association of Industrial Accident Boards and Commissions. Any permanent disability to a finger is rated at 5 per cent of permanent total incapacity, that per cent being considered a fair average of the result of finger injuries. Then the fact that in Ohio certain permanent partial disability cases were not compensated without proof of wage loss also resulted in a lowered ratio. The inclusion of these permanent cases in the tabulation makes a ratio of 15.06, while excluding them raises Ohio's ratio to 19.43. In Wisconsin the elimination of compensation during the healing period following amputation or enucleation has a similar result. Among all disability cases the ratio of compensation to wage loss was 20.40 per cent.

Compensation in relation to age.

The trend of wages according to age has been of interest from the point of view that, in the case of permanent disability, rates which are to be paid over a considerable period of time should be fixed with some regard for this trend. The wage information in the 3,106 cases in which age and wage were reported indicates a low median throughout, no age group rating as high as \$16.

TABLE 13.—Wage on which compensation was based, by age of injured

Weekly wages on which compensation was based	Number of women	Age of injured								
		Under 18 years	18 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 and under 60 years	60 and under 70 years	70 years and over
All cases.....	13,106	303	550	646	385	552	378	217	67	8
Median wage.....	\$14.95	\$12.80	\$14.05	\$15.60	\$15.80	\$15.70	\$15.20	\$13.95	\$12.50	(?)
Under \$5.....	6	1	1	1	2	2	2	2	2	1
\$5 and under \$6.....	8	2	2	2	1	2	2	2	2	1
\$6 and under \$7.....	29	4	3	2	2	5	3	9	1	1
\$7 and under \$8.....	27	7	3	4	2	1	6	2	2	2
\$8 and under \$9.....	66	21	8	9	4	6	8	7	3	3
\$9 and under \$10.....	128	29	25	15	13	15	17	11	3	3
\$10 and under \$11.....	209	32	43	31	18	24	27	24	9	1
\$11 and under \$12.....	185	23	41	36	19	26	21	8	9	2
\$12 and under \$13.....	379	44	94	68	34	56	38	31	13	1
\$13 and under \$14.....	296	42	52	62	34	57	28	17	3	1
\$14 and under \$15.....	234	25	50	40	31	40	31	13	4	1
\$15 and under \$16.....	363	24	60	87	44	60	45	31	10	2
\$16 and under \$17.....	205	13	35	41	33	45	25	12	1	1
\$17 and under \$18.....	138	5	23	32	21	27	20	10	1	1
\$18 and under \$19.....	195	5	41	46	29	44	17	12	1	1
\$19 and under \$20.....	94	5	14	22	14	19	12	6	2	1
\$20 and under \$21.....	127	6	9	39	23	25	19	3	3	1
\$21 and under \$22.....	61	3	7	22	9	9	8	2	1	1
\$22 and including \$22.50.....	80	5	11	23	11	13	11	4	2	1
Over \$18, amount not specified.....	17	1	1	3	3	3	4	2	1	1
Over \$22.50, amount not specified.....	259	9	27	61	40	73	36	13	1	1

¹ Excludes 179 cases not reporting complete data.

² Not computed, owing to small number involved.

In five of the nine age groups, if that of 70 years be included, the median for which does not appear on the table, the medians are lower than that for all ages. One-half of the women reporting age as under 18 years were compensated at a wage of less than \$12.80 a week, and one-half of those 18 and under 20 years of age at a wage of less than \$14.05 a week. One-half of the group between 50 and 60 years were compensated at a wage of less than \$13.95 a week, and for the group 60 and under 70 the middle point in wages was \$12.50. Four of the women aged 70 or more were compensated on the basis of a wage of less than \$12 a week. The median wage for the groups between 20 and 50 varies only slightly, the highest point being reached for the age group 25 and under 30 years, with one-half of the group compensated as earning over \$15.80. The upward adjustment of the wage of minors permanently disabled, since they would normally earn an increasing amount for a few years, has been put into practice in Wisconsin, as well as the necessary corollary to this procedure—that is, the reduction of the rate of older persons on the basis of an expected normal decrease in their earning power.

Payment by employers of compensation in excess of legal rates.

The difficult situation which an injured wage earner has to face during the week following the accident is recognized in some cases by the payment by employers of a rate in excess of that required by

law. This practice is not often reported to the State compensation board or commission, and therefore the State records do not give full information in this regard. Such procedure on the part of employers, of going a step beyond the legal requirements, by making payments during the waiting period or by paying more than the legal two-thirds later, is not to be confused with insurance plans by which employees pay directly from their wages toward possible incapacity from accidents. There was no information in regard to this latter plan to be obtained from State records.

Compensation rates paid in the three States.

According to the State records, in 91 cases a rate higher than that required by law was paid, 33 of these receiving the full wage during the entire disability period, 10 receiving the full wage during part of the disability period, and 48 being paid more than the legal rate but less than the full wage. (Appendix Table IX.) In 3,169 cases the compensation rate paid was that set by law. There were 16 cases in which a lump-sum payment was ordered. This small number indicates the reluctance on the part of compensation boards and commissions to depart from the consideration of compensation as money to be paid at short regular intervals to take care of the wage loss during the compensated period.

MEDICAL AID

The accompanying chart shows the legal provisions for medical aid. Regulations providing for medical aid up to certain limits, either of time or of money, mean in general that after these limits have been reached medical aid must be paid for, if received at all, by the patient. Since in some instances this procedure might keep the injured women from getting further treatment when needed, and result therefore in increasing the final extent of permanent disability, provision has been made in the laws for additional treatment in exceptional cases. Under this plan the patient who needs more treatment than can be included in the customary allowance must know her legal rights in order to petition in the proper manner. In Ohio, with a corps of doctors on the commission's pay roll, there is an excellent opportunity for the commission to follow effectively the actual extent of disability in permanent disability cases and the amount of medical treatment accorded to each.

CHART VIII.—MEDICAL AID

NEW JERSEY	OHIO	WISCONSIN
A. EXTENT		
<p>On day of accident and during the next following 27 consecutive days reasonable medical and hospital services and medicine as needed, not to exceed \$50 in value, unless the employee refuses to allow them to be furnished by the employer. <i>Acts of New Jersey, 1919, ch. 93, par. 14.</i></p>	<p>Such amounts for medical, nurse, and hospital services and medicine as the commission may deem proper, not to exceed the sum of \$200. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-72.</i> Payments by self-insured employers shall in no case be less than that paid by the State fund. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-89.</i></p>	<p>Such medical, surgical, and hospital treatment, medicines, medical and surgical supplies, crutches and apparatus as may be reasonably required for 90 days immediately following the accident to cure and relieve from the effects of the injury. <i>Wisconsin statutes, 1919, sec. 2394-9 (1)</i></p>
B. ADDITIONAL AMOUNT		
<p>In severe cases requiring unusual medical or surgical treatment, the employee or his representative shall be authorized to present a petition to the Workmen's Compensation Bureau, and the commission is hereby empowered when warranted by the evidence produced to order additional services not to exceed \$200 or to extend over a period not to exceed in total 17 weeks. This shall apply only to nonfatal cases. <i>Acts of New Jersey, 1919, ch. 93, par. 14.</i> Special operation fee of \$150 in case of hernia. <i>Acts of New Jersey, 1919, ch. 93, par. 11 (x).</i></p>	<p>In unusual cases, wherein it is clearly shown that the actually necessary medical, nurse, and hospital services and medicines exceed the amount of \$200, the commission shall have the authority to pay such additional amounts upon a satisfactory finding of facts. <i>General code of Ohio, Page's compact edition, 1920, sec. 1465-89.</i></p>	<p>Such treatment and supplies as described above for more than 90 days if in the judgment of the commission it will lessen the period of compensation disability, or in cases of permanent total disability for such period as the commission may deem advisable. <i>Wisconsin statutes, 1919, sec. 2394-9 (1).</i></p>
C. REFUSAL BY EMPLOYEE		
<p>No medical aid allowed if employee refuses that offered by the employer. Where an employer's interests are affected by an employee's refusal to accept proffered medical aid, the employer can petition the compensation bureau to order proper treatment at the employer's expense, refusal of which by the employee shall modify the awards to which he is entitled. <i>Acts of New Jersey, 1919, ch. 93, par. 20 (c).</i></p>	<p>Employee may choose his own physician.</p>	<p>No compensation shall be payable for death or disability of an employee if his death is caused by (or in so far as his disability may be aggravated, caused, or continued by) an unreasonable refusal or neglect to submit to, or follow, any competent and reasonable surgical treatment. <i>Wisconsin statutes, 1919, sec. 2394-9 (1).</i></p>

TABLE 14.—Medical aid furnished in cases of accident, by nature and location of injury and by State

A. NUMBER

Nature and location of injury	All States						New Jersey						Ohio						Wisconsin						
	Number of women	Cases having medical aid				Number not re- porting amount	No medical aid furnished	Number of women	Cases having medical aid				Number not re- porting amount	No medical aid furnished	Number of women	Cases having medical aid				Number not re- porting amount	No medical aid furnished				
		Number report- ing amount	Amount furnished		Number not re- porting amount				Number report- ing amount	Amount furnished		Number not re- porting amount				Number report- ing amount	Amount furnished		Number not re- porting amount			Number report- ing amount	Amount furnished		Number not re- porting amount
			Total	Average per case						Total	Average per case						Total	Average per case					Total	Average per case	
All cases.....	1,323	2,384	\$84,832	\$35.58	809	70	1,077	438	\$14,772	\$33.73	617	22	1,544	1,387	\$47,450	\$34.21	126	31	642	559	\$22,610	\$40.45	66	17	
Bruise, contusion, crush.....	897	651	15,842	24.33	223	23	278	106	3,232	30.49	164	8	431	383	9,152	23.90	37	11	188	162	3,458	21.35	22	4	
Burn, scald, crush and burn.....	152	112	4,578	40.88	35	5	47	18	899	49.94	27	2	71	66	2,730	41.36	3	2	34	28	949	33.89	5	1	
Concussion (other than dismem- berment and loss of use).....	72	65	3,850	59.23	6	1	13	9	222	24.67	4	1	51	48	3,237	67.44	2	1	8	8	391	48.88	-----	-----	
Cut, laceration, puncture.....	1,075	787	24,080	30.60	272	16	362	149	3,431	23.03	208	5	481	435	12,754	29.32	40	6	232	203	7,895	38.89	24	5	
Amputation.....	250	168	5,610	33.39	80	2	108	44	1,103	25.07	63	1	107	96	2,056	21.42	10	1	35	28	2,451	87.54	7	-----	
Arm.....	1	1	1,318	13.18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	1	1,318	13.18	-----	-----	
Fingers, thumb.....	249	167	4,292	25.70	80	2	108	44	1,103	25.07	63	1	107	96	2,056	21.42	10	1	34	27	1,133	41.96	7	-----	
Dislocation.....	47	40	1,284	32.10	6	1	17	11	482	43.82	6	-----	25	24	717	29.88	-----	1	5	5	85	17.00	-----	-----	
Shoulder.....	12	10	331	33.10	1	1	5	4	155	38.75	1	-----	5	4	128	32.00	-----	1	2	2	48	24.00	-----	-----	
Elbow.....	5	4	159	39.75	1	-----	4	3	110	36.67	1	-----	1	1	49	49.00	-----	-----	-----	-----	-----	-----	-----	-----	
Wrist.....	3	3	35	11.67	-----	-----	-----	-----	-----	-----	-----	-----	3	3	35	11.67	-----	-----	-----	-----	-----	-----	-----	-----	
Hip.....	3	3	62	20.67	-----	-----	-----	-----	-----	-----	-----	-----	2	2	47	23.50	-----	-----	-----	-----	-----	-----	-----	-----	
Knee.....	3	2	125	62.50	1	-----	2	1	111	111.00	1	-----	-----	-----	-----	-----	-----	-----	1	1	15	15.00	-----	-----	
Ankle.....	7	5	91	19.20	2	-----	3	1	34	34.00	2	-----	3	3	49	16.33	-----	-----	1	1	14	14.00	-----	-----	
Other.....	14	13	481	37.00	1	-----	3	2	72	36.00	1	-----	11	11	409	37.18	-----	-----	-----	-----	-----	-----	-----	-----	
Fracture.....	292	217	15,513	71.49	69	6	101	40	1,673	41.83	58	3	138	128	8,570	66.95	9	1	53	49	5,270	107.55	2	2	
Humerus.....	4	4	269	67.25	-----	-----	1	1	15	15.00	-----	-----	3	3	254	84.67	-----	-----	-----	-----	-----	-----	-----	-----	
Ulna, radius, or both.....	46	43	1,964	45.67	1	2	8	6	180	30.00	1	1	31	31	1,570	50.65	-----	-----	7	6	214	35.67	-----	1	
Hand.....	11	11	229	20.82	-----	-----	2	2	86	43.00	-----	-----	8	8	134	16.75	-----	-----	1	1	9	9.00	-----	-----	
Fingers, thumb.....	64	43	1,635	38.02	19	2	22	6	106	17.67	14	2	34	30	1,365	45.50	4	-----	8	7	164	23.43	1	-----	
Tibia, fibula.....	14	9	1,154	128.22	5	-----	6	1	50	50.00	5	-----	3	3	75	25.00	-----	-----	5	5	1,029	205.80	-----	-----	
Foot.....	4	4	197	49.25	-----	-----	-----	-----	-----	-----	-----	-----	3	3	128	42.67	-----	-----	1	1	69	69.00	-----	-----	
Other.....	149	103	10,065	97.72	44	2	62	24	1,236	51.50	38	-----	56	50	5,044	100.88	5	1	31	29	3,785	130.52	1	1	

Sprain, strain.....	381	276	11,427	41.40	93	12	128	51	3,514	68.90	75	2	188	168	6,455	38.42	15	5	65	57	1,458	25.58	3	5
Back.....	63	44	2,609	59.30	15	4	19	5	1,764	352.80	13	1	34	31	691	22.29	2	1	10	8	154	19.25	-----	2
Hernia.....	11	11	1,866	169.64	-----	-----	3	3	360	120.00	-----	-----	5	5	1,074	214.80	-----	-----	3	3	432	144.00	-----	-----
Shoulder.....	25	20	1,034	51.70	5	-----	5	2	207	103.50	3	-----	19	17	824	48.47	2	-----	1	1	3	3.00	-----	-----
Elbow.....	12	10	108	10.80	2	-----	4	2	19	9.50	2	-----	6	6	64	10.67	-----	-----	2	2	25	12.50	-----	-----
Wrist.....	73	50	1,058	21.16	20	3	24	10	391	39.10	14	-----	31	24	416	17.33	6	1	18	16	251	15.69	-----	2
Hip.....	13	8	231	28.88	3	2	3	-----	-----	-----	2	1	7	7	221	31.57	-----	-----	3	1	10	10.00	1	1
Knee.....	36	28	922	32.93	8	-----	15	8	295	36.88	7	-----	16	15	505	33.67	1	-----	5	5	122	24.40	-----	-----
Ankle.....	105	78	1,552	19.90	25	2	39	18	365	20.28	21	-----	47	42	855	20.36	3	2	19	18	332	18.44	1	-----
Other.....	43	27	2,047	75.81	15	1	16	3	113	37.67	13	-----	23	21	1,805	85.95	1	1	4	3	129	43.00	1	-----
All other.....	97	68	2,648	38.94	25	4	23	10	216	21.60	12	1	52	39	1,779	45.62	10	3	22	19	653	34.37	3	-----

B. PER CENT

All cases.....	100.0	100.0	-----	-----	100.0	100.0	-----	-----	100.0	100.0	-----	-----	-----	-----	100.0	100.0	-----	-----	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Bruise, contusion, crush.....	27.5	27.3	-----	-----	27.6	32.9	25.8	24.2	-----	-----	-----	-----	-----	-----	29.4	35.5	29.3	29.0	-----	-----	-----	-----	-----	-----	33.3	23.5
Burn, scald, crush and burn.....	4.7	4.7	-----	-----	4.3	7.1	4.4	4.1	-----	-----	-----	-----	-----	-----	4.4	9.1	4.6	4.8	-----	-----	-----	-----	-----	-----	7.6	5.9
Concussion.....	2.2	2.7	-----	-----	7	1.4	1.2	2.1	-----	-----	-----	-----	-----	-----	6	-----	3.3	3.5	-----	-----	-----	-----	-----	-----	-----	-----
Cut, laceration, puncture.....	32.9	33.0	-----	-----	33.6	22.9	33.6	34.0	-----	-----	-----	-----	-----	-----	31.7	22.7	31.2	31.4	-----	-----	-----	-----	-----	-----	36.4	29.4
Amputation.....	7.7	7.0	-----	-----	9.9	2.9	10.0	10.0	-----	-----	-----	-----	-----	-----	10.2	4.5	6.9	6.9	-----	-----	-----	-----	-----	-----	10.6	-----
Dislocation.....	1.4	1.7	-----	-----	7	1.4	1.6	2.5	-----	-----	-----	-----	-----	-----	1.0	-----	1.6	1.7	-----	-----	-----	-----	-----	-----	-----	-----
Fracture.....	8.9	9.1	-----	-----	8.5	8.6	9.4	9.1	-----	-----	-----	-----	-----	-----	9.4	13.6	8.9	9.2	-----	-----	-----	-----	-----	-----	3.0	11.8
Sprain, strain.....	11.7	11.6	-----	-----	11.5	17.1	11.9	11.6	-----	-----	-----	-----	-----	-----	12.2	9.1	12.2	12.1	-----	-----	-----	-----	-----	-----	4.5	29.4
All other.....	3.0	2.9	-----	-----	3.1	5.7	2.1	2.3	-----	-----	-----	-----	-----	-----	1.9	4.5	3.4	2.8	-----	-----	-----	-----	-----	-----	4.5	-----

¹ Excludes 22 cases not reporting nature of injury.

MEDICAL AID GIVEN IN THE THREE STATES, IN RELATION TO NATURE OF INJURY

The average cost of medical treatment provided came to \$35.58. The average for fractures came to twice this amount, and concussions had a high figure. The average for sprains or strains exceeded the general average by almost \$6, and burns or scalds exceeded it by about \$5.

In Ohio the amount of medical aid supplied was reported in 91.8 per cent of the total 1,544 cases. In that State—since accident reporting is thorough, information on the State records in regard to medical treatment is complete, and the employee may choose her own physician—although medical aid in excess of \$200 may be allowed on petition it seems safe to assume that the average cost of medical aid per case, \$34.21, is fairly indicative of the trend which such cost follows when little hampered by overrestrictive legislation. In 166 cases in Ohio the cost was higher than \$50, and in 32 of these cases the need for the expenditure of more than \$200 was recognized.

The following excerpts from three cases in which medical treatment was expensive will indicate briefly the nature of the injury and the extent of the disability: In one, fracture of the scaphoid bone of the foot was complicated by subsequent periostitis. The woman was still totally disabled four years after the accident. Medical treatment extended over a period of two years, at a cost of \$648.75. In another, a stellate comminuted fracture of the distal phalanx of the great toe was followed by infection and required a healing period of 137 weeks and medical treatment over a period of 14 months, at an expense of \$1,215.02. In a third case, severe strain of back and left shoulder, complicated by a preexisting heart condition not discovered until after the injury, resulted in death 149 weeks after the accident. Medical treatment was required over the greater part of this time, including a night nurse for 14 days and a day nurse for 9 days prior to death, at an expense of \$1,085.05.

In Wisconsin accident reporting and information on State records in regard to medical treatment left little to be desired. The average cost of medical aid per case was 18 per cent higher than in Ohio. On the other hand, although the 90-day medical-aid period can not be spoken of in terms of a money limit, the 35 cases in Wisconsin in which the healing period was longer than 12 weeks would seem to challenge the system of setting a definite time limit to medical treatment. Sixty of the cases in Wisconsin received medical aid of between \$50 and \$200, and 16 received aid in excess of \$200. Reference to two of the cases in which an exceptional amount was paid reveals that in one a compound fracture of the tibia and a simple fracture of the fibula required a healing period of 36 weeks and medical aid amounting to \$828.42, and in the other an amputation of the arm 2 inches below the elbow required a healing period of 32 weeks with medical aid amounting to \$1,317.50.

In New Jersey the amount of medical aid was not reported in 57.3 per cent of the cases. This omission was due in large measure to the fact that companies employing doctors on contract reported that fact rather than a computed rate per case. It is difficult to judge on the basis of the 438 cases reporting, which averaged \$33.73, the extent of the medical aid given in this State. In 38 cases more than \$50 was paid, and in 6 of these the amount was over \$200. The average for the 51 cases of sprain or strain was \$68.90. In one case in New Jersey, in which the injury involved the back and the final disability amounted to 20 per cent of permanent total, the medical aid came to \$1,647.35.

MEDICAL AID AND EXTENT OF DISABILITY

An analysis of the cost of medical aid according to the extent of disability reveals that the average in cases of permanent disability was almost three times that in temporary disability cases (Appendix Table VII). The average for cases of permanent partial loss of use was higher than that for dismemberment or ankylosis.

Use of X ray.

It is not necessary to compile figures showing the results of the use of the X ray for diagnosis in terms of a lowered degree of permanent disability. When from the nature of the injury there is any possibility of bone injury through fracture or misplacement, the fact that there is need for an X ray, both before and after treatment, is thoroughly accepted. In Ohio, where such work is provided for by the State, it was possible to determine the extent to which it was performed. In 847 cases the nature of the injury was such as to indicate possible bone injury; 146 of these were X-rayed, nearly one-half of all cases of fracture being so treated, as were more than one-fourth of all cases of dislocation, one-sixth of all cases of sprain or strain, and about one-thirteenth of all cases of bruise or contusion (Appendix Table VIII). Seven-tenths of the X-rayed cases resulted in temporary disability. The time for X ray, if the most effective result in terms of reducing permanent impairment is to be realized, is immediately after the injury rather than when complications have set in. The fact that X-ray work was paid for without question in Ohio tended to promote its use. The following excerpts from State records indicate the manner of reporting this method of diagnosis:

A worker aged 45 stepped on top of a sewing machine to reach for a box, and in stepping down her skirt caught and threw her to the floor. The right and left knee joints were sprained and hemorrhagic spots appeared over the surface of the back and limbs. An X ray taken the day after the accident showed "no evidence of bone change in femur, apparently an incomplete fracture of the articular

surface of the tibia without displacement." A second X ray two weeks after the accident showed no bone change. The healing period was four and three-sevenths weeks.

A worker aged 52 slipped on the floor and fell on her left arm. An X ray taken the day of the accident showed a Colles fracture, and a plaster cast was applied for one week, followed by manipulation for three weeks. An X ray taken at the end of the healing period showed "an unusually fine adjustment."

A 40-year-old woman slipped on a wet floor and fell on her right arm. An X ray taken the day of the injury showed a comminuted fracture of the radius and a fracture of the styloid process of the ulna. A second X ray taken after reduction showed bones in perfect position. The length of the healing period was six and four-sevenths weeks.

A 25-year-old saleswoman received a wrist fracture when the stool on which she had climbed to reach stock tipped and threw her to the floor. An X ray taken the day after the injury showed a fracture of the left radius about one-half inch above the wrist joint, with incomplete dislocation of the head of the radius and fracture of the styloid process of the ulna. The reduction was made under a fluoroscope, and an X ray taken three days after the injury showed the bones in very good position. The disability required a healing period of five and four-sevenths weeks.

Infection.

The need for immediate and competent attention to small injuries in order to prevent infection has been emphasized since the beginning of the organized safety movement. When an injury is complicated by infection, the healing period may be prolonged, permanent disability may result in cases which otherwise might have made a complete recovery, or the degree of impairment may be increased in permanent disability cases. The State records in Ohio included a question on the presence or absence of infection, which was seldom left unanswered, but in the other two States, though infection was mentioned when it was an important factor in the disability, when it was not mentioned its absence could not be assumed. The information given here, therefore, is an underestimate, since it is based only on cases in which there was a positive report. Over one-fifth of all cases reporting nature of injury were complicated by infection (Appendix Table XI). Three resulted fatally and 148—about 22 per cent—in permanent disability. Well over one-third of all the infections followed cuts or lacerations, and more than one-fifth followed punctures. Over three-fifths of the injuries caused by punctures, practically three-tenths of the cuts and lacerations, and over one-fourth of the cases of crush and burn were complicated by infection. Of the infected permanent disability cases, the final extent of disability was dismemberment in 45 per cent of the cases, impair-

ment in 37 per cent, and ankylosis in 14 per cent. There was a considerable number of cases in which the original injury was slight—consisting of injury by pin or needle pricks or splinters of wood, or pieces of straw, by scratches on metal, by slight knife cuts or cuts caused by thread—in which a subsequent infection resulted in serious consequences. In these cases, adequate first aid might have lessened disability. Excerpts from State records in 15 such cases follow:

A glove inspector, 45 years old and earning \$10 a week, while picking up a pile of gloves from a wooden table in the factory ran a splinter into her right middle finger. She did not stop work until the second day after the accident and did not consult a doctor until the sixth day. The right middle finger was infected when first seen. Periostitis and osteomyelitis developed. She lost $14\frac{5}{7}$ weeks. The permanent disability was loss of the middle finger to the metacarpal bone by surgical amputation. Medical aid amounted to \$104.90 and was paid. Compensation was \$291.57.

An 18-year-old worker was earning \$25 a week picking patches from skids in a tire-manufacturing plant, when a sliver pierced her right index finger. She reported to her own doctor the day after the accident, but did not report at the plant hospital until the fifth day. At that time the entire finger was infected. She lost four and one-seventh weeks. The finger was amputated at the proximal joint. Medical aid amounted to \$31.16 and was paid. Compensation was \$467.14.

A buttonhole operator, 19 years old, was earning \$18 a week when a piece of broken needle pierced her right thumb. She stopped work on the second day, and at that time she saw a doctor, who treated the finger and dismissed her as well on the sixth day. The day after that she continued to have trouble and visited a second doctor, who found "cellulitis and severe streptococcic infection of right hand and arm." She was sent immediately to a hospital, where she stayed two weeks. She received medical treatment for 10 weeks after her release from the hospital. She lost $43\frac{3}{7}$ weeks. The thumb was markedly deformed, completely ankylosed at the distal joint, and there was considerable atrophy of the tissue. The median nerve was injured but recovered. The final result amounted to total loss of use of the thumb. Medical aid amounted to \$168.75 and was paid. Compensation was \$1,229.14.

A 27-year-old saleswoman, earning \$12 a week, was injured by a piece of straw lodging in the end of a finger of the right hand. Infection set in, and the final result was loss of use of the hand at the wrist. The healing period required 56 weeks. Medical expenses amounted to \$64 and were paid. Her total compensation was \$1,640.

A saleswoman, 18 years old and earning \$10 a week, scratched her left index finger in opening a pasteboard box with tin corners in order

to remove goods therefrom. Infection set in. She did not stop work until the ninth day after the accident, and medical treatment began the eleventh day. Cellulitis involved the axillary glands, which became swollen and tender. The patient had a good deal of fever. She lost $15\frac{6}{7}$ weeks. The permanent disability was rated as complete stiffness of the index finger at the middle joint. Medical expenses amounted to \$63.36 and were paid. Her total compensation was \$254.73.

While a woman 60 years old and earning \$18 a week was sewing buttons on cards in a pearl-button factory, her right thumb was cut by the thread with which she was sewing. Infection set in and spread through the hand and arm. She lost 13 weeks and 6 days. The resulting permanent injury was rated as 25 per cent loss of use of the right hand at the wrist. Medical expenses were paid. Her total compensation was \$600.

A machine operator in a cigar factory was 19 years old and earning \$16 a week when her right thumb was pricked by a needle. Infection set in and she lost $8\frac{2}{3}$ weeks. The resulting permanent injury was rated as 5 per cent loss of use of the thumb. Medical expenses amounted to \$41 and were paid. Her total compensation was \$108.41.

A machine operator in a cigar factory was earning \$18 a week. While working on her machine her left index finger was pricked by a needle. Infection set in. She lost $4\frac{2}{3}$ weeks. The resulting permanent disability was rated as 10 per cent loss of use of the index finger. Medical expenses were paid. Her total compensation was \$80.

A trained nurse in a hospital was earning \$18.46 a week, when her right middle finger was scratched on the springs while making beds. Infection set in and eventually involved the whole hand. She lost $11\frac{1}{2}$ weeks. Permanent injury resulted to all four fingers and was rated as 15 per cent loss of use of the index finger, total loss of use of the middle finger, 15 per cent loss of use of the ring finger, and 10 per cent loss of use of the little finger. Medical expenses were paid. Her total compensation was \$597.

A 19-year-old topping-machine operator was earning \$15.75 in a factory making electrical supplies. As she was working on her machine, a steel sliver became embedded in her right index finger. She did not report for treatment until five days later. Infection set in, and she lost 4 weeks and 2 days. She was left with a permanent disability rated as 75 per cent loss of use of the index finger at the middle joint. Medical expenses were paid. Her total compensation was \$219.96. She was a minor and was compensated for the permanent disability on the basis of the wage she would be earning at the age of 21, which was set at the maximum of \$22.50 a week.

A 50-year-old forewoman was earning \$15 in the ring-rolling department of a factory making rubber novelties. While ring rolling a sliver of wood ran into the left middle finger. There was intense swelling and pain in the finger. She was taken to a hospital the same day. In 48 hours from the primary injury there was extensive cellulitis of the entire hand and forearm. The epitrochlear and axillary glands were enormously enlarged. Her temperature ran as high as 102.5°. The pain was very severe, requiring morphine frequently. The entire hand, forearm, elbow, and upper arm to the shoulder were swollen. It seemed doubtful if the arm could be saved. She had repeated severe chills and every evidence of severe septic infection. Vaccines were given as well as anodynes. There were four operations for drainage. Seventy-five days after the accident the middle finger was amputated at the proximal joint, the flexor tendon of the middle finger removed, and a palmar abscess evacuated. She was discharged from the hospital six days later. A month later the doctor reported, "Partial ankylosis of ring and little fingers at proximal joints, and weakness of hand and arm." The healing period was 21¹/₇ weeks. Medical expenses amounted to \$515.24 and were paid. The total compensation was \$506.66.

A twister in a woolen-yarn mill, 21 years old and earning \$23 a week, got a splinter in her left thumb while pushing bobbin boxes. She stopped work the day after the accident and consulted a doctor. A week later, severe infection having developed, she was sent to a hospital. The infection involved the thumb, index, and little fingers and the palm of the hand, and had also spread to the arm, with streaks running to the shoulder. Her temperature ranged from 100° to 103°. There was swelling above the wrist, and abscesses developed on the forearm and at the elbow. There was deep-seated infection of bone and tendon sheaths. Four operations were performed for through-and-through drainage. Following these, two X rays were taken of the hand, wrist, and forearm to see if there was any bone lesion keeping up the infection. The woman received hospital care for two months and further medical treatment for the following two months. The healing period was 48¹/₇ weeks. About 7¹/₂ months after the accident the doctor's report showed considerable contracture affecting thumb and all four fingers, atrophy of muscles in forearm, and thenar eminence abolished. After final examination the State medical division rated the permanent disability as total loss of left thumb and ring and little fingers, and two-thirds loss of left index and middle fingers by ankylosis. Medical expenses amounted to \$505.80 and were paid. The total compensation was \$2,367.14.

In the foregoing cases the primary injury was slight and the disability was largely due to subsequent infection. The following cases illustrate the influence of infection on more serious injuries.

An employee in a hotel laundry was 24 years old and earning \$10 a week. While feeding a flat-work ironer, her right hand was caught in the rolls. The palmar surface of the distal phalanges of the index, middle, ring, and little fingers of the right hand was lacerated, and she received second-degree steam burns of the entire hand. Severe infection set in with sloughing. After treatment for seven weeks, including removal of the slough, lancing, and drainage, she went to a hospital and the index and middle fingers were amputated at the middle joint. She was in the hospital four weeks and received medical treatment for three weeks after leaving the hospital. The healing period required $19\frac{2}{7}$ weeks. The final permanent disability was rated as loss of index and middle fingers at middle joint. Medical expenses amounted to \$152.50 and were paid. The total compensation was \$410.99.

An employee in a meat-packing plant, 39 years old and earning \$22.50 a week, was tying sausage casings when the string broke and her hand plunged onto the blade of a knife, causing a lacerated wound on the dorsum of the right hand between the index and middle metacarpals, the point of the blade entering in the region of the proximal joint. She consulted a doctor on the third day. At that time there was systemic infection as well as that present in the hand and arm. Her temperature was 104° , pulse 120; there were red streaks toward the axilla, and the glands were enlarged. The next day she was sent to a hospital, where she remained for five weeks. Incisions for drainage were made on three occasions. Two doctors treated the case throughout. The healing period was $12\frac{6}{7}$ weeks. She was left with slight stiffness of the middle and ring fingers. Medical expenses amounted to \$226.25 and were paid. The total compensation was \$177.86.

An 18-year-old machine operator was receiving \$11.50 a week for nailing wooden heels in a shoe factory. Her hand was caught in the machine while operating, and the left index finger was badly crushed. A wound extended from the distal joint on the inner side of the finger up into the palm of the hand. Medical treatment began at once. There was some sloughing, and a sudden and severe infection developed 23 days after the accident, accompanied by a severe chill and a temperature of 104° . An acute septic condition developed—streptococcal infection and cellulitis of the entire hand. Antistreptococcal serum was given twice, numerous openings were made, and the hand and fingers were drained. Treatment continued for two months. The healing period was $20\frac{1}{7}$ weeks. She was left with the index finger completely ankylosed in a partly flexed position and with atrophy of the musculature of the hand and arm and a marked reduction of power in the hand. Medical expenses amounted to \$205 and were paid. The total compensation was \$415.27.

TABLE 15.—*Nature of injury and whether or not medical treatment began with date of accident, cases complicated by infection compared to cases not so complicated (Ohio)*

Nature of injury	Cases reporting		Cases complicated by infection												Cases not complicated by infection											
			Total		Medical treatment at date of accident		Medical treatment later		Medical treatment date not reported		No medical treatment		Not reported whether medical treatment received		Total		Medical treatment at date of accident		Medical treatment later		Medical treatment date not reported		No medical treatment		Not reported whether medical treatment received	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All injuries.....	1,266	100.0	467	100.0	200	100.0	209	100.0	53	100.0	1	100.0	4	100.0	799	100.0	591	100.0	171	100.0	30	100.0	4	100.0	3	100.0
Bruise, contusion.....	112	8.8	42	9.0	12	6.0	24	11.5	5	9.4				1	25.0	70	8.8	40	6.8	25	14.6	4	13.3	1	25.0	
Burn, scald.....	47	3.7	18	3.9	8	4.0	7	3.3	3	5.7					29	3.6	21	3.6	6	3.5	1	3.3	1	25.0		
Crush and burn.....	16	1.3	7	1.5	6	3.0	1	.5							9	1.1	8	1.4	1	.6						
Crush.....	220	17.4	60	12.8	41	20.5	16	7.7	3	5.7					160	20.0	133	22.5	17	9.9	8	26.7	1	25.0	1	33.3
Concussion (other than dismemberment and loss of use)	41	3.2	2	.4	1	.5	1	.5							39	4.9	25	4.2	9	5.3	4	13.3	1	25.0		
Cut, laceration.....	300	23.7	154	33.0	65	32.5	65	31.1	23	43.4				1	25.0	146	18.3	127	21.5	14	8.2	4	13.3			
Puncture.....	113	8.9	98	21.0	22	11.0	69	33.0	6	11.3				1	25.0	15	1.9	12	2.0	3	1.8					
Amputation (traumatic)	90	7.1	20	4.3	18	9.0	2	1.0							70	8.8	66	11.2	2	1.2	2	6.7				
Dislocation.....	22	1.7													22	2.8	16	2.7	6	3.5						
Fracture.....	117	9.2	20	4.3	16	8.0	4	1.9							97	12.1	77	13.0	19	11.1					1	33.3
Sprain, strain.....	141	11.1	10	2.1	4	2.0	6	2.9							131	16.4	62	10.5	62	36.3	7	23.3				
Occupational disease.....	46	3.6	35	7.5	6	3.0	14	6.7	13	24.5	1	100.0	1	25.0	11	1.4	4	.7	7	4.1						
All other.....	1	.1	1	.2	1	.5																				

¹ Excludes 1 case for which nature of injury was not reported.

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MEDICAL AID

A correlation of the presence of infection and the date of the first medical treatment is possible with Ohio material, since in 1,171 cases of a total of 1,545 in that State date of medical treatment was reported. Of these, 791 reported treatment on the date of the accident and 380 on a later date. Fifty-five per cent of the cases reporting delayed medical treatment were complicated by infection, compared with 25 per cent of those reporting treatment on date of accident. Of the 467 infected injuries, nearly three-fifths (57.2 per cent) received no treatment on the date of the injury.

The fact that employees of foreign birth, not able to speak English, needed special training if they were to manage their work competently, was met during the war by the use of instructive motion pictures and in other ways. It is desirable to effect a similar understanding of the need for competent first aid which the foreign-born employee faces when she receives an injury. Such knowledge might be imparted by means of instruction by an interpreter or by signs in various languages and undoubtedly would have a good effect in reducing infection and its attendant dangers. On the Ohio records the question of nativity and ability to speak English was included, and the data are presented in Table 16.

TABLE 16.—General nativity and ability to speak English and whether or not medical treatment began with date of accident, cases complicated by infection compared to cases not so complicated (Ohio)

Nativity and ability to speak English	Cases reporting		Cases complicated by infection												Cases not complicated by infection											
			Total		Medical treatment at date of accident		Medical treatment later		Medical treatment date not reported		No medical treatment		Not reported whether medical treatment received		Total		Medical treatment at date of accident		Medical treatment later		Medical treatment date not reported		No medical treatment		Not reported whether medical treatment received	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All women.....	1,267	100.0	468	100.0	200	100.0	209	100.0	54	100.0	1	100.0	4	100.0	799	100.0	591	100.0	171	100.0	30	100.0	4	100.0	3	100.0
Speaks English.....	959	75.7	346	73.9	151	75.5	151	72.2	41	75.9	1	100.0	2	50.0	613	76.7	452	76.5	138	80.7	19	63.3	3	75.0	1	33.3
Speaks no English.....	35	2.8	17	3.6	5	2.5	7	3.3	5	9.3					18	2.3	13	2.2	2	1.2	3	10.0				
Not reported.....	273	21.5	105	22.4	44	22.0	51	24.4	8	14.8			2	50.0	168	21.0	126	21.3	31	18.1	8	26.7	1	25.0	2	66.7
Native born.....	826	65.2	301	64.3	133	66.5	138	66.0	27	50.0	1	100.0	2	50.0	525	65.7	390	66.0	119	69.6	15	50.0	1	25.0		
Speaks English.....	806		290		130		130		27		1		2		516		385		115		15		1			
Not reported.....	20		11		3		8								9		5		4							
Foreign born.....	161	12.7	66	14.1	23	11.5	26	12.4	17	31.5					95	11.9	67	11.3	20	11.7	6	20.0	2	50.0		
Speaks English.....	121		45		17		18		10						76		54		18		2		2			
Speaks no English.....	34		16		5		6		5						18		13		2		3					
Not reported.....	6		5		1		2		2						1						1					
Nativity not reported..	280	22.1	101	21.6	44	22.0	45	21.5	10	18.5			2	50.0	179	22.4	134	22.7	32	18.7	9	30.0	1	25.0	3	100.0
Speaks English.....	32		11		4		3		4						21		13		5		2				1	
Speaks no English.....	1		1				1																			
Not reported.....	247		89		40		41		6				2		158		121		27		7		1		2	

Infection was reported in 41 per cent of the cases among foreign-born women and in 36 per cent of the cases among women native born. Only 35 of the 994 giving information on the subject spoke no English. Seventeen of these 35 cases reported infection. Among the 959 who spoke English, infection was reported for 36 per cent.

REHABILITATION

As legislation providing for rehabilitation, including surgical treatment, vocational training, and placement, was very new in 1919 and 1920, it was not possible to evaluate the work being done in terms of its effectiveness to the women permanently disabled during the period studied.

Many enlargements and improvements are being made in the legislative and administrative plans for "rendering disabled persons fit for employment." In this section of the report which deals with legislation affecting women injured between July 1, 1919, and July 1, 1920, only a brief mention of the trend which these plans are taking is pertinent. New Jersey passed a rehabilitation law in 1919.¹⁸ A Federal act granting financial assistance to States electing to undertake vocational reeducation and providing for joint supervision by a Federal Board for Vocational Education and by the States was passed June 2, 1920.¹⁹ New Jersey, Wisconsin, and Ohio at once accepted the provisions of the act, legislating to that effect within the year following.²⁰ Proper medical and surgical treatment of injuries, prosthetic appliances, reeducation with provision for maintenance, and finally placement at work suited to the person's ability and strength are encouraged by the Federal board, although the Federal appropriations are available only for vocational reeducation.

FEDERAL ASSISTANCE IN THE THREE STATES

Figures showing the numbers of persons in the three States assisted by reason of the Federal act are available for the period July 1, 1922, to June 30, 1923.²¹ The following tabulation indicates that of the 8,841 cases of disability which were registered during the year, 1,057 were cases of disabled women:

State	Registration of cases during the year ended June 30, 1923								
	All cases	Sex		Age				Origin of disability	
		Male	Female	Under 21 years	21 and under 51 years	51 years and over	Age not reported	Industrial accident	Other
Total.....	8, 841	7, 784	1, 057	1, 369	5, 217	988	1, 267	6, 017	2, 824
New Jersey.....	6, 787	5, 972	815	868	3, 986	791	1, 142	5, 081	1, 706
Ohio.....	1, 107	951	156	292	619	107	89	530	577
Wisconsin.....	947	861	86	209	612	90	36	406	541

¹⁸ Acts of New Jersey, 1919, ch. 74.

¹⁹ Statutes at Large of the United States, v. 41, pt. 1, 1919-1921, pp. 735-737, ch. 219.

²⁰ Acts of New Jersey, 1920, ch. 359. Approved Sept. 17, 1920. Session laws of Wisconsin, 1921, ch. 534. Approved July 12, 1921. Laws of Ohio, 1921, v. 109, pp. 310-311. Approved May 14, 1921.

²¹ Statistical reports of the State boards to the Federal Board for Vocational Education for the year ended June 30, 1923.

In 6,017 cases industrial accident was the cause of the disability. These cases are not divided according to sex, but if women injured in industrial accidents constituted of the total number of employees so injured the same proportion which women constituted of the total number of registrants, it may be estimated that about 719 women injured by industrial accidents registered for rehabilitation in the three States during the fiscal year.

During the same 12 months a total of 1,686 cases were rehabilitated, according to the following tabulation:

State	Closure of registered cases for year ended June 30, 1923							
	All cases	Sex		Rehabilitated				Other closures
		Male	Female	All cases	By placement	After school training	After employment training	
Total	8, 288	7, 307	981	1, 686	1, 333	318	35	6, 602
New Jersey	6, 566	5, 762	804	929	888	33	8	5, 637
Ohio	977	852	125	556	293	254	9	421
Wisconsin	745	693	52	201	152	31	18	544

The rehabilitated cases are not divided according to sex nor by origin of disability, but if it is assumed that the proportions of men and women among the rehabilitated and of industrial disabilities and those originating otherwise are the same as among all cases, it may be estimated that about 135²² women disabled by industrial accidents were discharged as rehabilitated during the period included, by placement, after training in a vocational-education school, or after training while on the job. The figures of placement in New Jersey show placements made and not persons placed, so they are not entirely comparable with those of the other States.

Since provision for medical or surgical treatment is considered as one of the functions of a workmen's compensation board, cases in which persons applied for that treatment only and were then able to place themselves are listed under "other closures." That group also includes persons not eligible, not susceptible, or rejecting the service, and those who died.

STATE EFFORTS AND RESULTS

By the terms of the Federal rehabilitation act, the responsible administration agency in a State is the State board for vocational education. In Wisconsin, Ohio, and New Jersey this board is responsible for administrative procedure in rehabilitation in cooperation with the Federal Board for Vocational Education.

²² This figure is obtained as follows: The 981 disabled women registrants whose cases were closed formed 11.8 per cent of the total number of closed cases. The assumption that the women who were rehabilitated constituted the same proportion of the total number of rehabilitations gives 199 women. The 719 women in the first summary estimated as injured in industrial accidents constitute 68 per cent of the total number (1,057) of disabled women registered. If it is assumed that the same proportion holds good among the 199 rehabilitated women, 135 women of those rehabilitated had been injured in industrial accidents.

In Wisconsin and Ohio the State board for vocational education delegates the administrative responsibility to the director of vocational education. The program is managed in these two States by a State supervisor of rehabilitation responsible to the State director and for a staff of field agents engaged in case supervision.

In New Jersey the State board for vocational education has delegated the responsibility of the rehabilitation program to a rehabilitation commission created prior to passage of the Federal act to administer a program of physical rehabilitation. The New Jersey Rehabilitation Commission is an independent State department, but coordinated with the State department of labor by its acting director, who is the labor commissioner, and by the establishment of its physical restoration clinics in connection with the several offices of the State department of labor. The program in New Jersey is managed by a supervisor of rehabilitation responsible to the acting director of the rehabilitation commission and for a staff of vocational advisers engaged in case supervision.

The Ohio records gave some data on the industrial status of the injured person on her return to work after the accident. This information was not obtained in all cases, as a change had been made in the form of the State reports toward the end of the period studied. As a result the report indicated the situation at the end of the healing period but did not show subsequent work history, that is, how long the job was held and what was the wage trend of the 871 disabled women who were reported as having returned to work. A comparison in regard to age with the total number of injured women in Ohio is possible from data not published in this report. The proportion of women reporting return to work decreased from 73 per cent of those under 18 years of age and 61 per cent of those 18 and under 20, to 41 per cent of those 50 and under 60 years of age and 39 per cent of those 60 years and over.

Return to the preaccident work with no loss of wage was reported in the case of 89 per cent of the Ohio women who returned to work. As appears in Table 17, about 1 per cent returned to the same work at a lower wage and 6.9 per cent to different work at a lower wage. Women under 18 suffered no reduction in wage, but the number involved is small. From 20 to 50 years of age there is little variation from the average in respect to earnings on return to work. The groups 18 and under 20 years and 50 and under 60 years show higher per cents not completely adjusted than are true for the average.

TABLE 17.—*Wage after accident of injured who returned to work, by age (Ohio)*

Age of injured	Number of women reporting	Same work, same wage	Different work, same wage	Same work, lower wage	Different work, lower wage
All ages.....	871	777	25	9	60
Under 18 years.....	38	36	2	-----	-----
18 and under 20 years.....	183	159	6	2	16
20 and under 25 years.....	198	178	5	2	13
25 and under 30 years.....	107	98	3	-----	6
30 and under 40 years.....	147	131	3	3	10
40 and under 50 years.....	116	104	5	-----	7
50 and under 60 years.....	42	36	1	2	3
60 years and over.....	15	14	-----	-----	1
Not reported.....	25	21	-----	-----	4

The following Ohio cases are quoted to show the type of physical-rehabilitation service rendered, the records in that State indicating the medical or surgical rehabilitative treatment provided.

A woman of 21 was earning \$9.50 in a candle factory. When leaving work one day she stumbled and fell, the weight of her whole body being thrown onto her left shoulder, which became dislocated. The dislocation was reduced the day after the accident. The next day an X ray was taken, which showed no bone or joint injury. The doctor reported treatment as follows: "Dislocation caused traumatic neuritis; also a few adhesions about the joint have made the shoulder a little painful on motion. The treatment was immobilization the first week, passive motion after the first week, then active motion, also massage and application of electric current." She was disabled five and three-sevenths weeks. There was no permanent disability. Medical expenses amounted to \$32 and were paid. Her total compensation was \$28.03.

A hand assembler in a factory making machine parts was 30 years old and earning \$20 a week. A pointed three-cornered file ran through the left hand between the index and middle metacarpals, making exit along the proximal phalanx of the left thumb and gouging this bone. Medical treatment began on the day of the accident. Two weeks later an osteomyelitis developed in the bone of the proximal phalanx of the left thumb, and the whole hand and wrist became infected, necessitating a curettage of the bone. She was sent to a hospital, where she remained six weeks. After leaving the hospital she was given 26 massage treatments in a period of one month to regain motion. She was disabled 16⁵/₇ weeks. There was no permanent disability. Medical expenses amounted to \$175.75 and were paid. Her total compensation was \$209.47.

A telephone operator who was 22 years old was earning \$20 a week. Her heel caught on a step while descending to the basement of the office, and she was thrown headlong to the floor of the basement. There resulted fracture and dislocation of the nasal bone, a laceration

of the cartilage, abrasion over nose and upper lip and sprain of the right wrist. Beginning on the day of the accident, she received medical treatment for eight days. At that time there was a permanent partial obstruction of the right nasal orifice, as the cartilaginous septum of the nose was deflected to the right and in contact with the turbinated bones. Ten weeks later a submucous resection was performed on the deflected septum. She lost two and five-sevenths weeks. Medical expenses amounted to \$79.60 and were paid. Her total compensation was \$22.86.

A woman of 20, earning \$21.50 a week in a knitting mill, was injured while repairing her jersey-knitting machine. The power was not turned off so completely as she thought, and the right index finger was caught in a cogwheel. The finger was severely lacerated, and the flesh torn completely away from the bone. She received medical treatment for 17 days, beginning on the day of the accident. She returned to work after one and four-sevenths weeks. The finger was left bent and contracted from a scar on the palmar surface. Although she had returned to work, she had not been able to work efficiently on account of the deformity, and a plastic operation was advised about two months after the accident. An X ray was taken to determine whether the ankylosis was bony or fibrous. It was found to be fibrous. The attending doctor reported, "The deformity consisted of a right angle flexion contracture of the right index finger. The ankylosis was so firm as to arouse a suspicion that the joint had been involved (hence the X ray). The operation consisted in excision of the scar tissue on the palmar surface of the finger, and mobilization of the skin for relief of a flexion contracture." She was in the hospital six days for the operation. Later over a period of two months she received massage and manipulation in the orthopedic department of the hospital as an out-patient. Ten weeks after this treatment had ceased, she was sent by her employer to her surgeon for a final examination. He reported, "I find that the joints of the operated finger are all straight and motion is free and normal in extent and that she has been back to work at full wages with perfect functional result for a long time." Medical expenses amounted to \$157.90 and were paid, as was the compensation, amounting to only \$8.19.

A woman of 65, earning \$11 a week at stemming tobacco, slipped and fell, sustaining a Colles fracture of the left wrist. After the splints were removed she received treatment at the hospital to restore function. The healing period covered 12 weeks. Medical expenses amounted to \$35 and were paid. Her total compensation was \$202.54.

PART III

ADMINISTRATION

The subject of administration of compensation laws can not be included under the general heading of legislation, for, although certain administrative methods are provided for in the law, other regulations are drawn up by the commissions empowered by law to take such steps. The administrative methods in use in the three States are shown in Chart IX, which specifies the regulations covered by the laws.

Since in many cases claimants are inexperienced in legal matters and ignorant of their legal rights, administrative procedure must be so planned as to handle their claims promptly and equitably, if the ideas which prompted compensation legislation are to be carried out and the need, too often pressing, for immediate and adequate relief is to be met.

The idea that employees should be instructed to send in the first report of accident was established in Ohio. In regard to the reports themselves, from the present analysis there seemed to be a tendency to reduce the number of inquiries to those necessary to the administration of the law, to an understanding of a need for change in legislation, and to the work of prevention. The procedure in connection with the office supervision of undisputed claims, with the adjudication of death and permanent disability claims, and with the settlement of disputed claims was fairly uniform. The chief difference in the legal procedure in the three States appeared in the proportion of permanent disability cases heard by a member or members of the compensation commission or board. The plan in practice in New York State, where each person who has received a permanent disability as a result of industrial accident appears in person before the commission or a representative of the commission, in order that the extent of impairment may be properly adjudicated, was not followed in any of the three States included in this study. In Ohio, although the per cent of permanent disability cases in which there was an oral hearing before the commission was found to be low as compared with that in Wisconsin, medical representatives of the commission examined a considerable number of claimants, thus providing the commission with an unbiased report of the impairment. The compilation of statistics had not been developed to any extent except in Wisconsin. In that State the statistical division was well equipped to tabulate the facts in such a way as to permit analysis of the work of the administrative staff, careful study of possible legislative changes, and promotion of prevention by an expert inquiry into the cause of accident.

CHART IX.—ADMINISTRATION

NEW JERSEY	OHIO	WISCONSIN
A. REPORTS 1. TYPE OF REPORT		
<p>First report of accident sent to commission by employer or insurance company. Agreement as to rate of compensation and payment of medical aid, signed by employer or insurer and by employee, accompanies first report. Agreement as to extent of disability and total compensation is signed by employer or insurer and employee.</p>	<p>State-fund employer: First report of injury sent to commission by injured workman, containing first statement of physician, signed by employer. If employer refuses to sign, statements must be sworn to. Supplemental reports including physician's supplemental report in cases in which disability is greater than shown in first report (total disability longer or permanent partial greater, or shown for first time or exist), submitted to commission. Self-insured employer: First report of injury is signed by employer and employee and contains physician's report. In all cases of temporary total disability exceeding one month's duration a monthly report is submitted. In cases of permanent disability an agreement as to compensation to be paid for such disability is signed by employer and employee. In all cases a final report of all compensation paid, signed by employee and employer.</p>	<p>First report sent to commission by employer. Supplemental reports showing compensation and medical benefits paid by insurer or self-insured employer, submitted to commission. Physician's report in all cases of permanent disability, occupational disease, and temporary disability lasting more than three weeks, submitted. Final report when final payment has been made, accompanied by final receipt signed by injured employee, submitted.</p>
2. TIME OF FILING FIRST REPORT		
<p>First report required within 4 weeks.</p>	<p>First report required within 2 weeks.</p>	<p>First report required within first 5 days of each month.</p>
3. PENALTIES FOR FAILURE TO REPORT		
<p>Fifty dollars. All disputed cases must be assigned for a hearing and the compensation bureau has the authority to assess the court charges and fee of the legal adviser against the delinquent employer. <i>Acts of New Jersey, 1918, ch. 149, sec. 17.</i></p>	<p>None.</p>	<p>None.</p>

B. STAFF

<p>Workmen's compensation bureau composed of the commissioner of labor, who shall act as chairman and receive \$1,500 for this work, and 3 deputy commissioners (one of whom shall be secretary), such referees, and other employees as may, in the judgment of the commissioner, be necessary. Deputy commissioners, referees, and other employees appointed by the commissioner.</p> <p><i>Acts of New Jersey, 1918, ch. 149, sec. 1, 2.</i></p>	<p>Industrial commission composed of 3 members appointed by the governor with the advice and consent of the senate for a term of six years. Not more than one shall, because of previous vocation, employment, or affiliation, be classed as a representative of employers and not more than one as a representative of employees. Not more than two shall belong to the same political party. Salary of commissioners, \$5,000.</p> <p><i>General code of Ohio, Page's compact edition, 1920, sec. 871-1, 871-4.</i></p> <p>The commission may employ, subject to approval of the governor and to the civil service laws, a secretary, actuaries, accountants, inspectors, examiners, experts, clerks, physicians, stenographers, and other assistants and fix their compensation. <i>Ibid.</i>, sec. 1465-43.</p> <p>Medical department consists of chief medical adviser and 7 assistant doctors.</p>	<p>Industrial commission of 3 appointed by the governor with the consent of the senate. Salary of commissioners \$5,000.</p> <p>The commission appoints its own employees subject to civil service laws (deputies, inspectors, clerks, stenographers, etc.).</p> <p><i>Wisconsin statutes, 1919, sec. 2394-12; 2394-14; 20, 57.</i></p>
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C. PROCEDURE IN SETTLING CLAIMS

1. UNDISPUTED CLAIMS

<p>Agreements examined and approved. Discrepancies or incomplete reports checked by correspondence.</p>	<p>State fund: Reports examined, completed by correspondence if necessary. Checked by medical department. Payments made for period stated by medical department. Supplementary reports showing further disability passed on in the same way. Incomplete cases gone over once a month.</p> <p>Self-insured employer: Reports examined and approved. Discrepancies or incomplete reports checked by correspondence. Incomplete cases examined every three months.</p>	<p>Agreements examined and approved. Agreement filed by insurer checked with employer's first report. Discrepancies or incomplete reports checked by correspondence.</p> <p>Fatal and permanent disability cases sent to the secretary and manager of claims department.</p>
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2. DISPUTED CLAIMS

<p>Settled by department, deputy commissioner, or referee. Appeal to court of common pleas. Also, appeal to supreme court on questions of law. Either party may refer to department or appeal to court.</p> <p><i>Acts of New Jersey, 1918, ch. 149, sec. 19; First supplement compiled statutes of New Jersey, 1911-1915, Sec. II, 20, p. 1648.</i></p>	<p>Settled by commission after hearing. Either party may file application with commission for a hearing and appeal to courts in certain prescribed cases.</p> <p><i>General code of Ohio, Page's compact edition, 1920, sec. 1465-80.</i></p>	<p>Settled by commission after hearing. Appeal to courts.</p> <p><i>Wisconsin statutes, 1919, sec. 2394-16; 2394-18.</i></p> <p>Either party may refer to commission or appeal to courts.</p>
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CHART IX.—ADMINISTRATION—Continued

NEW JERSEY	OHIO	WISCONSIN
C. PROCEDURE IN SETTLING CLAIMS—Continued		
3. PENALTIES ATTACHED TO REFUSAL OR FAILURE TO MAKE PAYMENTS ORDERED		
<p>Upon failure to comply with the original order for compensation the court may order that the entire amount of compensation shall become due immediately, without discount or commutation.</p> <p><i>First supplement, compiled statutes of New Jersey, 1911-1915, Sec. II, 22a p. 1651.</i></p>	<p>Commission shall have the power to add 50 per cent of award after 10 days.</p> <p><i>General code of Ohio, Page's compact edition, 1920, sec. 1455-74.</i></p>	<p>Commission shall have the power to add amounts not to exceed 25 per cent of award.</p> <p><i>Wisconsin statutes, 1919, sec. 2394-17.</i></p>
4. PENALTIES ATTACHED TO DELAY		
<p>Whenever lawful compensation shall have been withheld for a term of three months or more simple interest on each weekly payment at 5 per cent per annum, for the period of delay of each payment, may, at the discretion of the bureau, be added to the amount due at the time of settlement.</p> <p><i>Acts of New Jersey, 1919, ch. 93, sec. 21 (g).</i></p>	<p>No provision.</p>	<p>If the sum awarded by the commission shall not be paid when due, such sum shall bear interest at 6 per cent. When employer or his insurer is guilty of inexcusable delay in making compensation payments, such payments shall be increased by 10 per cent.</p> <p><i>Wisconsin statutes, 1919, sec. 2394-18 m.</i></p>
STATISTICAL WORK		
<p>No regular statistical department. Statistics compiled by officer who receives first report of accidents.</p>	<p>No regular statistical department. Statistics compiled by actuarial department of State fund.</p>	<p>Statistician with a salary of \$3,000 at head of full-time statistical department of State fund.</p>

DETERMINATION OF EXTENT OF PERMANENT DISABILITY

The following excerpts from State records illustrate certain points in administrative procedure.

A worker in Ohio, 35 years old, was a punch-press operator in a factory making electrical supplies. While she was operating the press her hand was caught, the left middle finger being lacerated and the profundus tendon and nerve injured. She received medical treatment over a period of three weeks and was compensated for the healing period, but as neither ankylosis nor wage loss was reported no further compensation was paid. Then, seven months after the accident, a representative of the commission reported, "The claimant has a stiff finger, which handicaps her in her work." Two months later the State medical division made an examination and reported: "There was evidence of a divided tendon, which had not been united. Laceration occurred at the middle joint, and it is doubtful if a corrective operation to unite the tendon would be successful. The finger is not ankylosed, but claimant is unable voluntarily to flex the middle and distal phalanges." Compensation amounting to \$250.71 was allowed for loss of two-thirds of the left middle finger. Medical expenses were \$14.

A worker in a glass factory in Ohio, 29 years old and earning \$11.25 a week, broke a lantern globe while grinding it and her right hand was lacerated from the center of the palm to the proximal joint of the little finger. Tendons and arteries were severed. She received medical treatment over a period of 40 days, but at the end of that time there was considerable stiffness of the little finger. The healing period was compensated, but as neither ankylosis nor wage loss was reported no further compensation was paid. Two years later the woman wrote the commission to see if she could get anything for her disabled finger. An examination was made by the State medical division, which reported: "An irregular scar in the palm of the right hand over the head of the little metacarpal. There is contracture of the little finger which prevents extension of the digit. The finger is in the way and interferes with the function of the hand." Compensation of \$154.29 allowed covered total loss of use of the little finger. Medical expenses amounted to \$29.50.

An Ohio woman was learning to operate a folding machine in an envelope factory and earning \$12 a week. While she was changing the material in her machine, another employee turned on the power and the compression block came down on her left hand. The middle finger was badly lacerated and fractured, and the ring finger was crushed. Following the accident she received medical treatment for a period of $10\frac{3}{7}$ weeks. The attending doctor reported shortening and stiffening of the ring finger at the middle joint, due to the removal of crushed bone. As there was not complete ankylosis of either finger, compensation was allowed for the healing period only.

After she had worked for a time, however, infection developed and she had to stop work and secure further medical treatment. Amputation of the ring finger at the proximal joint finally was necessary. Two months after her discharge from treatment an examination was made by the State medical department, which showed amputation of the ring finger at the proximal joint and loss of use of the little finger at the middle joint by ankylosis. Medical expenses came to \$69 and were paid. The compensation allowed was \$366.85.

In Wisconsin a punch-press operator in a factory making automobile accessories was 21 years old and earning \$10.56 a week. Her left index finger was caught under the die and smashed. The insurance company tried to induce her to sign a final release from payment of further compensation after she had been compensated for a healing period of 10 weeks and 1 day, thus recognizing no permanent disability. She applied to the commission for a hearing, stating that she could not work, as the finger was always in the way and ached constantly. At the hearing it was determined that an operation might reduce the disability. This operation was performed but was unsuccessful. At a second hearing the permanent disability was rated as 12½ per cent loss of use of the index finger at the proximal joint. Regarding the cause of the accident, an inspector from the safety department reported, "Punching split washers three-eighths inch in diameter, using scrap stock. Die on tool not guarded." A penalty of 15 per cent of the compensation due was levied against the employer for this violation of a safety order. Medical expenses came to \$47 and were paid, and the compensation, including the 15 per cent penalty, amounted to \$159.09.

ADJUSTMENT OF CLAIM

An assembler in an Ohio factory making automobile parts, 17 years old and earning \$13.25 a week, struck her right thumb against a wire, receiving a puncture wound. She was compensated for the healing period. Eight months after the accident the company doctor reported: "Her complaint at present is because of the pain in the tip of the thumb and the unsightliness of the injured member. Inspection shows clubbing of the end of the right thumb, and a healed scar on the end of the thumb just below the center of the nail. There is a dimpling of this scar. On palpation the soft parts are not indurated, but on deep palpation one can feel a thickening which is, in all probability, a bony thickening of the distal phalanx. There is normal motion of the distal and proximal joints. The scarring over the tip is in all probability tender when bumped. She will always have a clubbing of the distal portion, but we feel some of this will disappear. Functionally it is our opinion that the thumb will be a 100 per cent result when the scarred portion at the tip becomes hardened." After this examination it was agreed to wait five months longer before any action was taken. At the end of five

months the company doctor reported: "The claimant realizes the thumb is in very good condition, but apparently feels she should have some compensation for the trouble she has undergone as well as for the appearance of the thumb as it is to-day and probably always will be." The claimant made application for adjustment of claim, stating: "The end of the right thumb was amputated due to injury, but the employer refuses to pay for the loss of the thumb * * * The amputation left a bad scar. A new nail has grown out which has rounded over the end of the thumb and makes it sensitive to touch; sewing or other work in which the thumb is needed is almost impossible. It is not only unsightly, causing claimant great embarrassment, a minor consideration, but is amputated to a degree that makes the thumb shorter, causing one-half loss of the phalanx. Wherefore the claimant prays that under the statute she be awarded for the loss of one-half of said thumb." The State medical division made an examination and reported: "Great asymmetry of the distal phalanx of the right thumb due to deformity of pulp and nail. The joints are O. K., the functional value slightly reduced. However, in ordinary work there would not result any particular loss in industrial value, but claimant holds that needlework, in which she indulges very much, is seriously and materially impaired." Following this the State legal division stated: "The claimant says the finger is ugly, and it is difficult to do needlework. * * * There is no compensable permanent partial disability, as under the present act there is no way in which disfigurement can be compensated." The conclusion of the commission was that "claimant has been fully compensated for the period of temporary total disability resulting from the injury and has not sustained a permanent partial disability as contemplated by the law." Medical expenses amounted to \$42 and were paid. Total compensation was \$44.15.

ADJUSTMENT OF CASES INVOLVING WAGE LOSS

A worker in an Ohio shoe factory, 39 years old and earning \$16.50, while going out to lunch from the factory tripped on the stairs and fell flat, throwing out her right arm to save her glasses. There was a contused and lacerated wound of the right hand, the hand being badly swollen. An X ray showed that there was no bone injury. She lost two and two-thirds weeks from work and was compensated for this healing period. Eighteen days after her return to work she made application for a modification of the award. The scissors which she used at work rubbed the palm of her hand and reopened the sore, a condition which made it impossible for her to earn as much as she formerly had earned. Medical expenses came to \$25 and were allowed. Compensation was paid for four weeks of temporary partial disability in addition to the healing period, and amounted in all to \$31.61.

In Ohio a 20-year-old worker was employed in the starch room of a laundry at \$11 a week. The workroom floor near the starch tank was slippery with starch, and while carrying a bucket of starch to the tank she slipped and fell, throwing hot starch on her arm. The right arm was severely burned (third degree). She received medical treatment for a period of 25 days. An examination by the State medical division four months after the accident revealed a dense fibrous irregular scar. The rotation and flexion of the arm were not impaired, although the extension was limited. It was thought that the greatest improvement would come from exercise and from a softening of the scar. The claimant was doing her own housework, but if her arm had been entirely well would have returned to her former occupation. At a second examination, a month later, it was decided that the scar should be removed. This scar was on the flexor surface of the elbow joint and limited the extension of the arm. She went to a hospital, the scar was removed, and skin grafting and X-ray treatment were used. The treatment was successful, and at a final examination it was found that there was no disability remaining. She was compensated for a healing period of $20\frac{2}{7}$ weeks. This covered the first healing period, the time spent in the hospital, and the necessary healing period which followed the operations. In addition compensation was paid for temporary partial disability for 23 weeks, which covered the time between the two healing periods. During these 23 weeks she was able to do her own housework, and since this would have cost her \$1.50 a day it was considered that she was earning the equivalent of \$9 a week, making a wage loss of \$2 a week. Medical expenses amounted to \$122.50 and were paid. Her total compensation was \$179.28.

PAYMENT OF PENALTY

A spinner in a woolen mill in Wisconsin was 19 years old and earning \$17.33 a week. An inspector from the State safety department made the following report on her accident: "Operating spinning machine, and while reaching for broken end of roving slipped and caught right index finger between gears which drive the roller bar. If the facts in this case are as indicated it seems to me that this accident occurred because of the failure of the employer to comply with the order of the industrial commission that all gears shall be covered." The finger was badly crushed and later surgically amputated at the middle joint. The employer objected to the paying of a penalty, contending that "100 per cent fulfillment of this order was humanly impossible and would prevent use and operation of the machine." At a hearing it was decided that the penalty was due, and it was ordered paid. As the girl was a minor, the question of wage also was discussed at the hearing, and it was decided that no increase in her compensation rate should be made on the basis of her prospective wage at 21 years.

PART IV

PREVENTION

The development of proper legislative and administrative procedure has been of continued interest to employers, employees, State compensation commissions, and other interested groups, because, in spite of intensive safety campaigns, accidents continue to occur, their frequency and severity being predictable by expert insurance men. Along with this development, the effort to reduce the number of accidents to as near zero as possible has continued as an essential feature of the program. A discussion of the causes of accident, a comparison between the number of women injured in the various industries and the number of women employed, an analysis of the age element in causation, and an investigation of the work of the State organization in the interest of safety are necessary steps in a consideration of industrial accidents from the point of view of prevention.

CAUSE OF ACCIDENT

IN RELATION TO NATURE OF INJURY

In presenting a general picture of the ways in which women are being injured, it is of interest to show the nature of the injury according to the cause of the accident. Machinery, which was the cause in 46.4 per cent of the cases, was responsible for 60.6 per cent of the cuts and lacerations, for 26.3 per cent of the bruises and contusions, for 85.3 per cent of the crushing injuries, for 10.6 per cent of the sprains and strains, for 95.6 per cent of the amputations, and for 37.8 per cent of the punctures. (Appendix Table XII.) Metal-working machinery, which caused 40.3 per cent of the machine accidents, caused over one-half of the total traumatic amputations and almost one-fourth of the cuts and lacerations. Textile machinery, second in the machine group in responsibility for accidents, was an important factor in injuries in the nature of cuts, lacerations, and punctures; and paper machinery, which was third, gave rise to accidents resulting largely in crushing injuries. Falls of persons were numerically second in seriousness to machine accidents, causing 20.8 per cent of the cases. Besides being the most frequent cause of dislocations and concussions, they were responsible for 61.7 per cent of the sprains and strains, for 61.5 per cent of the fractures, and for 37.6 per cent of the bruises and contusions. The handling of objects, the third large cause of accidents, 15 per cent of the total number being incurred in this way, caused 37.8 per cent of the punctures, 21.9 per cent of the sprains and strains, and 21 per cent of the cuts and lacerations.

TABLE 18.—Location of injury, by cause of accident

Location of injury	Cause of accident														
	All causes	Hand tools	Handling of objects	Falling objects	Stepping on or striking against objects	Falls of persons	Explosions, electricity, and hot substances	Vehicles	Poisonous and corrosive substances and occupational diseases	Machinery					Miscellaneous causes
										Total	Elevators	Power-transmission apparatus	Power-working machines	Other	
All injuries.....	1 3, 268	114	489	66	136	686	117	37	93	1, 516	25	79	1, 382	30	14
Head.....	136	9	13	9	12	17	12	3	9	46	3	8	35		6
Eyes.....	61	7	6	1	8		7		8	19			19		5
Ears.....	5	1				1		1	1	1			1		
Skull.....	10		2		3	3				2	2				
Teeth.....	5			1	1			2		1			1		
Head not otherwise classified.....	55	1	5	7		13	5			23	1	8	14		1
Trunk.....	410	5	65	22	15	203	31	11	17	36	10	4	17	5	5
Central nervous system.....	76	1	5	11	2	34	3	1		18	6	3	6	3	1
Back.....	120		22	5	1	79	2	4		6	1		3	2	1
Ribs.....	34		3	1	4	25									1
Thorax (external).....	16		1	2	2	5	3			3		1	2		
Thorax (internal).....	9				1	6				2	2				
Abdomen (external).....	13	3	7			1		1		1			1		
Abdomen (internal).....	12				1	6				2			2		1
Hernia.....	11		8			2				1			1		
Trunk not otherwise classified.....	119	1	17	3	4	45	23	5	17	3	1		2		1
Upper extremities.....	2, 229	95	349	10	58	209	43	12	63	1, 389	1	59	1, 309	20	1
Scapula.....	2					2									
Clavicle.....	7							1							
Shoulder joint.....	47		8	1		32		1	1	3		1	2		1
Upper arm.....	18		2			9	5			2			2		
Elbow joint.....	33				4	22		2	1	4			4		
Forearm.....	70	4	12	3	7	13	9	1	2	19	1	3	13	2	
Wrist joint.....	177	6	26	1	4	96	1	3	2	38		5	33		
Arm not otherwise classified.....	50		4	1	5	13	4	3	6	14			14		

Palm.....	216	12	51	2	12	7	17	-----	16	99	-----	9	88	2	-----
Thumb.....	272	25	67	1	6	1	1	-----	11	160	-----	5	150	5	-----
One finger.....	1,011	35	135	1	14	7	4	1	20	794	-----	28	759	7	-----
Two or more fingers.....	326	13	44	-----	6	1	2	-----	4	256	-----	8	244	4	-----
Lower extremities.....	493	5	62	25	51	257	31	11	4	45	11	8	21	5	2
Hip joint.....	27	-----	1	-----	-----	22	1	-----	-----	3	2	-----	1	-----	-----
Upper leg.....	16	2	1	1	-----	7	1	1	2	1	-----	-----	1	-----	-----
Knee joint.....	91	-----	10	2	12	62	1	3	-----	1	-----	-----	1	-----	-----
Lower leg.....	56	1	5	1	7	28	7	-----	-----	7	-----	3	4	-----	-----
Ankle joint.....	136	-----	6	1	5	114	-----	3	-----	7	2	2	2	1	-----
Leg not otherwise classified.....	33	-----	3	-----	1	15	8	3	-----	3	-----	-----	1	-----	-----
Foot.....	90	2	20	11	21	8	13	-----	2	13	5	-----	6	2	-----
Toe or toes.....	44	-----	16	9	5	1	-----	1	-----	10	2	3	5	-----	2

¹ Excludes 17 cases not reporting cause of accident.

IN RELATION TO LOCATION OF INJURY

Of equal interest with the correlation of nature of injury and cause of accident is the analysis of the location of injury according to cause.

Table 18 reveals, as might be expected, that the injuries most frequently involved the hands and arms, the most important members in performing manual work. In fact, 68.2 per cent of all injuries involved the upper extremities, 55.8 per cent of all injuries involved the hand below the wrist, and 39.3 per cent involved the thumb or one finger. The shoulder, elbow, or wrist was affected in 8 per cent of the cases. Without information as to the number of women exposed to various causes of accident it is not possible to arrive at an exact frequency rate showing the responsibility of power-working machinery for finger accidents, of falls of persons for wrist, hip, and knee accidents, etc. There is significance, however, in examining the location according to individual causes as it varies from the location in the case of all injuries. Power-working machinery, responsible for 1,382, or about 40 per cent of all injuries, caused 58.7 per cent of those involving the upper extremities and 71.7 per cent of those involving the thumb or fingers. Hand tools, responsible for 114 injuries in all, only 3.5 per cent of the total, were responsible for 11.5 per cent of the eye injuries. Falls of persons, responsible for 686 accidents, or 21 per cent of all injuries, caused 49.5 per cent of the trunk injuries, 58.3 per cent of the injuries to shoulder, elbow, and wrist, and 78 per cent of the injuries to the hip, knee, and ankle.

IN RELATION TO SEVERITY

Extent of disability.

If it were feasible to correlate cause of accident and extent of disability in terms of numbers exposed to certain hazards, the resulting severity rates would be exceedingly valuable. It is not possible to make such computation, but certain conclusions may be drawn as to the relative importance of various causes. Table 19 on page 110 shows that machine accidents made up 46.4 per cent of the total number of injuries, but they caused 74.1 per cent of the permanent disability cases, and metal-working machinery, responsible for 18.7 per cent of the total number of accidents, caused 38.3 per cent of the permanent disability cases. Falls of persons resulted in only 9.8 per cent of the injuries which were permanent in extent, but about one-fourth of the impairment cases were caused by falls. The handling of objects, responsible for 7.5 per cent of the permanent cases, caused 9.8 per cent of the impairment cases and 13 per cent of those resulting in ankylosis.

Elevator accidents.—Elevator accidents, though few in number, are apt to be serious in their results. Of the 25 injuries ascribed to that cause, 8 resulted in permanent disability. The following classification shows the cause of these accidents in detail.

Cause of elevator accident	All cases	Fatal cases	Permanent disability cases				Temporary disability cases
			Total	Resulting in impairment of		Affecting the central nervous system	
				Hip	Ankle		
All elevator accidents.....	25	2	8	2	2	4	15
Caught between floor and car.....	11	1	3	1	2		7
Caught by gate.....	7		3			3	4
Fall of person into shaft.....	1						1
Fall of elevator.....	1						1
Fall of person in leaving elevator.....	2		1	1			1
Dumb-waiters.....	3	1	1			1	1

The two fatal injuries have been described fully in the section on fatal cases. One of them was caused when the injured person was caught between the floor and the platform of a passenger elevator and her chest crushed. The other occurred on a dummy elevator, from which the woman was removing goods when it was suddenly jerked upward, lifting her from the floor and causing severe strain of her back and shoulder and affecting her heart.

Of the accidents resulting in permanent impairment at the hip joint, in one case the woman fell when stepping from the elevator, and her legs were bruised and her hip was injured. In the second, the woman was caught by the elevator at the first floor and dragged to the third, seriously injuring one leg. There were two permanent disability injuries involving the ankle. In one of these the foot of the injured woman was caught between the floor and the car and mashed and torn. In the other, the woman was stepping from the elevator when it was run up, catching her foot between the floor of the car and the wall; her back and right leg were lacerated and her right ankle was seriously injured. There were four cases resulting in permanent injury to the central nervous system. In one the injured woman was going through the hall when the rope of a dummy elevator broke, causing the dummy to fall, striking her on the head. In the second the woman was riding on a freight elevator. The elevator gate was not securely fastened, and the iron gate caught on the fire doors and was thrown open, striking the woman forcibly in the lumbar and sacral regions of the spine. In the third the woman was standing waiting for an elevator and was struck violently on the head by the elevator door, which opened outward as it reached her floor. In the fourth the woman was leaving a freight elevator and the gate fell, striking her a severe blow on the head.

TABLE 19.—Extent of disability, by cause of accident

Cause of accident	All women		Fatal cases		Permanent disability cases								Temporary disability cases	
	Number	Per cent	Number	Per cent	All classes		Dis- mem- ber- ment	Anky- losis	Impair- ment	Disfig- ure- ment	Central nervous system	Other	Number	Per cent
					Number	Per cent								
All causes.....	13,268	100.0	15	100.0	799	100.0	402	54	276	13	31	23	2,454	100.0
Hand tools.....	114	3.5			17	2.1	10	1	5			1	97	4.0
In hands of injured worker.....	104				17	2.1	10	1	5			1	87	3.5
In hands of fellow worker.....	10												10	.4
Handling of objects.....	489	15.0	2	13.3	60	7.5	18	7	27		4	4	427	17.4
Heavy objects.....	199		1	6.7	24	3.0	7		13				174	7.1
Sharp or rough objects.....	260		1	6.7	34	4.3	10	7	14		3	1	225	9.2
Hand trucks, wheelbarrows.....	30				2	.3	1				1	3	28	1.1
Falling objects.....	66	2.0			12	1.5				1	5	2	54	2.2
From elevations.....	54				11	1.4			3				43	1.8
Other.....	12				1	.1			1	1	5	2	11	.4
Stepping on or striking against objects.....	136	4.2			10	1.3	1		7			2	126	5.1
Stepping on objects.....	22											2	22	.9
Striking against objects.....	114				10	1.3	1		7				104	4.2
Falls of persons.....	686	21.0	2	13.3	78	9.8	1	1	67		9		606	24.7
From elevations.....	293		1	6.7	32	4.0	1		24		7		260	10.6
On level.....	368				43	5.4		1	40		2		325	13.2
Into excavations.....	25		1	6.7	3	.4			3				21	.9
Explosions, electricity, and hot substances.....	117	3.6	6	40.0	9	1.1		1	3		3	2	102	4.2
Explosions.....	26		5	33.3	4	.5			2		2		17	.7
Electricity.....	4				2	.3						2	2	.1
Hot substances.....	87		1	6.7	3	.4		1	1		1		83	3.4

Vehicles.....	37	1.1			5	.6			2		1	2	32	1.3
Steam and electric railways.....	14				1	.1					1		13	.5
Auto and other power.....	19				4	.5			2			2	15	.6
Other.....	4												4	.2
Poisonous and corrosive substances and occupational diseases.....	93	2.8	1	6.7	14	1.8	3	1	9			1	78	3.2
Machinery.....	1,516	46.4	3	20.0	592	74.1	369	43	152	12	8	8	921	37.5
Elevators.....	25		2	13.3	8	1.0			4		4		15	.6
Power-transmission apparatus.....	79		1	6.7	26	3.3	6	3	11	4	2		52	2.1
Power-working machines.....	1,382	42.3			548	68.6	359	38	134	8	1	8	834	34.0
Chemical products.....	5				3	.4	3						2	.1
Clay and glass.....	32				15	1.9	9	1	5				17	.7
Food products.....	96				41	5.1	27	5	8		1		55	2.2
Laundry.....	58				24	3.0	8	6	10				34	1.4
Leather-working.....	63				20	2.5	16	2	2				43	1.8
Metal-working.....	610				306	38.3	220	13	60	7		6	304	12.4
Paper.....	109				41	5.1	32		8	1			68	2.8
Printing and bookbinding.....	63				16	2.0	5	2	9				47	1.9
Rubber, celluloid, and composition.....	36				9	1.1	5	1	3				27	1.1
Textile.....	249				52	6.5	24	5	21		1	1	197	8.0
Wood-working.....	59				21	2.6	10	3	8				38	1.5
Miscellaneous.....	2												2	.1
Machines other than power-working.....	3				1	.1			1				2	.1
Conveyers.....	25				9	1.1	4	2	2		1		16	.7
Prime movers.....	2												2	.1
Miscellaneous causes.....	14	.4	1	6.7	2	.3					1	1	11	.4

1 Excludes 17 cases not reporting cause of accident.

Operators are not the only persons exposed to the hazards of improperly constructed elevators. In fact, only 5 of the 25 injured women were employed in that capacity. The remaining 20 women were 8 factory workers, 3 employees in alteration rooms in department stores, 2 chambermaids in a hotel, 2 charwomen, 1 janitress, 1 waitress, 1 linen-room assistant, 1 stock clerk in a store, and 1 saleswoman.

Conveyors.—Accidents on conveyors also were serious in result, though few in number. There were 25 such accidents in all, three-fifths of them occurring in food factories. Three were caused by objects falling from overhead conveyors, and 22 by direct contact with the conveyor, the latter those resulting from the catching of the thumb, finger, hand, or clothing in the moving part of the machine. Nine of the injuries resulted in permanent disability. In one of these cases the central nervous system was involved, and in eight the thumb or fingers. One woman was scraping corn into a worm conveyor with a paddle. The paddle slipped from her hand, and when she reached for it the right middle finger was caught in the conveyor and smashed off at the distal joint. Another worker, while taking catsup bottles off the conveyor, caught her left hand in the conveyor belt, lacerating it severely and fracturing bones, so that it was necessary to have the ring finger amputated at the proximal joint and the index finger at the distal joint. A third woman, while inspecting soup cans on the filling machine, dropped a sponger on the can worm and jammed her thumb, crushing off about one-half of the distal phalanx. In a fourth case, while the woman was attempting to pull patches off a belt conveyor, her left thumb, fingers, wrist, and forearm were caught under the belt and severely crushed. A fifth worker was cleaning a husking machine, and her right hand was caught in the chain that drags husks under the machine. The index and middle fingers were mashed off to the middle joint, and the ring and little fingers severely lacerated. And in a sixth case, an operator on a bottle washer and soaker conveyor, in putting bottles into the soaker, caught her ring finger and amputated the distal phalanx when the "compartment came up too quickly."

Degree of impairment—Lost time.

The foregoing descriptions of extent of injury in terms of cause give a rather general impression of the severity of accidents to women. A further correlation of cause of accident with location of disability and degree of impairment of member in permanent disability cases, and of time lost in temporary cases, gives the details necessary for a more accurate estimate of the relative severity of various causes of accident. Table 20 shows that by far the largest per cent of the serious injuries involving the forearm, hand, thumb, and fingers were caused by machinery, while the more serious injuries involving the

arm above the elbow, the upper and lower leg, and the foot were caused by falls of persons. Among the temporary disability cases such falls caused 32.1 per cent of the injuries requiring a healing period of three weeks or over, while they were responsible for only 24.7 per cent of the total number of temporary disability cases. Among the less serious disabilities there were more varied causes. Hand tools caused 2 per cent of all permanent disabilities, but 8 per cent of the minor injuries to the thumb; the handling of objects caused 7.5 per cent of all permanent disabilities, but 21.1 per cent of the eye injuries and 25 per cent of the injuries to the thumb rating $33\frac{1}{3}$ but less than 50 per cent impairment of that member. Falling objects and stepping on or striking against objects caused an inappreciable per cent of all permanent disabilities, but this per cent is increased fourfold for each of these causes in the case of minor injuries to the leg at or below the knee, and is increased to threefold for falling objects in the case of minor foot injuries. Among the minor temporary disability cases, machine accidents caused 43.5 per cent of those requiring a healing period of less than two weeks, although they caused only 37.5 per cent of all temporary disability cases; and hand tools caused 7 per cent of those requiring less than two weeks for healing although only 4 per cent of all temporary disability cases.

TABLE 20.—Degree of disability in terms of per cent of impairment of member in permanent disability cases and of time lost in temporary disability cases, by location of disability and cause of accident

Location and degree ¹ of disability	Total, all causes	Per cent of each disability due to accident from—													
		Hand tools	Handling of objects	Falling objects	Stepping on or striking against objects	Falls of persons	Explosions, electricity, and hot substances	Vehicles	Poisonous and corrosive substances and occupational diseases	Machinery					Miscellaneous causes
										Total	Elevators	Power-transmission apparatus	Power-working machines	Other	
All cases.....	23,268	3.5	15.0	2.0	4.2	21.0	3.6	1.1	2.8	46.4	0.8	2.4	42.3	0.9	0.4
Fatal cases.....	15		13.3			13.3	40.0		6.7	20.0	13.3	6.7			6.7
Permanent disability cases.....	799	2.1	7.5	1.5	1.3	9.8	1.1	.6	1.8	74.1	1.0	3.3	68.6	1.3	3
Arm above elbow.....	10		20.0			70.0				10.0		10.0			
Under 33½ per cent.....	7		28.6			57.1				14.3		14.3			
33½ and under 50 per cent.....	1					100.0									
50 per cent and over.....	2					100.0									
Arm at or below elbow.....	5					40.0				60.0		20.0	40.0		
Under 33½ per cent.....	1					100.0									
33½ and under 50 per cent.....	2					50.0				50.0		50.0			
50 per cent and over.....	2									100.0		100.0			
Hand.....	41		7.3	2.4	2.4	48.8	2.4			36.6			36.6		
Under 33½ per cent.....	26		7.7	3.8	3.8	53.8	3.8			26.9			26.9		
50 per cent and over.....	15		6.7			40.0				53.3			53.3		
Thumb.....	61	6.6	14.8		1.6		1.6		8.2	67.2		1.6	60.7	4.9	
Under 33½ per cent.....	36	8.3	13.9		2.8		2.8		11.1	61.1			55.6	5.6	
33½ and under 50 per cent.....	4		25.0							75.0			75.0		
50 per cent and over.....	21	4.8	14.3						4.8	76.2		4.8	66.7	4.8	
One finger.....	431	2.3	6.0		.5	.7	.2		1.4	88.9		3.2	84.7	.9	
Under 33½ per cent.....	191	4.2	6.3		.5	1.0			.5	87.4		3.1	84.3		
33½ and under 50 per cent.....	151	1.3	4.0		.7					94.0		2.0	90.1	2.0	
50 per cent and over.....	89		9.0			1.1	1.1		5.6	83.1		5.6	76.4	1.1	

Thumb and one or more fingers.....	8								12.5	87.5		12.5	75.0		
33½ and under 50 per cent.....	1								100.0						
50 per cent and over.....	7									100.0		14.3	85.7		
Two or more fingers.....	114	1.8	3.5		.9				.9	93.0		.9	90.4	1.8	
Under 33½ per cent.....	41	4.9			2.4					92.7		2.4	90.2		
33½ and under 50 per cent.....	38		5.3							94.7			92.1	2.6	
50 per cent and over.....	35		5.7						2.9	91.4			88.6	2.9	
Leg above knee.....	8					75.0				25.0	25.0				
Under 33½ per cent.....	6					66.7				33.3	33.3				
50 per cent and over.....	2					100.0									
Leg at or below knee.....	15			6.7	13.3	60.0			13.3	6.7		6.7			
Under 33½ per cent.....	12			8.3	16.7	58.3		16.7							
50 per cent and over.....	3					66.7				33.3		33.3			
Foot.....	17			5.9	5.9	70.6				17.6	11.8	5.9			
Under 33½ per cent.....	15			6.7	6.7	66.7				20.0	13.3	6.7			
33½ and under 50 per cent.....	1					100.0									
50 per cent and over.....	1					100.0									
One or more toes, 50 per cent and over.....	1		100.0												
Eye.....	19	5.3	21.1	5.3	10.5			10.5		5.3	36.8		36.8		5.3
50 per cent and over.....	3			33.3							66.7		66.7		
Per cent not reported.....	16	6.3	25.0		12.5			12.5		6.3	31.3		31.3		6.3
Other.....	69		15.9	11.6		27.5	5.8	4.3		33.3	5.8	8.7	17.4	1.4	1.4
Under 33½ per cent.....	9	*	22.2			55.6				22.2			22.2		
50 per cent and over.....	1		100.0												
Per cent not reported.....	59		13.6	13.6		23.7	6.8	6.8		35.6	5.1	10.2	17.0	1.7	1.7
Temporary disability cases.....	2,454	4.0	17.4	2.2	5.1	24.7	4.2	1.3	3.2	37.5	.6	2.1	34.0	.8	.4
Under 2 weeks.....	543	7.0	18.6	1.8	6.1	16.4	2.8	.9	2.6	43.5	.4	2.8	40.0	.4	.4
2 and under 3 weeks.....	677	4.6	19.5	2.2	5.9	18.0	4.7	1.2	4.1	39.6	.1	2.2	36.5	.7	.1
3 weeks and over.....	1,232	2.3	15.7	2.4	4.3	32.1	4.4	1.5	2.9	33.8	1.0	1.8	30.0	1.1	.6
Time not reported.....	2						50.0			50.0			50.0		

¹ In terms of per cent of impairment of member in permanent disability cases and of time lost in temporary disability cases.

² Excludes 17 cases not reporting cause of accident.

IN RELATION TO TYPICALLY WOMAN-EMPLOYING INDUSTRIES

The inclusion of descriptions from State records of causes of accidents occurring in typically woman-employing work makes for further clarification from the point of view of prevention.

The metal industry.

A tapping-machine operator had a bandage on her finger. The bandage caught in the machine, drawing her finger into the tap and amputating it between the middle and proximal joints.

While a woman was operating a drill press making 50,000 revolutions per minute, a chip of steel flew into her eye.

An operator of a drill press caught the sleeve of her dress on the drill; her left arm was forced against the machine and was bruised and lacerated.

A drill-press operator stooped to pick some pieces of work from the machine, when some of her hair, coming in contact with the driving shaft, was wound around it and removed from the scalp.

A woman operating an automatic milling machine was cleaning oil off the machine with a cloth. The cloth was caught, her hand was drawn into the machine, and her thumb and index finger were severely lacerated.

A punch-press operator was taking tin out of the machine when she accidentally tripped the machine; her hand was caught and the palm punctured and lacerated.

A punch-press operator caught her thumb in her machine and the flesh and half the nail were cut off; the machine failed to operate correctly, the upper die coming down twice.

While the operator was knocking work out of a punch press, the press repeated, and her hand was caught, the middle finger being dislocated and the ring finger badly lacerated.

A punch-press operator tried to straighten a forging on the die before the press operated; one finger was caught and amputated at the distal joint.

While operating a punch press the worker's foot slipped and accidentally struck the pedal which released the die. One finger was smashed.

A woman was cutting on a press bottoms for cans from a sheet of tin. The tin slipped over the gauge, pulling her fingers under the edge of the die and cutting off the tips of two of them.

A punch-press operator's finger was smashed while she was looking about and talking.

While operating a defective press a punch-press operator lost the tip of one finger. "The guard did not lower far enough and the foot-pedal catch was worn and did not hold the pedal firm."

A punch-press operator failed to remove her finger quickly enough after placing the work under the die, and the index finger was lacerated.

While operating a punch press the operator's hand was caught under the die when the machine repeated. The four fingers were mangled. According to her statement, "The dog and pin both were worn out, and I had told the foreman of this some time before."

The operator of a rotary-tube machine tried to save a tube from going under the die the second time and one finger was caught under the plunger and the tip removed.

A woman was operating a stamping press, the die of which had four pin gauges. Although the operator is provided with a stick to straighten the blanks between the pins, she used her hand to straighten a blank which had got over the pin gauge. Tripping the treadle at the same time, her hand was caught under the press and the tips of two fingers were badly mashed. "She had been warned repeatedly by the die setter to use the stick."

While a woman was making cores, the core plate fell and crushed her foot.

A coremaker was lifting a core plate from the rack, when it slipped from her hands and fell on her foot, bruising and lacerating it.

The clothing industry.

While a woman was operating a power sewing machine, the needle entered her thumb.

A power sewing-machine operator constantly broke the thread of her work with her finger. The finger was cut by the thread and infection set in.

While a woman was operating a power sewing machine, the needle broke off and pierced her thumb.

A power sewing-machine operator was standing beside her machine adjusting a bobbin when her dress was caught in the unguarded shafting and her back was seriously wrenched.

The paper and paper-products industry.

A woman stitching paper cartons by machine tried to force a box through the stitcher. Her hand slipped on the smooth cardboard and her fingers were crushed by the stitcher.

A woman operating a folding machine tried to get paper out of the roller and the folding blade. Her finger was caught under the blade and severely lacerated.

An operator was trying to remove the torn paper from a folding machine when one finger was caught, and the distal joint was smashed in the machine.

While feeding cardboard boxes into a folding machine the woman's hand was drawn into the machine and the ring and little fingers were deeply lacerated.

While feeding a printing press the operator's hand slipped over the release lever and was crushed between platen and bed of press.

A girl was operating a corner stayer; the safety device failed to work; her finger was caught and the tip amputated.

In operating a corner-cutting machine, a woman's finger was under the knife when her helper accidentally placed her foot on the pedal of the machine, releasing the knife and amputating the tip of the finger.

A girl operating a paper-box stripping machine accidentally put her foot on the treadle of the machine while her finger was under the cut-off that severed the paper, and the tip of the finger was cut off.

While operating a paper cutter a woman's finger was caught under the cutter while adjusting the machine and she lost the tip of this finger.

The textile industry.

A girl weaver was hit on the right eye by the shuttle flying from the loom.

A weaver was wiping oil from the belt pulley on her loom when the cloth she was using was caught. It jerked her arm against the belt, skinning it and causing swelling.

A weaver was taking the beam from her loom when the beam slipped and fell on her foot, severely bruising it and making it swell greatly.

A weaver strained her side while lifting weights at the back of the loom.

While a weaver was repairing broken ends of the silk, the loom was accidentally started and a wheel struck her hand and lacerated it.

While a woman was winding cotton, her arm was caught and forcibly twisted, the wrist being dislocated, in the belt of the winding machine.

A girl operating a winder tried to remove a string from the shaft while in motion. One finger was caught by a loop in the string, which tied the finger to the shaft. The revolving motion of the shaft tightened the string so that the finger was cut off.

A woman operating a hank-winding machine picked up a bobbin and a splinter from the bobbin pierced her thumb.

The belt of a winding machine broke, and in falling one end struck the operator in the face.

A girl operating a winder tried to change a belt from one pulley to another and her wrist was caught between pulley and belt, bruising and spraining it.

A girl operating a spinning frame turned from her work to raise a window. A belt caught her dress and pulled her forcibly down between the wheels, the accident resulting in multiple abrasions of the right leg.

A spinner's finger was pricked on the flyer, "something that happens every day." In this case infection followed.

A woman operating a picker in a shoddy mill was cleaning rags from the machine when one finger was caught between the gears and fractured.

A girl was operating a finishing machine in a rope factory. While she was guiding hemp between two rollers the hemp caught on the tin finger protector, drawing her entire hand in between the rolls and fracturing the forearm.

A woman was one of two operators on a drawing frame in a jute mill. She was piecing an end when the second operator, at the front of the machine, started the machine without giving warning. The woman's hand and lower forearm were caught and lacerated between the retaining roller and bar.

A spool dropped from the top of a redrawing frame in a silk mill, and the girl operating the machine tried to pick the spool out of the machine. One finger was caught between belt and wheel and severely bruised.

A woman operating a twister in a worsted mill got a splinter in her thumb while pushing bobbin boxes, and streptococcic infection followed.

While cutting yarn from the roller, one finger of an operator of a twisting machine in a woolen mill was caught and lacerated.

A knitting-machine operator was cleaning the machine. The cloth she was using was caught in the gear, drawing her hand into the machine, and the amputation of one finger was necessary.

The food-products industry.

A woman was pinning cakes on a trolley or conveyor (used to dip cakes in icing) when her hand slipped and the trolley pin punctured the left thumb, which later became infected.

A woman was washing bottles in a food factory. A bottle had been broken by the capping machine, and a piece of broken glass was left on the outside of the bottle she was washing, cutting one finger under the nail.

A woman was feeding the starch machine in the marshmallow department of a candy factory. Some damp starch stuck to the side of the hopper, and while she was wiping this off her finger slipped into the cogs and was crushed.

A girl was operating a chocolate-dipping machine in a candy factory. She was wiping chocolate off a part of the machine. A gas flame underneath made the machine very hot. Two fingers were burned, and in jerking back her hand the hand and arm were caught between the belt and roller. The burns involved the tips of two fingers, a space 3 inches long and 1 inch wide on the palm of the hand, and a space 4 inches wide and 7 inches long on the inner arm.

While feeding candy into a sucker machine, a girl's glove was caught between the rolls and her finger nail was jerked off, making amputation of the tip of the ring finger necessary.

A woman employed in a canning factory slipped on some tomato peelings and fell, suffering a fracture of the acromial process of the scapula.

A woman employed in a canning factory was placing a soup can on a filling machine, when one finger was caught between the valve can and the roller. The finger was amputated at the distal joint.

A woman employed in a canning and preserving plant was pulling a cork out of a bottle when the bottle broke in her hand, severely lacerating it.

A woman was coring cabbages on a power coring machine. The revolving knife caught her glove and cut two fingers, one so severely that it had to be surgically amputated at the middle joint.

A woman was operating a slicing machine in a bakery. While feeding apples into the machine one finger was caught in the slicer, and surgical amputation of a major portion of the distal phalanx followed.

A woman employed in a bakery was feeding cakes into a cutting machine. In trying to straighten a cake her hand was caught in the machine and lacerated from the proximal joints to the wrist, and the palmar arch was severed.

While feeding a molding machine in a bakery a girl's hand was caught in the steel rolls. The flesh was torn off practically the entire dorsal surface of the palm, which became infected.

A woman employed in a meat-packing plant lifted a tub of sausage over her head, while standing on a ladder four rungs from the floor. This caused severe sprain of back and side.

A woman was working on a conveyor in a food factory. She reached across the conveyor, and her apron was caught in the belt, drawing her forcibly against the machine. Her right leg was bruised.

Power laundries.

A woman's entire hand was caught in the rollers of a flat-work ironer while running laundry through them. It was lacerated, burned, and later infected.

A woman was operating a flat-work ironer when one finger was caught in the fold of a sheet, and the hand was drawn between the rolls, which burned and fractured it.

A woman operating a shirt press put a cuff in the machine and, while smoothing it out, stepped on the foot pedal; one finger was smashed.

A woman was operating a shirt press. Her fingers became tangled in a shirt sleeve, and she brought the pressure down too soon, bruising and burning the hand.

A woman was doing starching in a laundry. The floor was wet from the overflow of the washing machine, causing her to slip and fall, fracturing her forearm.

A woman doing hand ironing in a laundry fainted from the heat and fell on an iron.

Restaurants.

A waitress was carrying a dinner tray. The tray upset, and she was badly burned with hot coffee.

A waitress was cleaning a goblet, when it broke and cut her arm, the cut later becoming infected.

While cutting bread on a cutter a waitress's left thumb was caught and lacerated.

A waitress's right arm was scalded by boiling water which overflowed from a percolator.

One finger of a woman doing kitchen work was caught in a meat cutter which she was using, and the finger was amputated at the middle joint.

Charring.

A woman was scrubbing stairs in an office building and went up the stairs to wring out a cloth she was using, when she slipped and fell, her back striking on the pail, and five ribs were fractured.

A woman was standing on a four-foot stepladder, when the ladder toppled and she fell.

A woman was cleaning the floor of a theater and a splinter pierced one finger. Severe infection followed.

FALLS

Since so large a number of injuries were caused by falls, it is of interest to quote from some of the records which show more exactly how such accidents occurred.

A salesgirl stood on a stepladder to get some collars and in getting down fell, twisting and spraining one knee.

A janitress fell from a stepladder while cleaning. In striking the left side of her forehead was cut and her right shoulder bruised.

The cutter in an embroidery factory reported, "A chair was placed on a four-wheeled truck so that I could reach my work. As I stood up the truck moved, and I fell to the floor." Her left breast, side, arm, back, and head were badly bruised.

A woman employed in a linen mill was pushed by other workers while going downstairs at the noon hour. She fell, spraining her right foot.

A woman employed in a factory making dental instruments stepped on a banana peel while descending the stairs, and fell nearly to the bottom. Her ankle was sprained.

A worker in a clothing factory, going down a dark staircase to the cloakroom, slipped and fell. Her left eye and the left side of her chest were bruised and her back was sprained.

An inspector in a factory making linoleum was coming down the stairs when the heel of her shoe caught on a step, and she fell six steps, her left arm being badly bruised.

A telephone operator was starting upstairs when one foot slipped on newly-waxed linoleum and she was thrown backward. In falling she struck the back of her head, and there was cerebral concussion.

A saleswoman was standing on a chair to get boxes from a top shelf. The chair slipped, causing her to fall. Her knee was scraped against the counter and severely bruised.

A woman employed in a paper mill slipped on a piece of oiled paper while walking through the workroom and her left wrist was severely sprained.

A bookkeeper, going through the hall, slipped on some grease and fell. Her right wrist was injured and later became infected.

A woman, employed by a wholesale drug company, while walking through a dark passageway stumbled over a steel drum and fell on the palm of her hand, and the muscle of her forearm and elbow were sprained.

A cook in a hotel fell on the icy steps at the door of the hotel, and her back was bruised and sprained.

A woman employed in a paper-box factory stumbled and fell over a broom handle when coming from the workroom. Her knee was injured.

A girl employed in a cotton mill, while going through the picker room stubbed her toe against a piece of pipe. She fell, her head striking on the cement floor. She was badly bruised and shaken.

A woman in a paper factory, while walking down an aisle of the workroom, fell through a hole in the floor. Contused and lacerated wounds of the legs resulted.

A spinner in a bag factory caught the heel of her shoe in a bad spot in the floor. She fell, and her wrist was sprained.

A private secretary in a hotel walked into an open trapdoor and fell into the cellar. Both ankles were sprained, her knees were bruised, and her back was injured.

FREQUENCY RATES

Although it is the aim of persons interested in industrial safety to prevent all accidents, whatever the cause may be, it is essential to an effective prevention plan to determine what industries and what occupations are the chief offenders as to frequency and severity of injury. To arrive at accurate frequency and severity rates it would be necessary to have figures showing the number of hours worked during the 12-month period in the work places covered by the State compensation laws and the number of women employed in such work places. Such figures are not available, but an estimate can be made from which it will be possible to determine that certain industries are very much more hazardous than others, though small differences between rates can not be considered as having any significance.

The difficulty in arriving at anything but an approximate rate is due to several causes. In the first place the figures taken from the 1920 census of occupations, showing the numbers of women in the various lines of employment in January, 1920, the mid-point of the period studied, form the only basis for an estimate of the numbers of women exposed to industrial hazard. Such a basis assumes that the numbers employed on January 1 are about average for the year, making no allowance even for seasonal industries, whereas if the number employed at that time was greater than the average the rates tend to be underestimated, and if the number was less they tend to be overstated. Such a basis also makes no allowance for differences in hours of employment in the various industries. The figures showing numbers injured are, of course, an understatement, since they do not include injuries to employees not covered by the compensation act, nor cases of temporary total disability in which the healing period, in Wisconsin and Ohio, did not exceed seven days or, in New Jersey, did not exceed 10. (See Chart IV.)

The groups of women in New Jersey and Wisconsin whose employers had refused to accept the compensation act and the groups excluded from compensation by reason of the numerical-exception feature of the law (by which in Wisconsin employers of fewer than three employees were not subject to the act unless they so elected and by which in Ohio employers of fewer than five were not subject to the act) have not been omitted. (See Chart VI.) In arriving at severity rates, since it was impossible to secure figures on time worked in the various employments, it has been assumed further that the women at work January 1, 1920, put in 300 days of 10 hours each during the 12-month period covered.

There was some variation in the number of women injured, per thousand employed, among the large industrial groups reporting compensated accidents. In New Jersey the rate varied from 9.05 in manufacturing industries through 7.96 among certain classes of labor in agriculture, 3.42 in transportation, principally telephone work, 2.42 in trade, and 1.39 in the group classed as "clerical, professional, etc." In Wisconsin the rate in manufacturing industries was 14.10 per 1,000, in transportation 3.45, in trade 1.98, and in clerical, professional, etc., 1.11. In Ohio the rate was 15.83 in manufacturing industries, 3.69 in transportation, 2.67 in trade, and 0.82 in clerical, professional, etc. (Appendix Table XIII.)

The occupation groups within the general industry classification present much greater differences. For the semiskilled workers in manufacturing industries in the three States the high rate was 84.57 for box factories in Ohio. In Wisconsin the rate for the same group was 77.46. For metal workers in Ohio the rate was 66.18; for metal workers in New Jersey it was 36.01. For iron and steel workers in Wisconsin the rate was 41.43; for this group in Ohio it was 39.52. At the lower end of the scale are the rates of 1.06 for shoe workers in New Jersey, of 2.77 for tobacco workers in Wisconsin, of 3.34 for tobacco workers in Ohio, and of 4.83 for textile workers in New Jersey.

In each of the manufacturing industries except textiles in New Jersey and chemicals and liquor products in Wisconsin, the rate was considerably lower for laborers than for semiskilled workers. From an examination of the details in the mixed group clerical, professional, etc., it is apparent that there was considerable variation from the rate of 1.06 for this group as a whole in the three States. For elevator operators the rate was 22.06 in New Jersey and 11.95 in Ohio, and for charwomen it was 14.81 and 10.15, respectively, in the two States. For domestic servants the rate varied from 2.68 in New Jersey to 1.32 in Ohio. For office workers the lowest rate was found for Ohio, 0.45.

In the transportation group the high rate of 141.03 is that of street railway conductors and laborers; though based upon a relatively small number of women employees, this is of some significance. Under the head of trade the rate for saleswomen is found to vary only from 3.28 in Ohio to 2.83 in Wisconsin.

The foregoing references to occupations in which the frequency rate is at the high or the low end of the scale are of significance regardless of numbers employed. Of interest is an analysis of a classification based on Appendix Table XIII, which presents frequency rates in the industries employing 5,000 or more women—the comparatively large woman-employing industry groups.

Industry ¹	Number of women employed	Number of women injured	Frequency rate (per 1,000 employees)
Manufacturing-----	176, 678	1, 944	11. 00
Clay, glass, and stone products-----	7, 125	97	13. 61
Clothing (including dressmaking)-----	38, 146	189	4. 95
Electrical supplies-----	8, 995	160	17. 79
Food products-----	9, 969	226	22. 67
Iron and steel-----	10, 263	280	27. 28
Laundry work, cleaning, and dyeing-----	6, 824	87	12. 75
Leather products-----	10, 607	108	10. 18
Metal goods-----	5, 295	214	40. 42
Printing and publishing-----	5, 357	102	19. 04
Rubber-----	7, 688	91	11. 84
Textiles-----	50, 440	323	6. 40
Tobacco and cigars-----	15, 969	67	4. 20
Clerical, professional, etc-----	465, 529	490	1. 06
Office employeess-----	179, 178	90	. 50
Care and custody of buildings-----	7, 137	55	7. 70
Professional service-----	108, 198	34	. 31
Domestic and personal service-----	171, 016	311	1. 82
Transportation (street railway conductors and laborers and telephone operators)-----	21, 547	67	3. 11
Trade-----	66, 901	165	2. 47

¹ Includes only those employing 5,000 or more women. (See Appendix Table XIII.)

The rate in the metal-goods industry was highest, being 40.42 women injured per thousand women employed. The industries next in order in regard to rate were as follows: Iron and steel, 27.28; food products, 22.67; printing and publishing, 19.04; electrical supplies, 17.79; clay, glass, and stone products, 13.61; and laundry work, cleaning, and dyeing, 12.75. The three lowest rates in the group of manufacturing industries employing large numbers of women were found in the case of tobacco workers, 4.20; clothing workers, 4.95; and textile workers, 6.40. In the nonmanufacturing group care and custody of buildings is found to rank high, with a rate of 7.70, and professional service low, with a rate of 0.31. The rate for the transportation group and that for trade were 3.11 and 2.47, respectively; for office employeess the rate was 0.50 and for personal and domestic service it was 1.82.

SEVERITY RATES

Rates charging specific industries with the results of permanent disability also are valuable in considering where to fix the responsibility for industrial injury and where to begin in a program for prevention. In reducing the permanent disabilities to a common standard for this tabulation, the extent of disability in each case and the time lost were fixed according to the recommendations of the statistical committee of the International Association of Industrial Accident Boards and Commissions. (See p. 35.) The computation of a severity rate involved multiplying the number of women employed by the number of hours worked during the period—arbitrarily set, as already stated, at 300 days of 10 hours each—and dividing this into the aggregate of the time lost by permanently disabled women. The resulting severity rate is only an estimate

because it is based on the assumption that the force as of January, 1920, remained about stationary in numbers and in hours worked throughout the year.

The severity rates thus arrived at averaged a little higher in New Jersey than in the other two States and were lowest in Wisconsin. (Appendix Table XIV.) In New Jersey the highest rate in the manufacturing group was found in the paper and pulp industry, followed by laundry work, paper boxes, chemical products, metal goods, and iron and steel. In Ohio the six industries ranking highest as to severity were metal goods, paper boxes, laundry work, automobiles, iron and steel, and paper and pulp. In Wisconsin they were metal goods, paper boxes, iron and steel, agricultural implements, electrical supplies, and laundry work.

Among the nonmanufacturing industries the severity rates in the mixed group clerical, professional, etc., varied from 0.04 in Wisconsin to 0.08 in New Jersey. The rate for telephone operators in Ohio was 0.02, and in the other two States no injuries to such workers resulted in permanent disability. In the trade classification the rate varied from 0.07 in New Jersey and Wisconsin to 0.19 in Ohio.

Turning to the severity rates for the women in large woman-employing industries—that is, those in which 5,000 or more women worked—the industries are found to fall into an order which varies only slightly from that in the case of frequency rates. The following classification, based on Appendix Table XIV, gives this information:

Industry ¹	Number of women employed	Estimated days lost			Severity rate (per 1,000 hours' exposure)
		Total	Due to—		
			Death	Permanent disability	
Manufacturing.....	176, 678	291, 168	42, 000	249, 168	0. 55
Clay, glass, and stone products.....	7, 125	8, 958	-----	8, 958	. 42
Clothing (including dressmaking).....	38, 146	12, 840	-----	12, 840	. 11
Electrical supplies.....	8, 995	26, 640	-----	26, 640	. 99
Food products.....	9, 969	21, 828	-----	21, 828	. 73
Iron and steel.....	10, 263	43, 860	-----	43, 860	1. 42
Laundry work, cleaning, and dyeing.....	6, 824	37, 128	6, 000	31, 128	1. 81
Leather products.....	10, 607	12, 750	-----	12, 750	. 40
Metal goods.....	5, 295	65, 460	30, 000	35, 460	4. 12
Printing and publishing.....	5, 357	10, 140	-----	10, 140	. 63
Rubber.....	7, 688	4, 728	-----	4, 728	. 20
Textiles.....	50, 440	32, 808	-----	32, 808	. 22
Tobacco and cigars.....	15, 969	14, 028	6, 000	8, 028	. 29
Clerical, professional, etc.....	465, 529	81, 546	30, 000	51, 546	. 06
Office employees.....	179, 178	5, 100	-----	5, 100	. 01
Care and custody of buildings.....	7, 137	24, 138	18, 000	6, 138	1. 13
Professional service.....	108, 198	1, 800	-----	1, 800	. 01
Domestic and personal service.....	171, 016	50, 508	12, 000	38, 508	. 10
Transportation (street railway conductors and laborers and telephone operators).....	21, 547	2, 700	-----	2, 700	. 04
Trade.....	66, 901	27, 396	6, 000	21, 396	. 14

¹ Includes only those employing 5,000 or more women. (See Appendix Table XIV.)

The manufacturing industries showing the highest severity rates, arranged in descending scale, are metal goods, laundry work, iron and steel, electrical supplies, food products, and printing and publishing. As already stated, the arrangement by frequency rates gives the following order: Metal goods; iron and steel; food products; printing and publishing; electrical supplies; clay, glass, and stone; and laundry work.

It has been the purpose in this section to allot to each industry its responsibility for injury. The plan has been, first to distribute the number of accidents to a specified number of women over a certain period of time, according to each industrial classification (frequency rates), and second to distribute the extent of permanent disability suffered by these women over the same period of time, according to each industrial classification (severity rates). It now remains to distribute in a similar way the lost time, or healing period, required by industrial injury. Manufacturing industries, employing 26.8 per cent of the women exposed to hazard, caused 77.7 per cent of the injuries, 86.3 per cent of the cases resulting in permanent disability, and 74.9 per cent of the temporary disability cases. (Appendix Table XV.) Of the total of 3,253 women for whom healing period was reported, 1,344 required a healing period of 4 weeks or longer; and of that number 269 required a healing period of 12 weeks or longer. Of these 269 cases, 26.4 per cent were in the services grouped as clerical, professional, etc., where 61.5 per cent of the women were employed. Textiles, which comprised 6.6 per cent of the total number of women employed, accounted for 8.5 per cent of the 269 cases requiring a healing period of 12 weeks or longer; trade, which comprised 8.6 per cent of the total number, was responsible for 8.6 per cent with such a healing period; food and kindred products, which comprised 3.4 per cent, for 8.2 per cent; iron and steel, which comprised 1.3 per cent, for 5.2 per cent; laundry work, which comprised 0.9 per cent, for 4.5 per cent; and clothing, which comprised 5 per cent of all the workers, for 5.2 per cent with the long healing period.

AGE ELEMENT

The age element in accident causation is an important factor in a program for the prevention of industrial injury. A study of the material recorded on this point indicates that certain causes operate with more serious effect in some age groups than in others, which fact points to one potent method for reducing industrial injury; that is, the need of prohibiting the employment of very young persons on certain types of work.

TABLE 21.—Cause of accident, by age of injured

Cause of accident	All women		Age of injured																	
			Under 18 years		18 and under 20 years		20 and under 25 years		25 and under 30 years		30 and under 40 years		40 and under 50 years		50 and under 60 years		60 and under 70 years		70 years and over	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes.....	3,095	100.0	301	100.0	549	100.0	645	100.0	382	100.0	552	100.0	377	100.0	214	100.0	67	100.0	8	100.0
Hand tools.....	110	3.6	10	3.3	17	3.1	18	2.8	19	5.0	24	4.3	14	3.7	5	2.3	3	4.5		
In hands of injured worker.....	100		10		16		18		15		22		13		3		3			
In hands of fellow worker.....	10				1				4		2		1		2					
Handling of objects.....	461	14.9	37	12.3	78	14.2	95	14.7	62	16.2	84	15.2	64	17.0	37	17.3	4	6.0		
Heavy objects.....	189		16		35		35		22		30		23		26		2			
Sharp or rough objects.....	243		20		40		53		38		45		38		7		2			
Hand trucks, wheelbarrows.....	29		1		3		7		2		9		3		4					
Falling objects.....	65	2.1	2	.7	9	1.6	12	1.9	7	1.8	13	2.4	10	2.7	9	4.2	1	1.5	2	25.0
From elevations.....	53				8		12		6		10		8		7		1		1	
Other.....	12		2		1				1		3		2		2				1	
Stepping on or striking against objects.....	129	4.2	12	4.0	14	2.6	32	5.0	15	3.9	23	4.2	22	5.8	4	1.9	6	9.0	1	12.5
Stepping on objects.....	20		1		2		5		2		6		3				1			
Striking against objects.....	109		11		12		27		13		17		19		4		5		1	
Falls of persons.....	645	20.8	35	11.6	47	8.6	80	12.4	72	18.8	124	22.5	133	35.3	107	50.0	42	62.7	5	62.5
From elevations.....	277		15		28		42		30		47		48		47		16		4	
On level.....	344		19		15		37		39		74		79		54		26		1	
Into excavations.....	24		1		4		1		3		3		6		6					
Explosions, electricity, and hot substances.....	109	3.5	7	2.3	20	3.6	23	3.6	12	3.1	28	5.1	12	3.2	5	2.3	2	3.0		
Explosions.....	25		1		4		5		2		6		4		3					
Electricity.....	4				3				1											
Hot substances.....	80		6		13		18		9		22		8		2		2			

Vehicles.....	35	1.1	1	.3			11	1.7	3	.8	12	2.2	5	1.3	2	.9	1	1.5		
Steam and electric railways.....	14						5		2		5		2							
Auto and other power.....	18		1				6		1		4		3		2		1			
Other.....	3										3									
Poison and corrosive substances and occupational diseases.....	92	3.0	6	2.0	16	2.9	18	2.8	16	4.2	17	3.1	10	2.7	8	3.7	1	1.5		
Machinery.....	1,436	46.4	190	63.1	348	63.4	354	54.9	175	45.8	225	40.8	102	27.1	36	16.8	6	9.0		
Elevators.....	23		4		1		6		3		4		4		1					
Power-transmission apparatus.....	74		14		13		19		3		13		7		5					
Power-working machines.....	1,310	42.3	171	56.8	329	59.9	323	50.1	167	43.7	203	36.8	85	22.5	27	12.6	5	7.5		
Chemical products.....	5		2				1						2							
Clay and glass.....	31		2		11		11		4		2		1							
Food products.....	87		14		21		17		14		9		9		2		1			
Laundry.....	55		3		6		8		6		10		13		8		1			
Leather-working.....	63		6		19		18		8		9		2		1					
Metal-working.....	574		57		148		155		78		98		30		7		1		1	
Paper.....	108		18		33		28		12		9		7		1					
Printing and bookbinding.....	61		12		16		16		7		4		2							
Rubber, celluloid, and composition.....	33		10		9		7		4		3									
Textile.....	233		38		51		51		25		43		15		8		2			
Wood-working.....	58		8		15		10		9		12		4							
Miscellaneous.....	2		1				1													
Machines other than power-working.....	2				1								1							
Conveyors.....	25		1		3		5		2		5		5		3		1			
Prime movers.....	2				1		1													
Miscellaneous causes.....	13	.4	1	.3			2	.3	1	.3	2	.4	5	1.3	1	.5	1	1.5		

¹ Excludes 190 cases not reporting complete data.

Of the 3,095 women injured for whom age was reported, 46.4 per cent were injured by machinery. The steady decrease in the number of injuries due to machinery with increase in age is shown in Table 21, which indicates in general that a larger number of injuries occurred in the younger age groups. Twenty-seven per cent of all the injured women reporting age were under 20, while 37 per cent of those injured by machinery were under 20.

A glance at the nonmachine accidents reveals that falls of persons, which next to machinery were by far the most serious cause of injury numerically, show just the opposite curve; that is, the number of injuries increases with a fair degree of continuity as the age of the injured woman increases. Forty-four per cent of the injuries caused in this way occurred to women of 40 and over and only 12 per cent were to women under 20. Furthermore, of all accidents to women of 40 or more 43 per cent were falls, while of those to women of under 20 less than 10 per cent were falls. The women injured by handling objects, which as a cause of accident was third in numerical importance, were fairly evenly dispersed among the various age groups.

A consideration of the extent of these disabilities to women according to age shows that 24 per cent of all injured women reporting age were left with a permanent disability. (Appendix Table V.) Of this number, 85 per cent resulted in minor disabilities (less than 25 per cent of permanent total). Of the women under 20 years 25 per cent were left with permanent disabilities, and 90 per cent of these disabilities were minor in degree. Twenty per cent of the women aged 40 and under 60 were left with permanent disabilities, 72 per cent of which were minor in degree. Twenty-seven per cent of the women 60 years of age and over were permanently disabled, and 75 per cent of these injuries were classified as minor.

COST OF ACCIDENTS

The compensation cost of accidents under the scale of benefits provided during the period studied was low, averaging \$100 per case. (Appendix Table XVI.) Until the scale provides payment to the injured worker for the actual economic loss occasioned by the accident, instead of allowing the weekly maximum and other limitations to reduce such payment, the compensation cost will not be so forceful a factor as it might be in promoting prevention by such means as the following: The testing of chemicals for their action upon employees before using them in production processes; machine building from the point of view of safety to the operator and not merely of accuracy and speed in production; the provision of adequate guards for machines which are inherently hazardous; proper instructions in regard to operating, cleaning, and oiling machinery; proper arrangement of

workrooms and material; and such care of floors as will reduce accidents due to falls.

The per cent of compensable accidents in which the disability was permanent was high in New Jersey—29.1 per cent—as compared with Ohio and Wisconsin—8.5 and 13.9 per cent, respectively—(Appendix Table I)—and the average cost per case was higher in the State first named. The cost in temporary disability cases averaged a little less than one-third the average for all cases, varying but little in the three States. Among the permanent disability cases, the 23 classified as “other,” including 19 cases of injuries to eyes and 4 of injuries to teeth, were the most expensive. Only slightly less costly were the injuries to the central nervous system. The average cost of impairment and dismemberment cases in Ohio was less than that for the other States. The cost in ankylosis cases averaged higher in Ohio than in the other two States. The average cost for disfigurement was highest in Wisconsin, where the law includes provision for special compensation in such cases. In regard to the cost in fatal cases, of which the total number is small, the average is not very significant, since the presence or absence of dependents causes disproportionate variations in the rate.

STATE PREVENTION WORK

State activity in the interest of promoting prevention of industrial injury has approached the problem from five angles.

First, there is provision for inspecting places of work, in order to reduce hazards. In New Jersey this is the duty of the regular labor department inspectors. In Ohio the division of workshops and factories of the industrial commission has power to “fix such reasonable standards and to prescribe, modify, and enforce such reasonable orders for the adoption of safety devices, safeguards, and other means or methods of protection.”¹ In Wisconsin it is within the power of the industrial commission to “fix such reasonable standards and to prescribe, modify, and enforce such reasonable orders for the adoption of safety devices, safeguards, and other means or methods of protection.”² In that State, when there seems to be a possibility that an accident was caused through nonconformity with State safety orders, an inspector from the State safety department goes over the circumstances at the plant and makes a report placing the responsibility for the injury.

Second, certain persons are prohibited from performing certain specified types of work. In each of the States there was a list of employments from which persons under certain ages were prohibited;³

¹ General code of Ohio, Page's compact edition, 1920, sec. 871-22 (4).

² Wisconsin statutes, 1919, sec. 2394-52 (4).

³ First supplement, compiled statutes of New Jersey, 1911-1915, pp. 850-852, sec. 14-18. General code of Ohio, Page's compact edition, 1920, sec. 13001-13003. Wisconsin statutes, 1919, sec. 1728 a.1 (a-c).

and in Ohio and Wisconsin there were regulations prohibiting the employment of young women at work requiring constant standing.⁴ Perhaps the most important factor in the problem of work accidents as they affect young persons resolves itself into the compiling of a proper list of prohibited employments.

Third, adequate penalties are levied in terms of increased or decreased compensation, in cases of injury when commission orders are violated. In Wisconsin, if injury is caused by failure of the employer to comply with any statute of the State or any lawful order of the industrial commission, compensation and death benefits are increased 15 per cent; if injury is caused by the willful failure of the employee to use safety devices provided by the employer, or if injury results from the employee's willful failure to obey any reasonable rule adopted by the employer for the safety of the employees, or if the injury results from the intoxication of the employee, the compensation or death benefits shall be reduced 15 per cent;⁵ and compensation and death benefits shall be treble, (a) if the injured employee is a minor of permit age and at the time of the accident is permitted to work without a permit, or (b) if the injured employee is a minor of permit age or over and is permitted to work at prohibited employment.⁶

Fourth, a statistical division is created in the industrial commission. In Wisconsin such a division promotes preventive work by collecting and publishing statistics each month relating to the occupation, hours of labor, number and age of employees, the cause of accident, and the cost of medical aid and compensation. If such a practice were more widespread, and if the classifications of occupation and industry were uniform, a correlation of prevention experience of considerable value would result. The International Association of Accident Boards and Commissions is promoting such uniformity, both in classifications and in tabulation of material.

Fifth, the establishment of an industrial museum acts as a guide both in machine building and in safe operating. The New Jersey commission has created such an institution in Jersey City. It is one of the largest museums of safety devices in the country. Various types of machines, with accompanying guards and safety devices, are exhibited as guides to employers. They are placed in one of the offices of the State Workmen's Compensation Board, and the rehabilitation clinic, located in the same building, uses the exhibits in giving lectures on the use of safety devices and the prevention of accidents. The machines are power driven and are operated when demonstrations are made.

⁴ General code of Ohio, Page's compact edition, 1920, sec. 13005. Wisconsin statutes, 1919, sec. 1729 a.2 (d) (1).

⁵ Wisconsin statutes, 1919, sec. 2394-9 (5) (h, i, j, k).

⁶ Wisconsin statutes, 1919, sec. 2394-9 (7) (a, b).

PART V

FINDINGS FROM INTERVIEWS WITH PERMANENTLY DISABLED WOMEN

Material from the records in the files of the workmen's compensation board or commission in the three States gives the detailed information obtained by these agencies for the purpose of operating the compensation law. This material has been analyzed in the earlier sections of the report. In each State the workmen's compensation board or commission exists to enforce the law as it stands, but inevitably the administrators are critical of the law and are interested in promoting such changes in it as will more nearly provide equitable treatment for each injured person. These persons analyze the operation of their respective laws more or less extensively according to the amount of money available for statistical purposes. However, only a partial analysis of a workmen's compensation law is possible from a study of State record material. For that reason, on the advice of administrators, interviews with injured women were made a part of the present survey of work accidents.

Injuries resulting only in lost time offer few perplexities. Certain changes in policy in regard to the relation between wage and rate of compensation, the length of the waiting period, the extent of medical treatment furnished, can be studied without reference to personal interviews. A satisfactory adjustment of indemnity and medical aid in cases of injury resulting in permanent disability, however, has not yet been evolved, and many of the changes which will come in the plans now in effect for the compensation of these disabilities will depend for their efficacy upon a careful study of the adjustment which individual women have been able to make. It was deemed advisable, therefore, to limit the interviews by the agents of the Women's Bureau to women who were left with a permanent physical impairment as a result of the accident.

A copy of the schedule used for interviewing may be found in Appendix B. In talking with the women particular attention was paid to the effect of the handicaps on their capacity as citizens and homemakers, as well as their capacity as instruments of industrial production. It was considered of interest to study the family, community, and industrial adjustments which the women were able to

make with the help of the compensation boards and other agencies interested in physical and vocational rehabilitation and reemployment.

The information secured from the injured women indicates that, due to some inadequacy in the law or in the administration of the law, the woman with a permanent disability in many cases finds it difficult or impossible to regain her preaccident status. This study of adjustments, based on interviews secured from three to four and a half years after the injury may be of help in pointing the way to advisable legislative and administrative changes.

A very complete history was taken in each interview, and the information thus obtained is presented practically in full so as to give a clear and detailed picture of the results of industrial accidents from the point of view of the claimant. The histories are here classified according to factors which indicate some defect or inadequacy in the promotion of adjustment to the preaccident status. Each appears but once, though many of them might be classed with equal propriety under more than one head. As before stated, only a limited number of the case histories are included in this report, but all are on file in the office of the Women's Bureau.

CASES ILLUSTRATING INJURY THROUGH A HAZARDOUS CONDITION OF EMPLOYMENT

With the growth of exceedingly large units of production, industrial accidents became a community problem, and the first reaction was toward intensive prevention campaigns. In spite of determined safety work, however, accidents continued to occur. This fact was recognized and an attempt was made to create proper legislative and administrative procedure, but the effort to reduce the number of accidents to the lowest possible minimum continues as an essential feature of all developments. In this connection, in addition to the relative importance of various causes of accidents, the relation between age and cause of accident, the efforts of State commissions to promote preventive work, all of which have been discussed in the preceding sections of this report, it is the purpose here to present interviews with permanently disabled women who stated that a hazardous condition of their occupation played a part in causing the accident reported.

TYPICAL CASES OF LACK OF PROPER OCCUPATIONAL INSTRUCTION

Case No. 1.—A 17-year-old girl, American born, with a seventh-grade education and nearly four years of experience as a domestic servant at \$5 a week, was single and living with her parents and nine

brothers and sisters. Her father, one brother, and one sister also were working. The girl had gone to work in a plant manufacturing sashes and doors, and for a little over two months she had done handwork, earning \$13.20 a week, but on the day of the accident the foreman had put her to work on a relishing machine. She said that all she knew about the machine was what she had learned by watching other girls work on it. She was feeding stock to the machine, the wood was "pitchy," her fingers became sticky, and her left hand was caught in the cutting knives. The index finger was amputated at the middle joint, and a tendon of the middle finger was cut between the middle and distal joints. She was disabled for five and two-thirds weeks. Two days after the accident her sister lost her job, and with only two workers to contribute their earnings for the support of 12 persons, the family had a very hard time. Medical bills were paid and compensation covered a period of 20 weeks in all. The girl was disabled for her former work, as the two fingers were painful whenever struck and she could not hold anything long without her hand becoming cramped. At the time of the interview there was 50 per cent loss of use of the middle finger at the distal joint. She went back to domestic service and stayed nearly two years, earning \$8 and later \$10.38 a week. She then married and remained at home. She did her housework but did not use the middle finger at all, and the stump of the index finger was of very little use to her.

Case No. 2.—An American negro woman, 28 years old, who had attended a country school for several terms, worked as a domestic servant for five years, and remained at home for three years, had started to work "carrying in" in a glass factory. She continued to live with her parents and she and her father were the wage earners, their combined income being \$28 a week. After five months on the night shift, earning \$13.50 a week, she had been transferred to a machine for grinding glass, also at \$13.50. The wage reported to the commission was \$12.45, which she said was the rate for day workers. A fellow employee gave her about 10 minutes' instruction, and two hours after she had started on that operation, while putting glass into the machine, the right index finger was caught between the glass and the machine as the parts of the machine came together. The finger was badly mashed and lacerated. She was disabled for three and four-sevenths weeks. Medical bills were paid and compensation was allowed for the healing period, but no payments were made until 12 weeks after the accident. She returned to work at the end of the healing period but was afraid of the grinding machine and would not attempt to work on it. She went back to "carrying in," carrying the fork with her left hand and guiding it with her

right. For two weeks after her return the finger was bandaged to protect it from the hot fork. She worked three years and then married, and her husband insisted on her giving up her job. Bits of glass, set in motion by the "cracking off," often hit her in the face, and he was afraid she might be seriously hurt. At the time of the interview there was about 25 per cent limitation of strength and motion at the proximal joint of the index finger. It could be straightened but not entirely flexed. The injured finger ached in cold weather. Because of the stiffness the finger got in the way and was apt to strike against things. This made washing on a board difficult, although the woman managed to do it, working almost entirely with her left hand.

TYPICAL CASES OF GUARD FAULTY OR MACHINE OUT OF REPAIR

Case No. 3.—A 34-year-old worker with an early history of abnormal home life had been placed in a home for neglected children at 3 years of age, where she had stayed until she was 10. At 5 years of age she had fallen down a stairway and injured her back. As a result her strength seemed to be reduced. According to her brother she had appeared quick and bright when young, but seemed to have less stamina and less self-confidence as time went on. She had been bound out at 10 and had done housework and farm work until she was 24, when she had married a man of 78. She had divorced him almost immediately and gone back to the farm. Finally at 34 she went to the city and got work on a punch press in a machine shop, where her wage was to be \$18 a week. She had been working only four hours when the accident occurred. She had had no factory experience, the noise and speed of the shop bothered her, and her machine was "easy to get hurt on." A workman threw a pile of iron on the floor, making a great deal of noise, so that she jumped involuntarily and her right thumb and index finger were caught in her machine. The accident happened so suddenly that she did not realize it had occurred. An investigation was made to determine whether there was violation of a safety order and the following report was submitted: "The punch was equipped with an iron bar in front of the die, a permanent guard, but not very efficient. They are equipping all presses with the new type of guard. She had worked four hours, had never worked in a machine shop before, nor on a punch press." The investigator quoted the worker's description of the accident and added, "She caught the right thumb and index finger between the top of guard and crosshead. No violation of the safety order." The tip of the right thumb was crushed, being later amputated surgically at the distal joint, and the right index finger was seriously lacerated. She was unable to work for 17 weeks. Medical

bills were paid and compensation was allowed for 30 weeks in all. She had a hard time finding another job. The thumb and finger continued to bother her, and the shock resulting from the experience made her feel that she could not work on a machine again. She finally got work as an assembler in an automobile factory at \$14 a week. In four weeks she was laid off; she tried to get other work but was unsuccessful and went back to farm work for a time. She married a few months later and at the date of the interview had not again become a wage earner. She was partially disabled for certain forms of housework, with which her husband helped her.

Case No. 4.—A 25-year-old girl, born in America of Polish parents, had finished the third grade before beginning work at 14, but had not worked steadily, as the family had been living on a farm part of the time. She lived with her father, mother, and five brothers and sisters, of whom she and one young brother were the only wage earners, their combined income being \$22.27 a week. She had done both hand and machine sewing in a hammock factory and had then worked irregularly in a plant making railroad and automobile supplies, operating a variety of machines. Her wage had advanced from \$15 to \$16.50 a week. The day before the accident she had been placed on a power punch press for the first time. While taking a casting from the press her right thumb and middle finger were caught under the die, and the thumb was traumatically amputated at the distal joint and the middle finger at the middle joint. She was disabled for 13 weeks and 1 day. She made no claim for compensation at first, as she hesitated to do it alone and her father could speak no English. She finally engaged a lawyer, who secured a settlement without her having to appear at all. An investigation was made by the commission to determine whether the safety orders had been carried out. According to the findings, "Benjamin guard not guarding the tool when foot trip was used. Cold trimming work. No guard provided." The penalty was paid by the employer, and the compensation covered a period of 45 weeks in all. The woman gave about 5 per cent of her compensation to the lawyer. All medical bills were paid. She was disabled for her former job and lost, in addition to the healing period, three weeks in looking for work. She then secured employment tying ribbons on candy boxes in a candy factory at \$11.50 a week. About six months later the foreman at the factory where she had been hurt asked her to return, and she was given a machine job, in five months being advanced from \$16.50 to \$24.75 a week. This work was not dangerous, but it was hard, and she was not well. At the end of the five months she secured work as a salesgirl in a retail store, which she found easier.

She left a year later to marry and had not since attempted to look for work.

Case No. 5.—A 30-year-old worker, born in Austria and literate in both English and German, was single and living alone, being entirely self-dependent. When 12 or 13 years old she had carded buttons by hand for a year, at \$4 a week. She was not employed again for about 12 years. She then operated a power punch press on metal goods, and after five years' experience had advanced from \$10 to \$12 a week. According to her account of the accident, a spring on the foot treadle had broken. She had reported it, but no repair had been made. On the morning of the accident she had removed the spring, which made the treadle work too fast for what she was doing. Half an hour later the press repeated. The middle and ring fingers were caught and severely lacerated. The nail on the ring finger was pulled out, and half the distal phalanx of the middle finger had to be amputated. She was disabled for four weeks and five days. Medical bills were paid and compensation was allowed for 10 $\frac{5}{6}$ weeks in all. After the healing period she returned to her former job, but for two months could make only \$10 or \$11 a week. At the time of the interview, three and a half years later, she was on the same job and was making \$15 a week. She was unable to do work on small parts. As the finger was still painful when she struck it against anything she constantly protected it.

Case No. 6.—A 21-year-old worker of Italian birth, illiterate but able to speak good English, was married, had one child, and she and her husband were working, their combined income being \$64.50 a week. At 13 she had started to work in a woolen mill, first as a cleaner and then as a winder, and had advanced from \$4.50 to \$12.50 in about five years. At that time she had stopped for the birth of her child and had stayed at home about two years. After that she had gone to work again to help pay for a home, had worked for seven and a half months at two leather factories, and then had entered an artificial silk mill as a ball winder. She had been working there six months and had advanced from \$12.50 to \$14.50 a week. She stated that a week before the accident a spring on her machine had come loose; she had asked to have it fixed and the boss had promised to "when he had time." Because this spring was not in order her hand was caught between the disk plate and the wool while she was operating, and part of the right little finger was mashed off. It bled severely, and a fellow worker made a tourniquet of her handkerchief while the boss telephoned for an ambulance. There was no first-aid equipment in the plant. Later in the day the whole finger was surgically amputated. She was disabled for work for five and a half weeks. She paid \$4 a week

for the care of her baby, and her husband stayed away from work to take care of her and to help at home for a period of two weeks. He was earning \$50 a week at the time and his absence from work meant a considerable loss, so that he went into debt. Medical bills were paid, and she received compensation for 19 weeks in all. She returned to her former work for two weeks, then was transferred to a comb machine at \$16.50, but left after about six months and was still at home at the time of the interview. She then had two children.

Case No. 7.—An American woman of 29, having a sixth-grade education, was separated from her husband, and she and her two children lived with her mother, who kept boarders. She had worked three years before her marriage at 18, first filling bobbins in a cotton mill at \$5, later packing crackers at \$6.50 a week. She then had stayed at home for nine years. At the time of the accident she had been working for two years in a factory making automobile parts. During this time she had operated a reamer, drill press, turret lathe, milling machine, and center-holing machine, having had about the same experience on each. She had advanced from \$11 to \$17.28 a week. On the day of the accident she was operating a reamer. She stated that the machine was out of order, there was not enough air in the chuck, the socket slipped as she was fixing it, the handle reversed, and the tip of her left index finger was cut off. Later it was necessary to amputate the finger between the distal and middle joints, nearer the middle joint. She was disabled four weeks and two days and during this period paid \$10 a week board for the children, and for five weeks paid \$1.50 a week for laundry, going into debt to her mother. Medical bills were paid. The permanent injury allowed was loss of the index finger at the distal joint. At the time of the interview there was also considerable loss of use at the middle joint, but not complete and therefore not compensable. She received compensation for 15 weeks in all. She returned to her former employer, but as she was afraid to operate a reamer she was put on a drill press. After six and a half months at \$17.28 she left, as she was in a run-down condition and was afraid of getting hurt on the machine. She married five months later and had not again become an earner.

Case No. 8.—A 23-year-old American worker, with an eighth-grade education, was single and living with a sister who also was working. Each was self-supporting. This woman had begun work when 21 as a foot punch-press operator in a metal-goods factory, averaging \$25 a week. After working one and a half years her right index finger was caught in the press, pulling out the nail, and she was disabled five weeks. On her return after this healing period she had been

put on a power punch press, and in five and two-thirds months, when the scheduled accident occurred, was earning \$30 a week. While she was operating, the right index finger was caught and traumatically amputated just below the nail. The guard on her press was set improperly. She had reported the condition of the machine, but no adjustment had been made. She was disabled 20 weeks. Her mother lived in a small town in another part of the State, and when she and her sister found it impossible to pay her expenses, she went into debt, and finally left and went to her mother. After the period of disability she went to work on a drill press, at \$20 a week. In a month she stopped. Infection had set in at the site of the injury, because a splinter of bone had not been removed at the time of the first treatment. Reamputation to the distal joint became necessary, and she was disabled 13 weeks longer. Her mother's doctor performed the operation. The State law provided that, in cases of amputation, compensation would cover the permanent impairment but not the healing period, unless the healing period exceeded the amount of time allowed for the permanent impairment. In this case, due to the infection, the healing period exceeded the weeks allowed for the specific injury (12 weeks for index at distal joint), so compensation for an additional 21 weeks was allowed; and since the injury occurred on account of a violation of a safety order, 15 per cent of the total compensation due was added to the amount paid. About nine weeks after the accident the insurance company attempted to induce her to accept the 12 weeks' compensation due for the permanent injury, but she consulted a lawyer, to learn her rights, and refused the settlement, and without further help from him the matter was settled at an informal hearing before the commission. Medical bills were paid. After the second period of disability she got a job as a power sewing-machine operator and continued at this work in various factories for two and a half years, her earnings ranging from \$20 to \$28 a week. Desiring easier employment, she had found work in an art shop one week before the interview, sealing pictures and putting wire on the frames, at \$20 a week. She had married about nine months before and managed to do all her housework except washing. She had tried that but the finger had become swollen and painful. She used her middle finger instead of the index in sewing. She did not use the index finger in handling things, and soapy water was irritating and painful.

Case No. 9.—An American woman of 24, with a seventh-grade education, was married and both she and her husband were working, their combined income being \$43.50 a week. She had begun work at 16 in a motor-cycle factory, operating different machines at various times, usually a drill press, slotter, or lathe, her wage advancing

from \$7.50 to \$25 a week in the three and a half years she had been there. She had left to be married, stayed at home about eight months, and then got work as a knitter on sweaters. After 15 months' experience her earnings had advanced from \$11 to \$12.50 a week. At the time of the accident the belt connecting her machine with the shafting was out of order, a condition causing the machine to start without the operator's putting her foot on the treadle. She had reported it several times. The machine started in this way, and her right thumb was caught. There was considerable laceration and bruising. She was disabled four weeks. Medical bills were paid, and the permanent injury was rated as 25 per cent loss of use of the thumb at the distal joint. According to her statement, a man came to her house from the insurance company the day after the accident and questioned her. He told her that compensation was due and would be brought to her. The same man came to the factory after she had begun work, with a check for the total amount due. He used such big words that she did not understand him and was a little frightened. She went to the foreman, who told her that it was all right and that she should sign the paper, and she obeyed. The doctor told her that the thumb would improve with use; this proved true. At the time of the interview there was not more than 10 per cent loss of use, but the thumb got stiffer in cold weather. Her loss of earnings due to the accident set her and her husband back considerably. They had just gone to housekeeping, and they had to do without things that they had planned to buy. Compensation was allowed for 10 weeks in all. She returned to her former job at the end of the healing period. For two weeks she worked on a piecework basis and could make only \$4 a week. In knitting collars and sleeves it was necessary to take off stitches with a hook, using the thumb and index finger. Her thumb was not strong and this reduced her speed materially. She asked the foreman if some other arrangement could be made for her. He agreed to pay her a time rate of \$15 a week for straight knitting. Two of her friends knitted her collars and sleeves for her. After nine and a half months she stopped work. At the time of the interview one child had been born and she had not worked steadily since leaving the knitting factory. She had taken a temporary job one month each year during the holiday season in a department store at \$15 a week.

Case No. 10.—A 16-year-old girl, American born of Italian parents and having a sixth-grade education, lived with her father, step-mother, and six brothers and sisters. Her father, one brother, and one sister also were wage earners. At 13 years of age she had begun work as a cotton weaver, advancing from \$15 to \$23 a week during

one year. Then the plant had shut down, and she had got work on a press in a leather factory at \$16. After one year this plant also had shut down, and she had become a punch-press operator on sheet-metal goods. She had been working seven months at this, earning \$14, when the accident occurred. According to her story her machine was out of order, and though she had asked to have it repaired the mechanic had been too busy at the time. Later he had said it was all right, but after the accident he stated that he had not put it in order. Her right index finger was caught under the die and lacerated. She was at home about nine weeks. Her medical bills were paid. The permanent disability was estimated as 20 per cent loss of use of the finger. She received compensation over a period of 14½ weeks. She returned to the same employer but could not operate the punch press, as the index finger was in the way. In fact, at the time of the interview there seemed to be almost complete loss of use of this finger. She was given sorting at \$14, and after four weeks left for better pay. She got work in a jewelry factory, feeding for printers, and had worked there three and a half years at the time of the interview, always at \$18 a week.

TYPICAL CASES OF INHERENTLY HAZARDOUS MACHINERY

Case No. 11.—An American-born worker, 39 years old, with a fifth-grade education, was married and had four sons. Beginning work when 21, she had been a domestic servant for two years, earning \$2.50 a week. She had then married and remained at home for 16 years. At the end of that period her husband and one son were working, and their income of \$54.25 a week was not sufficient for the needs of the family of six. She went to work taking lumber from a saw at \$13.62 a week, in a plant manufacturing wooden wheels, and only three weeks later was injured. There was no guard on the saw nor any suction to remove the sawdust. While brushing sawdust away from the machine her hand came in contact with the saw. The right index finger was lacerated, and there was a compound fracture of the bones in the distal and middle phalanges. A very severe streptococcic infection set in almost immediately. She developed chills and fever. Having no one to take care of her she was sent to a hospital, where she remained for one week and two days. While there the finger was amputated between the distal and middle joints. The remaining stump continued stiff and tender. It was in the way, constantly being hit, and the loss of the flexor tendon up to the proximal joint pulled the stump backward, so that she asked to have a reamputation, the commission agreeing to this. The finger was removed midway between the middle and proximal joints. The healing period required was 53¼ weeks. Medical bills were paid

and compensation was allowed for $87\frac{4}{7}$ weeks in all. The shock at the time of the accident was severe, and the convalescent period difficult. She did not feel strong enough to return to work for two years. She then went back to her former employer, but was unable to work on the saw as the hand was not strong enough to handle the timbers as they came away. Moreover, she was afraid of machinery. She was given the job of stamping wooden wheels by hand at \$13.62, and had worked a week when a wheel she was stamping slipped from her hold, spun around, and tripped her. She fell, striking her kneecap on the rim of the wheel. The kneecap was fractured, and she was disabled 10 weeks. She had not again attempted to return to industry. At the time of the interview two sons had left home and the husband was supporting the family of four. She was doing the housework and had been very much hampered since the first accident. There was reduced endurance generally, and as she could not grip things securely in the right hand, she was unable to wash; she ironed with difficulty, because the finger was sensitive to heat. If the stump was struck, it caused severe pain.

Case No. 12.—A woman 37 years old, American born, with a sixth-grade education, had separated from her husband. Three years later she had become a wage earner for the first time, to support herself and her 10-year-old son. She had worked in factories only, and previous to the job on which the accident occurred had done handwork except for a three months' job on a power sewing machine. At the time of the injury she had been operating a punch press for six and three-fourths months in a factory making chemical products. Her wage was \$11 a week. Her son was working temporarily on a vacation job at \$6 a week. She was cutting scrap on an unguarded press and the middle finger was caught, about one-third of the distal phalanx being cut off. She stayed out only half a day. Medical bills were paid and compensation was allowed for two and a quarter weeks. She was slower at work because of the injury, but the firm guaranteed her \$10 a week, and it was not long before she was earning more. Afterwards she had two compensable accidents. One was a cut from the tin she was handling, causing two weeks' lost time and a temporary loss of wage. The second was a laceration of the right thumb caused by removing scrap from the top of the curler with her fingers. She stated that she could have used pincers if they had been in reach, but she was "working fast to make more money." There seemed to be no probability of these later accidents resulting in permanent disability, although she was still disabled at the time of the interview, four years after the first accident. She was employed as a punch-press operator at the same plant and earning \$15 a week.

Case No. 13.—A 33-year-old woman, American born, with an eighth-grade education, was single and living with her father,

mother, and brother. Her father was paralyzed. Her brother usually was a wage earner, but was out of work at times. Beginning work when 14 years old, she had been a domestic servant for 16 years, and had then sold dairy products for three years in a small store. At the time of the accident she had been two months on her third job, which consisted of operating a machine for impressing veins on artificial leaves. She stated that the time rate was \$13 a week, but that as a pieceworker she made \$23 to \$25 a week. In operating the press she drew the leaves away from the die with the left ring and little fingers, while at the same time she had a new leaf ready to insert, held by the left thumb and index finger. The stems were short, thus bringing the fingers close to the die, which was unguarded. While operating, the left index finger was caught under the die, cut, and lacerated, and a bone fractured. It was necessary to remove a piece of bone. She returned to work after three days. The resulting permanent disability was rated as 75 per cent loss of use of the index finger. Medical bills were paid. Compensation covered a period of $26\frac{1}{4}$ weeks. As the compensation rate was based on the time rate of \$13, she received but a little over one-third of what she had been earning. The finger was still bandaged on her return. At first she sorted leaves by hand at a time rate of \$13 a week, and after two months she returned to the press. She was much hampered in her work, as she had to hold material in the machine with the thumb and middle finger. Her earnings were somewhat reduced, ranging from \$19 to \$22 a week. After she had worked a month, the left thumb was caught in the press, and although the injury was slight and she lost no time she was frightened and gave up press work. She returned to sorting and bundling at \$13 a week, and was then put on a machine for making wreaths. She remained on this work two years, her wage ranging from \$18 to \$20 a week. At the end of that time she left to marry, and at the time of the interview had not again become an earner.

Case No. 14.—A woman 20 years old, American born and a high-school graduate, had begun work at 18 in a cigar factory but after three weeks had got machine work in a factory which manufactured motors. In seven months she had advanced from \$10 to \$28 a week. She had returned to school for a year, clerked in a store for six months, her earnings increasing from \$6 to \$10 a week, then got a job operating tapping and milling machines in the motor factory where she had previously worked. At that time she was single, and boarding with a married sister. She was averaging \$24 a week and had had six months' experience when the accident occurred. She was tapping flanges, which were about 1 foot across. She had to hold them with the left hand braced against a bolt upright on an other-

wise smooth, level table top. The bit or tool of her machine often stuck in the metal and would throw the belt off the wheel. On the day of the injury she had tightened the belt, hoping that the tool would drive on through if held in place. When the tool stuck, the machine was too powerful for her to hold the flange against it, and the flange was whirled around out of her hand, and the sharp irregular edges of it severely bruised and lacerated the four fingers of the left hand. She was in a hospital five days, and her sister cared for her during the remainder of her convalescence. Medical bills were paid. She was disabled $17\frac{6}{7}$ weeks. A severe septic infection set in, which involved the entire hand, and an examination showed "severe infection followed by slight ankylosis of the index, ring, and little fingers and complete ankylosis of the middle finger. It also appears that the claimant has an impairment of wage since returning to work, due to the injury." The commission recognized the total loss of the middle finger, allowed compensation for $46\frac{6}{7}$ weeks, and closed the case "because it was impossible to separate the disability as shown in the wage statement resulting from the injury of the middle finger for which permanent partial compensation was paid from that due to the slight stiffness in the remaining fingers." At the time of the interview there was stiffness in all joints of the index, ring, and little fingers, amounting to about 25 per cent loss of use of the index and little fingers and 20 per cent loss of use of the ring finger. The result was a considerable reduction of the strength and grasp of the hand. When she was able to return to work, there was no work she could do at the motor factory. Her disability made it impossible for her to return to her former job. She thought she might have worked on small nuts or bolts as she had when first employed there, but no such work was available. Opportunities in the town were somewhat limited. She became a saleswoman in a department store, earning \$10 a week. This wage was low, and after five months she changed to warehouse work in a rubber factory for one month in an adjoining town, at \$13 a week, but then preferred to return home. She then went to the plant where she had been injured and got work as a hand assembler. She found herself hampered because she could not use the left hand. Instead of doing two operations at the same time, one with the left hand and one with the right, as she normally would have done, she was obliged to do them one after the other with the right hand. However, in six months she increased her earnings from \$15 to \$20 a week, at which time there was a general lay-off and she lost her job. She helped her father in a small country printing office for a time, then became a saleswoman again at \$13 a week, a job she was still holding at the time of the interview about two years later. She had married and was keeping house. She found sweep-

ing difficult, as gripping a broom tired the left hand. She sent her washing out, but did her other housework.

Case No. 15.—A woman of 31, born in Italy but educated in the United States, having finished the eighth grade had begun work at 17. She was a domestic servant for nine years and then married and stayed home for four years. Her husband went to sea, earning \$15 a week, and she got a job operating a press which made metal tubes. During the 11 months which elapsed before the accident her earnings had increased from \$9 to \$17 a week. There was a guard on the machine, to be manipulated by the left hand after the press was fed and before the die was released, which prevented the machine from repeating. It was possible to keep the foot on the treadle and make the guard ineffective. In that case the machine would keep right on working, the metal disk being fed in with the left hand, the die descending, and the tube being formed around it and then taken off and packed with the right hand. On the day of the accident the woman was working for the first time with lead, which paid more than nickel. The lead was heavier than nickel, and stuck to the die. The tubes were delicate, and it was necessary to handle them carefully. In removing one the right middle finger was caught by the die and amputated between the middle and proximal joints. Something of the feeling of the speed and tension under which the operators of this machine worked may be gained from the woman's statement that it was impossible to tell how such a press accident happened: She wore gloves and worked so fast and her attention to the motions of the machine had to be so close that until she reached for the next tube and felt no support she didn't know her finger was gone. She was out of work seven and a half weeks. Her husband sent money for the rent, and her neighbors helped with the housework. Medical bills were paid and compensation was allowed for 36 weeks in all. When she went back to work at the end of the healing period, she was afraid of the machine and was put on packing, but "you can't work 10 hours a day for \$10 a week," so after a week she went back to a machine. She operated a punch press for about a month, making \$12 a week, and then returned to her old press, but "ran it awfully slow for a while." It took about eight months before she made as much as she had before the accident. When she finally stopped work, about three years later, she was making \$20 a week. Her husband had returned and was making more money so that she was able to remain at home.

Case No. 16.—A 19-year-old American girl, with a sixth-grade education, was single and living with an uncle, aunt, and four cousins. She and her uncle were earning, their combined income being \$43.45 a week. At 16 she had begun work as "cutter-off" with hand scissors

in a sack factory. After two years at \$11.90 a week she became a foot punch-press operator in a can factory. At the time of the injury she had had about nine months' experience there and had advanced from \$11 to \$13.45. The press which she operated was a seamer. The die had to be pressed down slowly, and when it came up the can was apt to fly off. She had been hit several times and once her hand had been "ripped open, but had healed clean." At the time of the accident the can had flown off and gashed her left wrist, hand, and index finger. She fainted. It was a Saturday morning, and she was taken to the rest room until the plant closed at noon. She came back Monday morning and was put to sorting cans. The hand became infected and was dressed daily for nine weeks. The forearm was in splints and the whole arm in a sling. She kept the hand in "mercury water" at night, Saturday afternoons, and Sundays. The permanent injury was rated as one-eighth loss of use of the left index finger. Medical bills were paid, and she received compensation for three and three-fourths weeks. While sorting cans she was paid at a time rate of \$11 a week. As it was necessary to earn more, after about two months she went back to the press, but was so slow that at first she could earn only \$9 a week. When she left after about six months she was earning \$14. She was then employed as a filler in a paint factory at \$16 a week. After six months she left because of illness, and at the time of the interview was married and had not returned to industry.

Case No. 17.—The woman was 33 years old, foreign born, but literate in English only. She was a widow with five young children to support. At 16 she had begun to work in factories, first at handwork in a textile mill and then as a glazer in a tannery. After two and a half years, during which time she advanced from \$1.50 to \$12 a week, she married and stayed at home. Five children were born, then her husband died, and as soon as the children were old enough to be left, she returned to glazing. She had continued at this occupation four years and had advanced from \$16 to \$22.50 a week. She was glazing small pieces of skin when her fingers were caught in the machine. She stated that these pieces were too small to glaze safely, as the fingers in holding them were too close to the working point of the machine. The index finger was severely lacerated. According to her account she was treated for two or three weeks and then discharged. She returned to work after 10 weeks and was put at piling and sorting skins at \$11.25, as she could not operate the machine. As the finger was painful and would not heal, she consulted the plant nurse, who sent her to another doctor. An X ray showed the middle phalanx fractured. Amputation just below the distal joint followed. She had worked

almost one month before this operation and was obliged to remain away four weeks more. She was disabled $13\frac{1}{3}$ weeks in all. She borrowed money to help the family through the disability period, and the oldest of the five children, who became 14 at about this time, went to work. Medical bills were paid. Compensation was allowed for $29\frac{1}{3}$ weeks in all. The right index finger was completely stiff at the middle joint. When she finally returned to work, she again piled and sorted skins, earning only \$11.25 a week, as the finger was still tender. After two months she asked to return to glazing, as she needed more money. She continued at this occupation for three years, advancing to \$18 during that time. She was unable to use the index finger; "It was only in the way." This hampered her greatly. A short time before the interview she had stopped work because of ill health. The five children were still at home, and three of them were wage earners at this time.

Case No. 18.—A woman 22 years old, American born, single, was living with her parents and four brothers and sisters. Her father, two brothers, and a sister also were working, and the total weekly income was \$165.50. The woman had left school when 14 and had gone to work in a heel-manufacturing plant, on a heel-building machine; first one run by foot, later a power machine. She began at \$8 a week. At the time of the accident she had had six years' experience and was earning \$24 a week. In operating she held the pieces of leather in her fingers while they were cut by the knife. She was working with small pieces which brought her fingers close to the knife, and the left index finger was caught. The tip was cut off, leaving the bone protruding. The doctor at the factory amputated about one-third of the bone of the distal phalanx. She lost three and a third weeks. Medical bills were paid and compensation covered the healing period. She said she was not satisfied with this adjustment but thought "it was no use to fight." Her employer urged her to return while the finger was still bandaged and sore, but she would not do so. When the finger had healed he had no work for her and it was necessary to look elsewhere. She continued operating a heel builder but found she was now slow at her work, being afraid to work as fast as before, and with the tip of the finger gone she could not hold material so securely and was therefore hampered. She was never able to earn more than \$20 a week after the accident. Fifteen months later she had a second accident while operating the heel builder. The machine was out of order, and the knife repeated. This time the right index finger was caught and amputated at the distal joint. She married soon after this accident and at the time of the interview had not again become a wage earner.

Case No. 19.—A 19-year-old girl, American born and single, was living with her mother and stepfather. She had become a wage

earner at 16, on finishing the sixth grade, and had done laundry work intermittently over a period of three years, first as a shaker, then as a flat-work feeder. She had begun at \$6 a week and had advanced to \$14.50. At the time of the accident she was operating a flat-work ironer in a hotel laundry. The machine had no guard, and once before the accident, on the same morning, her fingers had been caught while feeding, but she had been able to pull them out uninjured. The second time part of the right hand went in. The employee working with her, instead of stopping the machine screamed and ran out of the building, knocking against this worker's elbow as she rushed past, thus driving the whole hand between the rolls. A negro man on the third floor, hearing her cries for help, came and knocked the belt off the machine. Her entire hand was badly crushed and burned, and had to be surgically amputated. A healing period of 16½ weeks was required. Some medical expenses were paid, but she went to her own doctor for surgical treatment and his bill of \$211 was refused. He would not let her pay it, as he knew she could not afford it. The entire compensation covered a period of 165 weeks. She did not return to work, as she was disabled for the jobs available. At the time of the interview she was married. She had her washing and scrubbing done for her and bought her clothes ready-made, but did her own cooking.

TYPICAL CASES OF MINORS EMPLOYED ON HAZARDOUS MACHINERY

Case No. 20.—A 16-year-old girl, with an eighth-grade education, on leaving school had begun work as a winder in an electrical-supply factory. She left her first job because she could secure work in a soap and perfume factory, and "it was considered the best place in town." Her regular occupation was packing fancy soap in boxes. In the 14 months which had elapsed since she first went to work she had advanced from \$9 to \$14 a week, and during the winter had attended a business college regularly. She was single, living at home with her parents and six brothers and sisters, and her father and two sisters as well as herself were wage earners, the family income being \$78 a week. On the morning of the accident a girl on a shaving-soap machine was sick, and this worker was put in her place. A team of three operated the machine, the first girl feeding, starting, and stopping the machine, and the other two taking off. At intervals the machine was stopped two and a half minutes for relaxation. At the time of the injury the machine had been stopped and the worker in question put her left hand under the knife to remove soap shavings, counting on the two and a half minutes. The first girl, by

accident, threw the switch with her foot and started the machine, and the knife removed all four fingers of the worker, leaving only the proximal phalanges. After the accident this starting switch was placed at shoulder level instead of on the floor: The girl was unable to work for 16½ weeks. Medical bills were paid and compensation covered a period of 115 weeks in all. At the end of the healing period she was disabled for her former work, but her employer placed her at pasting labels on boxes. She wanted clerical work, and after one week this was given her, at a beginning rate of \$14, with a promised raise of \$2 a year, so that at the time of the interview her wage was \$20 a week. She was, however, very much hampered in the office work. She was still attending business college, studying shorthand and accounting. Her mother attended to her household and personal needs. She was extremely sensitive regarding the deformed hand and always attempted to keep it out of sight.

Case No. 21.—A 15-year-old girl, American born of Italian parents, with a fifth-grade education, assisted her father in the support of a family of seven. She was on her first job, as a shuttle girl on an embroidery machine, at which she had had two years' experience and had advanced from \$7 to \$15 a week. Two girls worked on the embroidery machine ordinarily, one as shuttle girl, one as watcher, but on the day of the accident this girl was temporarily doing the work of both. While she was operating, the left thumb was caught and cut by a hook in the machine. She stated that she was disabled three months but that a healing period of only 10 weeks was recognized. The permanent injury was rated as 80 per cent loss of use at the distal joint. Medical bills were paid as well as compensation over a period of 32½ weeks in all. On her return she found herself disabled for work as a shuttle girl, as she had operated a "left-hand" machine and with the injured thumb was unable to pick up the shuttle. For this reason she was made a watcher instead, at the same wage. After a year she asked for a raise but was refused and changed to power-machine sewing on ladies' waists. At the time of the interview she had been on this job two years, earning \$17 a week.

Case No. 22.—A 14-year-old girl, native born of Italian parents, with a seventh-grade education, was single and living with her parents and two young brothers. Her father kept a drug store. Six months before the injury she had begun to work for wages, for four months operating a foot-punch press in an umbrella factory, earning \$12 and \$13 a week, and then for two months earning from \$14 to \$18.50 a week on a power punch press in a tool factory. She was putting the piece to be machined under the die of her press and had her foot on the treadle. A boy working next to her hit her on

the shoulder. She started, pushed the treadle, and the tip of her left index finger was caught and lacerated. The permanent injury was rated as 15 per cent loss of use of the finger. She was disabled six weeks and two days. Medical bills were paid and compensation was allowed for $10\frac{1}{4}$ weeks. Her employer had promised her a job when she recovered, but on her return she was considered disabled for punch-press work and there was no opening except packing at \$12 a week, with no possibility of a raise. She went elsewhere and secured work, doing exhausting by hand in an electric-lamp factory, where she stayed until her marriage one and a half years later. For a year she earned \$14 a week and then was raised to \$16.50.

TYPICAL CASES OF SPEEDING AT PIECEWORK

Case No. 23.—An American worker, 25 years old, with a seventh-grade education, had two years' experience as a machine operator at \$3 a week in a metal-goods factory prior to her marriage at 19. After four months at home she began working again as a foot punch-press operator on metal goods, earning \$8 a week. After one and a half years she stopped for the birth of a child and remained at home 11 months. She then got handwork in an ammunition factory, her earnings increasing from \$16 to \$20 a week, but in six months she was laid off. At this time her husband deserted her, and it was necessary for her to support herself and child. She found work as a power punch-press operator, although she had to start at \$14 a week. At the time of the accident, nearly three years later, she was earning \$18.50. She was living with her mother but was entirely self-supporting, paying board for herself and child. She was paid on a piecework basis and when the accident occurred was speeding. To save time she used her fingers to remove an imperfect stamping which was sticking to the forming die, a thing she had often done before. The right middle finger was caught by the die and was traumatically amputated at the middle joint. Her mother helped her for a while after the accident and then her husband heard of the accident and returned. She was disabled four weeks and five days. Medical bills were paid, and compensation covered a period of $33\frac{1}{3}$ weeks in all. Her husband went to work, and she remained at home. A second child was born 11 months following the accident and while she was in the hospital her husband deserted again. When the child was a month old, although the woman was not strong, she had to go to work because of lack of money. As punch-press work paid best, she returned to it, averaging \$17 a week. Two months after her return she had trouble with her press because the material stuck to it. She reported the difficulty to the foreman, who said that he would make the repair next day and in the meantime gave her a

piece of tin with which to push the pieces out. Before noon the right thumb was caught and amputated at the distal joint. An infection set in, so serious that there was danger of her losing her hand, but after one month she returned to work although the thumb was not healed. Machine work was out of the question both because of the shock which the injuries had given her and because of the loss of the two members on her right hand which were most useful in operating. She labeled cans by hand for a grocery company at \$12 a week, and at the time of the interview two years later was at the same work and had been unable to increase her wage, even though it was necessary for her to support her two children and herself. Her mother did some of her housework, but as the mother had seven other children at home she was kept too busy to be of very much assistance.

Case No. 24.—An American-born negro girl, 20 years old, a high-school graduate, was single and living with her father, mother, and six brothers and sisters. At the time of her accident a brother and a sister also were employed, the combined income being \$50 a week. She had started work at 15 as a domestic servant, at \$7 plus her board, changed in one month to go into an ammunition factory as a waitress in the plant restaurant at \$12, and three weeks later was made a general helper in the machine shop of this same factory, where she stayed for the three months preceding the armistice, advancing from \$12 to \$16.50 during that time. Then she returned to housework, at \$10 and her board, but she did not like the long hours, and a year and four months later she found work as a power punch-press operator in a metal-goods factory. At the time of the accident she had had two weeks' experience on this machine and was earning \$12.50 a week. She became nervous because the foreman was fussing with the girl behind her and urging her to make more speed. Her left index finger was caught under the die, and half the distal phalanx was amputated. There was a small tin guard on the machine, but with space above and below for the material to be fed in. The guard kept the hand out but not the fingers. She was disabled six and a half weeks. Two days before the accident her father, who had been sick for several months, had gone to a hospital, where he remained three weeks. He "got rates at the hospital, but things were bad for a while." Medical bills were paid, and compensation was allowed over a period of 22½ weeks in all. When she went back to work, the finger was sore and stiff. She was put on a foot punch press. The other girls knocked the machined pieces out with the index finger and she had to use the middle finger, which lessened her speed. Working as fast as possible she was unable to earn more than \$7 a week, and she left after one and a half months. After that she went back to housework. She liked

the factory best, because of the regular hours and good pay, but after the accident she did not want to work at a power machine again, as the speeding made her nervous. At the time of the interview she had worked continuously at housework for three years and was earning only \$10 a week, but she was "through with factory jobs." She did not use the index finger at all in any work. It stuck straight out, and she used the middle finger instead.

TYPICAL CASES OF OTHER HAZARDOUS CONDITIONS OF EMPLOYMENT

Case No. 25.—An American-born woman, 57 years old, was living with an invalid husband, a widowed daughter, and two grandsons, and she and her daughter worked, their combined earnings being \$40 a week. She had begun to work when a child of 11 at domestic service. When she was 15 a kick on the right shin caused a running sore, which laid her up for two years, but the leg had since been as strong as ever, having given her no trouble after that time. She had married at 18 and had always worked hard, doing practical nursing, washing, or cleaning by the day, or keeping boarders. The winter before the accident she had kept house and done all the work for nine people, and a short time before the accident she and her daughter had walked a mile and a half to a place which they had bought and had spaded the ground for the foundation of their house. At that time she was 57, her husband was ill, and her daughter was the only wage earner, receiving \$25 a week. She decided that she could help the family more by getting a regular job, and she applied for work at an automobile factory, where she was accepted as a hand and machine sewer at a wage of \$15 a week. She had not yet been taken to the workroom when, in going from one part of the plant to another, she fell from a stairway which she claimed was dark and unprotected by a handrail. Her right hip was fractured. The company refused to pay compensation, contending that she was not an employee, as she "had not gone through all the channels required before an applicant is an employee of the company." However, the commission decided that the relation of master and servant existed, as she "was under the direction and control of the company," and that compensation should be paid. In the next two years five medical examinations were made and several X rays were taken, the company contending that part of her disability was due to the childhood injury, as a sore had developed at the site of this injury three months after the accident, and because many of her symptoms were subjective, adding, "the pain complained of in the back is a rather common symptom in women." The report of the final medical examination by a doctor for the com-

mission was as follows: "Some improvement of the right hip and leg; able to walk about the house without a crutch or cane. Complains of pain in the back and weakness of the hip. There is external rotation of the femur, and corresponding eversion of the foot. The sinus below the knee is not so large nor so badly inflamed, nor discharging so freely. Claimant states the hip is growing stronger, and if given sufficient time to overcome the soreness of muscles of the thigh and leg, believes she would be amply compensated for the injury she has received." Ten and a half weeks after this the case was closed, compensation being allowed for a healing period of $112\frac{3}{7}$ weeks. Some medical bills were paid, but the woman stated that she had paid about \$150 herself for medical treatment, as she continued to consult a doctor until three and a half years after the accident. One month after compensation ceased she got work as a folder in an apron factory, at \$7 a week. This job required standing and was too hard. She kept it two weeks, but she felt that the two weeks' standing set her back considerably. Three months later she got a job of doing hand sewing on draperies at \$15 a week. This was sitting work, which she was able to do, but after three weeks she was laid off and was not sent for again. At the time of the interview she walked slowly about the house, apparently putting the most weight on the uninjured leg. There was almost constant pain in the small of the back. She did not sleep well and had lost 23 pounds since the accident. She looked like a woman of 70. There were three in the household, her daughter, one grandson, and herself. She had become entirely dependent on her daughter after the compensation ceased. She managed the housework when her daughter was working, but did it very slowly, a little at a time, stopping frequently to rest. Two weeks before, the daughter had had a nervous breakdown and had been obliged to stop work, but was trying to do a little fancy work at home. The two were deeply in debt and felt very insecure and uncertain as to their future.

Case No. 26.—An American-born woman, 48 years old and with an eighth-grade education, lived with her husband, one daughter, and a grandchild. She and her husband were working, their combined income being \$47 a week. The family was buying a home at this time. She had begun to do practical nursing when 27 years old, when she could be spared from home duties, and she had worked at this off and on over a period of 14 years. Then she took regular work as a saleswoman in a store and at the time of the accident had had seven years and nine months of experience and had advanced from \$9 to \$29 a week. While carrying a package to the office of the store her heel caught in a loose rubber stair covering and she fell headlong down the stairs. She was severely bruised on hands, left

elbow, left hip, and knee. The mammary gland was injured, the left eye was bruised, and nasal bones were broken. X rays of the right hand and left elbow showed no fracture. There was a small punctured wound on the left thigh, which later became infected and finally developed into an abscess. She was in a hospital for a week. A daughter who was working away from home left her work and came to help keep house and care for her mother, remaining three months. Ten months after the accident the woman was still under a doctor's care. She was having severe pain in the right hip, and the physician advised an X ray. This showed "what we believe to be an inner capsular fracture just outside the acetabulum. There is no displacement." It was concluded that this fracture could not explain the disability present, but that the cause must be "a rupture of a part of the ileo-femoral ligament," and that the disability was permanent. She was in a wheel chair until about one and a half years after the accident. At that time a medical report stated: "She walked with a distinct limp, dragging the toe of the left foot; there was limited mobility of the left hip joint; the left foot rotated outward; there was about one-fourth inch shortening of the leg." Medical bills were paid, except for \$10 which she paid herself in order to have a private room in the hospital. Compensation was allowed for a healing period of 103 $\frac{4}{7}$ weeks. She stated that after being in a wheel chair for 18 months she used a crutch or cane for nearly 18 months longer, and that it was 10 months later before she was able to walk to town and back (half a mile each way). At the time of the interview she had been earning for the first time, helping a sick neighbor for about three weeks. The work entailed going next door and being in the house to answer the telephone and doorbell and to wait on the sick woman during the day. For this she received \$10 a week. There was constant soreness on the outer side of the right thigh, pain at the point of the left shoulder and left elbow, and also in the lower part of the left breast, the latter so sharp that it sometimes wakened her in the night. Her strength and endurance had been much reduced by the accident. She said it had aged her 10 years. She had done none of the heavy work in the house since her injury. She seemed a naturally active, energetic, ambitious woman, bearing out the medical reports that there was no suspicion of malingering in her case. The husband largely supported her and the family, the make-up of which was the same as at the time of the injury, and the daughter did practically all the housework.

Case No. 27.—A woman of 20, American born and with a seventh-grade education, was single and living with a widowed mother. The latter did a little washing for others and had one boarder, but

the girl was the chief wage earner. At 16 she had begun work as a wrapper and cashier in a store, advancing from \$4 to \$6 a week in two years, but changed then to hand assembling at \$7 in a factory making fans and generators, shifting to machine work after one month. She operated drill presses, turret lathes, and milling machines, setting up her own jobs and making all adjustments. After 22 months' experience her earnings were sometimes as much as \$37.50. Her work required that she lift to her machine stators varying in weight from 10 to 20 pounds. The constant strain caused an increasing amount of pain in her side and after a period of six months she was forced to stop work. For the last two weeks of this time she "could hardly go." The muscles of the left lumbar region and left hip were much inflamed and swollen. An ice pack was kept on the abdomen for nine days, and she was in bed eight weeks. She and her mother went into debt, although an uncle sent them money. She was unable to work for 6 months, 10 weeks longer than was allowed for the healing period. Medical bills were paid at the time, but later treatment necessitated by the injury cost the family at least \$30. She returned to work before her own doctor thought advisable, as no compensation was paid until eight months after she had left work because of the accident, and her earnings were badly needed. She continued to operate the same machines, but was given lighter material to work on as much as possible. At the time of the interview there was still a good deal of pain in the lower back and the side; she had lost about 10 pounds in weight and tired more easily. There was considerable difficulty at menstrual periods and she stayed away from work from two to four days each month, although this had not been necessary before the injury. Because of this loss of time her earnings averaged \$18 a week instead of the \$22 she could earn if she were able to work full time.

Case No. 28.—A 17-year-old girl, American born and a junior at high school, lived with her father, mother, and six brothers and sisters. She worked only during vacations. The father was in business for himself, and she was the only wage earner. This girl had worked first in the summer vacation before she was 17, operating a power sewing machine in an overall factory, her earnings increasing in three months from \$4 to \$15 a week. At the Christmas vacation she had become an extra salesgirl in a dry-goods store at \$10 a week and had worked four days when the accident occurred. She had gone into the storeroom behind the store, where a trapdoor leading into the basement had been left open while baled paper was being removed from the cellar. As the room was dark, she did not notice the opening and fell through to the floor 8 or 9 feet below, striking on a heavy chain used in hoisting the paper. An X ray

showed a comminuted spiral fracture of the right tibia at the juncture of middle and lower thirds, and a spiral fracture of the right fibula 2 inches above the ankle. Temporary pasteboard splints were applied, which were replaced three days later by a plaster cast. According to her statement the leg was too swollen for the fracture to be reduced until three days after it occurred. She was disabled 10 weeks and 4 days. Medical bills were paid and compensation was allowed for the healing period. At the end of this period she returned to high school. During the next summer vacation she went back to the overall factory. At first she used the left foot on the treadle in starting the machine, but later used the right, although the constant pressure of the foot on the treadle caused pain. She graduated from high school the following year, worked in the overall factory again for about nine months, then took a nine months' normal course. On its completion she took up teaching, and at the time of the interview, 11 months later, was still so engaged, earning \$20.77 a week. One and a half years after the accident she made claim for permanent disability, not having done so before, as she had thought the leg would improve. A medical examination showed "slight or doubtful asymetry of the lower portion of the right leg, knee, and ankle. Mobility O. K., repair complete, with almost perfect restoration of function. Patellar reflex O. K. Complains of extreme nervous pain in the leg. No material evil sequels resulting." At the time of the interview there was still a slight but almost constant pain over the point of fracture at the tibia, increasing if she walked or stood a great deal. During her nine months in normal school the leg was not strong enough for her to take gymnasium exercises, nor to walk any distance, nor play tennis without extreme fatigue and pain. It was only about six months before the interview that she could begin to walk a reasonable amount without becoming unduly tired. The right foot turned out a little more than normal, and she walked with a slight drag of this foot. She found that because of this her shoes wore out much more quickly than before. For a year following the accident menstruation was painful and irregular, but it was normal thereafter. She had not been responsible for home duties either before or after the accident.

Case No. 29.—A 25-year-old worker, American born, had finished the eighth grade and had then taken high-school subjects at night for about eight years. She was single, boarding with a married brother, and each was self-supporting. She had begun work at 13 years of age but had worked very irregularly, because of ill health or home duties, until she was 22. She had then packed in a food factory for two years, advancing to \$20 a week. Finding the work

heavy she had changed to general helper in a knit-underwear factory. At the time of the accident she had held this job two weeks and was earning \$16 a week. Her chief work was as sample girl, but three or four times she had assisted on the pressing machine on which the accident occurred. Two girls worked on this press. One put trays holding garments into the machine from one side and manipulated a foot lever, which caused the tray to be pressed against a hot plate above. When the lever was released, a girl on the opposite side took the tray out. On this occasion this worker was taking trays from the machine. As there were no handles on them, it was necessary to reach into the machine to remove each one. During this performance the machine closed on her left hand without the lever having been touched. The hand was burned and bruised. She was disabled 17 weeks and 4 days, and 10 weeks and 4 days of this time was allowed as a healing period. Medical bills were paid, except a small one of her own doctor. The wound had left scar tissue on the dorsal surface of the index finger involving the distal joint, of the middle finger involving the middle and distal joints, and of the ring finger involving the middle and distal joints. The nail of the little finger came off, otherwise the finger was normal. The permanent injury was rated as 10 per cent loss of use of the middle and ring fingers at the middle joint of each. Compensation covered a period of 12 $\frac{1}{3}$ weeks. She returned to her former employer and continued as sample girl and general helper. There was no loss of wage, as she was a time worker. After two and one-third years she left to be married, and at the time of the interview she had not returned to industry. Her husband supported her father, who was blind, and herself. She had been hampered in doing housework, as she could not depend on the left hand in picking up or holding objects, but managed to do all her own work.

Case No. 30.—A 17-year-old girl, foreign born, was single and living with her parents and brothers and sisters, being one of three earners in a family of six. At 15, having completed the ninth grade, she had begun work as a salesgirl at \$5 a week, and after five months had changed to packing lamps for six months and then to diamond polishing for five months, each time getting an increase in pay. At the time of the accident she had been for nine months a wrapper layer on an automatic cigar machine and had advanced from \$10.56 to \$24 a week. The evening before the accident men had been repairing the machine and in testing it had left brushes under it which kept the power on so that the machine would begin to operate when a safety lever was pulled. The machine required a team of four girls and was usually started by two of the girls placing their feet on pedals. In the morning this worker came to her job, and not

knowing that the power was on, fed in some work and pulled the safety lever while her hand was in the machine. It started and her hand was caught between the roller and carrier. It was severely cut on both surfaces and when it healed left scars like welts. She was unable to work for 12 weeks, a month longer than was allowed for the healing period. The result was 25 per cent loss of use of the right hand. Medical bills were paid. She received compensation for $43\frac{5}{6}$ weeks in all. She returned to her former employer, who wanted her to go back on the same machine but she was disabled for the work and also had a fear of machinery. She was given packing to do at \$15 a week, but as she could not work fast enough because of the injured hand, she was laid off after one month. She finally got work packing lamps again, beginning at \$12 and advancing to \$13 a week. After six months she was married, and she had not returned to industry at the time of the interview.

CASES ILLUSTRATING INJURY IN AN OCCUPATION EXCLUDED FROM MANY LAWS

In New Jersey women who had received a permanent injury while working as domestic servants were compensated. A study of the extent of their disabilities and of their experiences in looking for work is illuminating to the need for including domestic servants in the compensation law of all States. There seems to be no objection to their inclusion in New Jersey, and the over-all expense involved both in insurance and in compensation administration has called forth no evident opposition. Figures from State records have already been referred to in the section on occupations included by law, and there follows here information secured from interviews with the women themselves.

Case No. 31.—A 51-year-old American woman, with a seventh-grade education, had gone into housework when she left school at the age of 12 and had continued at housework 39 years. At the time of the accident she was a cook earning \$15 a week plus her board and lodging. She fell down the stairs in the house where she was working and broke and tore the left arm. Since she had no one who could take care of her, she was sent to a hospital for three weeks, but when she was released it was necessary for her to rent a room, where she lived alone. It was very difficult and painful for her to dress herself, cook, care for her room, and so on. She was disabled 13 weeks. At the end of that time it was found that she had lost 50 per cent of the use of the left hand. Medical bills were paid, and compensation was allowed over a period of 86 weeks in all. She had difficulty in getting work but finally found a place which paid \$9 a week. Because of her disability she was laid off after two months. Then she

thought she would try factory work, thinking that if she could sit in one place and work regular hours it would be less tiring. After two months she found a job screwing caps on bottles at \$12 a week. She thought that would be as good for her hand as a massage, but she found she was "too old to start at a factory job." Speeding for 10 hours straight tired her all out, she said. She stayed home a year with the compensation to live on and then went back to her old work as cook, but during the year and a half which had elapsed before the interview she had not been able to earn more than \$11.50 a week. However, she had her room, board, and laundry taken care of and she was better off than on the factory wage.

Case No. 32.—An American-born negro woman, single, and about 50 years old, had always worked in domestic service and when injured had been employed by one family for about 26 years. She was earning \$9.63 a week plus her board and lodging. At the time of the accident she was standing on a ladder cleaning a bay window, when the ladder toppled over and she fell, fracturing the right ankle. She was sent to a hospital, and she says, "I didn't leave the hospital till I was perfectly well." Her healing period covered 22½ weeks, and compensation was paid over a period of 33½ weeks in all. Medical bills were allowed. The resulting permanent disability was rated as 10 per cent loss of use of the right foot. She was reinstated by her former employer, and at the time of the interview, three years and three months later, she was still working there at the same wage as before the accident. She felt she had been very fairly treated, and was reticent lest any statement she made regarding her disability be construed as dissatisfaction with some action of her employer.

CASES ILLUSTRATING INJURY INFLICTED IN A WAY NOT RECOGNIZED IN MANY LAWS

Elsewhere in this report appears material from State records on injuries included as compensable by law. A group over the inclusion of which there has been a good deal of dispute throughout the country is the occupational-disease group, that is, injuries in which the effects usually come on gradually, due to exposure, over a period of time, to harmful substances or conditions of employment. Of the compensated cases included in the three States, 93 were cases of occupational disease. A large number of these injuries were temporary in extent. However, there were 14 which resulted in permanent impairment. The interviews in such cases indicate a direct connection between the occupation and the injury, and therefore show the justice of including this type of injury as compensable.

Case No. 33.—A 41-year-old American woman, a high-school graduate, had been a saleswoman in a department store for 16 years, and

her earnings had increased in that time from \$6 to \$22. She was single, and with the aid of her brother was supporting her mother. Regarding the injury the doctor reported, "streptococcic infection of the thumb contracted from dye in merchandise handled, a palmar abscess and cellulitis of the right forearm, and lymphangitis involving the entire right arm." There was a question as to whether a previous abrasion did or did not occur in the course of employment, on the settlement of which depended the compensability of the injury caused by contact with the dye. She was in a hospital seven weeks and under medical care between four and five months. At the end of that time the doctor reported "stiff thumb and fingers" and advised the breaking up of adhesions under an anæsthetic. Medical bills were paid, and, since there was not complete stiffness at any joint, the case was compensated on a temporary disability basis, a healing period of $18\frac{4}{7}$ weeks being allowed. Until two and a half years after the accident the right thumb was closed into the palm of the hand and she was unable to straighten it. Then an operation was performed, paid for by the woman, which released the thumb, but there was almost complete stiffness at the distal joint. Also considerable stiffness remained in each of the four fingers. She was unable to return to her former work, but her employer placed her at billing in a drug store. As she was a beginner, she made only \$15 a week for three or four months and was then advanced to \$20. She could not handle paper well with the right hand, nor handle heavy things at all, but was given a helper to do what she could not do herself. A year later the store went bankrupt. After that she stayed at home two years, during her mother's illness and death. A little less than a year before the interview she had again become a saleswoman in a department store. This was harder than the work in the drug store, as it involved much standing, so that she felt able to work only afternoons and Saturdays. For this she received \$17.50 a week. She stated that since the accident her endurance had been lowered and she tired easily. She was much hampered in anything she tried to do with the right hand, which was still tender. She and her brother had gone to live with an aunt and cousin, but the aunt was also a wage earner and could not do all the housework. The disabled woman could not pick up small articles, could not sew with any ease, and could not do her laundry work. She had had to give up piano playing, as well as her plans for becoming a bookkeeper, in preparation for which she had been attending night school for some time.

Case No. 34.—An 18-year-old American girl, with an eighth-grade education, single and living alone, had begun work at 16 as a time-keeper in an ammunition factory at \$18.60 a week, but left after one

year because of long hours. She then became a typist in a factory office at \$12 a week. After a year at this work she scratched the right middle finger on a file and, although it was painted with iodine at once, the finger became poisoned by carbon paper which she handled. She was disabled three weeks and was paid full wage during this time. Medical bills were paid as well. The permanent disability was rated as 90 per cent loss of use of the right middle finger. In all, compensation covered a period of 28 $\frac{4}{7}$ weeks. She had begun a night-school course on commercial subjects before the accident, but gave it up afterwards, as the injured finger interfered with her typing. On her return to work she did filing for a month, then went back to typing, not using the disabled finger. However, in a year she advanced to \$17, then left to be married, and at the time of the interview had not returned to industry. The finger was stiff and in her way, hampering her in housework.

Case No. 35.—A 37-year-old American woman, a high-school graduate, single, was living with her parents and was one of two earners in a family of four. Her father's income would have supported his family, but at 32 she had started to work for a welfare organization at a wage of \$11.55 a week. She became interested in industrial conditions, and after six months went into placement work with an employment bureau, for the sake of the experience, continuing at that for a year and a half and earning \$17.32 a week. She was then employed in the personnel department of a factory. With 11 months' experience her wage had increased from \$23.09 to \$28.80 a week. As part of her work she had charge of the first-aid department, and while taking care of an employee she contracted an infection in the right index finger, which finally involved the hand and arm. She was disabled for five weeks. No medical bills were paid, as she preferred to employ her own physician and the nurse whom he provided, and no claim was made for these bills. The permanent result was rated as 100 per cent loss of use of the right index finger at the middle joint and 50 per cent loss of use of the same finger at the proximal joint. At the time of the interview the loss of use was complete at the proximal joint; however, she had never questioned the award in any way, and compensation was paid over a period of 25.8 weeks. She returned to her former work without loss of wage. She stated that the only inconvenience she experienced in her work was in writing, and she learned to do this with the middle finger. In sewing at home she also used the middle finger. After one and a half years she stopped work because of illness at home. At one time after that she had returned to her former employers to help them out for two months, but for the remainder of the time she had been needed at home. She was reticent and inclined to minimize the result of the accident. There was no economic stress.

Case No. 36.—A 36-year-old woman, of American birth and a high-school graduate, had first gone to work at 34, when she left her husband. She had two children. She had obtained clerical work in a department store for four months at \$15 a week, then, after a short illness, she found work as a trimmer in a wholesale millinery establishment, also at \$15 a week. At the time of her disability she had been there a year and a half. For the last four months of this time her right thumb had been going out of joint constantly at the distal and proximal joints whenever she pushed a needle threaded with raffia through straw. She continued to work during these four months and then went to a doctor, who found the tendons badly stretched and put the thumb in splints for two months. During this period, as she could not sew, cook, nor wash, and other work was difficult, she took her children and went to live with her mother for a month. The mother did the housework, and the worker paid part of the expenses, using her savings for this purpose. On her return to work after eight weeks she put in a claim for compensation. The company disputed all her statements, and a hearing was arranged at which it was determined that the injury had arisen out of her employment, and the permanent disability was rated as 10 per cent loss of the use of the thumb at the distal joint, a healing period of three weeks being allowed. The total compensation paid covered a period of 5.4 weeks. Before the disability she had done trimming, but was disabled for it, as the doctor told her the same thing would happen again. She had been promised work as a buyer, at from \$35 to \$45 a week, after a few more months' experience as a trimmer, but this opportunity was now closed to her. She stayed as a saleswoman at \$15 a week for 11 months, but it was necessary for her to earn more, and as there seemed no opportunity in this establishment she went into business for herself in a beauty shop. At the time of the interview, two years and two months later, she was still conducting this business, with her daughter, who helped her on Saturdays. She estimated that she cleared from \$20 to \$25 a week.

Case No. 37.—A 25-year-old American worker, with a seventh-grade education, was married and had one child. She and her husband were working, and their combined income amounted to \$44.04 a week. At 18 she had begun work as a power sewing-machine operator, at \$11 a week, and had remained at that work until her marriage a year and a half later. After staying at home for two and a half years she had worked twice as a sewing-machine operator, two weeks at one time, six months at another, but had left each time because of her work at home. At the time of the accident, about five and a half years after her marriage, she was polishing bottles

with acid in a glass factory, where she was earning \$14 a week after six weeks' experience. She had picked up a pair of pinchers that had acid (sulphuric and hydrochloric) on them, and the acid burned the palm of the left hand and the tips of the index, middle, and ring fingers severely, disabling her for $16\frac{6}{7}$ weeks. During much of that time her mother came in and did her washing and ironing, and her sisters came and helped with the cooking. Her husband also helped with the work. She returned to her former employer, although she was disabled for polishing, and was given light work placing bottles on a board, but the left index and middle fingers were so stiff and eaten off by the acid, and the hand was so tender, that it was impossible to continue and she left after three weeks. The permanent injury was rated as a total loss of use of the index and middle fingers and a third loss of use of the ring finger, due to ankylosis. Medical bills were paid and compensation was allowed for $87\frac{2}{3}$ weeks. Two and a half years after the accident she returned to work for four months, on a conveyor in the same plant, earning \$16 and then \$17 a week. For the remainder of the time she had stayed at home. She found it took most of her energy merely getting her housework done, as she was so handicapped by the injured hand. She was afraid of knocking it and extremely sensitive about the deformity.

Case No. 38.—A 15-year-old American girl, with a seventh-grade education, single and living alone, had begun work at 14 as a core maker, earning \$11 a week. After a year she tired of this work and became a telephone operator. At the time of the accident she had had six weeks' experience and was earning \$10.50 a week. The rubber was worn off the switchboard plug which she used, leaving a brass wire protruding, and a splinter of this wire penetrated her right index finger. The day after the accident the finger became very sore, and a serious infection set in, causing her to leave her work. There was surgery for drainage, two of the incisions being over the head of the index metacarpal. She said that her jaws were locked for two weeks after the last lancing, her right side was paralyzed, and she had convulsions. The doctor sent for her family, not expecting her to live. She was out of work $11\frac{5}{7}$ weeks. A settlement was made, covering the permanent disability equivalent to 50 per cent loss of use of index finger at proximal joint, with the understanding that if there were subsequent wage loss due to the disability this money would be applied thereon. The compensation covered a period of $28\frac{4}{7}$ weeks. The claim was disputed; no compensation was paid for over a year, and she went in debt to her landlady, although she had some financial assistance from a friend. She did not return to her former employer, as the finger was still too sore

to handle the plugs. Instead she found work sorting tin in a sheet-metal factory at \$16.50 a week, but after a month work was slack and she was laid off. She then returned to core making. She worked 10 days for one firm, making about \$13.75 a week at piece rates, but the injured finger interfered with her grasp and she left. At a second foundry, where she secured a job almost immediately, she earned \$15 a week at core making, but was laid off in a short time because work was slack. She then returned to the telephone exchange and was employed as an instructor at \$12.60 a week, leaving after six weeks to marry. At the time of the interview she had not again returned to industry. She stated that the right side of her arm, face, and back would still "break out" at times, her fingers ached in cold weather, she was unable to sew much, though formerly she had made all her own clothing, she could not play the piano, and she was hampered in her housework, dropping things which she tried to pick up. The firm, which was self-insured, disputed the claim and brought it before the commission for adjustment. The employer said that the girl left work and did not report the accident until four days later, that the apparatus which she had used was carefully inspected, and that it was practically impossible for her to be injured in the manner described. The claimant made affidavit that she had notified a supervisor of the accident at the time of its occurrence (this supervisor was no longer with the firm at the time of the controversy) and also had called the attention of a fellow employee to the accident, and that a fragment of brass was removed by a friend the same day. The fellow employee working next her made affidavit that the claimant had told her of the injury and that she herself had had a similar accident. The final conclusion of the commission was "claimant received the injury in the course of employment and is entitled to compensation for a healing period of $11\frac{5}{7}$ weeks, and proper and necessary medical bills. She had sustained no impairment in earning capacity. Medical proof would indicate that claimant had not sustained such a permanent partial disability due to ankylosis as would make the finger or part of such finger more than useless as is contemplated in the law." The firm agreed to pay \$125 "as compensation for partial loss of use of the finger." She had employed a lawyer to assist her and gave him half the award.

Case No. 39.—An American woman of about 25, with a seventh-grade education, single, and living alone, was injured on her first job, silvering lenses, at which work she had advanced from \$11 to \$12.50 a week. She had picked up a lens to dip it into a bucket, when the lens slipped from her fingers and dropped into an acid solution, which splashed into her eye. The resulting acid burns involved the

conjunctiva and a fourth of the cornea. She was disabled $11\frac{3}{7}$ weeks. Medical bills were paid. She returned to her former work without loss of pay. After working three months she left to be married. At about this time, a medical examination into the extent of permanent disability rated it as 25 per cent loss of vision of the left eye and compensation was allowed for $35\frac{1}{2}$ weeks. At the time of the interview there had been no change in the condition of the eye. She had not returned to industry. She did not use her eyes closely for any length of time. She never had headaches.

Case No. 40.—A Polish woman of 21, who had attended school in Poland for 10 years, was a widow, living alone. She had been a silk weaver for six months before her marriage at 18 and had then remained at home. After two years she had been widowed and had gone to work again as a saleswoman in a department store at \$16 a week, but since this required work three nights a week she had returned to the silk industry after four months. There she had done packing and made samples for four months, advancing from \$12 to \$14 a week. She had then been transferred to inspecting and cleaning silk at \$16, and eight months later, while removing a ticket from a piece of silk, she scratched the right ring finger on a pin. A felon developed, due to the constant rubbing of the injured finger while rolling silk over a stick in inspecting. A week after the accident she stopped work one day, worked the next, and then was disabled about two months. At the end of that time she returned, worked one week, and was again disabled for nearly two months. It had been necessary to amputate the ring finger between the distal and the middle joints. Many baking treatments were given to relieve stiffness of the stump of the finger. Some medical bills were paid but she spent \$7 for treatments. Compensation was allowed for $35\frac{1}{2}$ weeks, which included a healing period of 16 weeks and 5 days. On her return she found herself hampered because the finger seemed clumsy and in her way. However, there was no wage loss, since she was on a time rate. After working 20 months she married and at the time of the interview had not returned to industry.

CASES ILLUSTRATING DIFFICULTY IN MEETING EXPENSES BETWEEN ACCIDENT AND RECEIPT OF COMPENSATION

The median of the week's earnings of the women who were injured was \$14.95. That is, one-half of the women were earning an average of more and one-half an average of less than that amount when they were injured. A study of the prices of food and clothing and other commodities necessary to an estimate of the cost of living would indicate that in many cases these women

must have had difficulty in meeting their usual expenses. It is evident that when this meager income was cut off, even for a short period, there was real hardship in addition to the suffering and the worry as to what the future might hold for a person with a permanent handicap.

Compensation during the period of temporary total disability was designed to counteract this hardship. From the point of view of efficient administration of the workmen's compensation law, the need for promptness of payments is second in importance only to the need for full payment of what is due under the law. It is impossible to secure exact information in regard to promptness when it is necessary to rely solely on the memory of the injured person, but in the present study there were instances of markedly delayed payment, the woman's testimony in which is of interest and value.

Even in cases where the time of payment is in accordance with law, if the legal waiting period is one week (as in Ohio and Wisconsin at the time of the survey) checks do not begin to come until the beginning of the third week; and if the waiting period is 10 days (as in New Jersey at the time of the survey) it is nearly three weeks before any money can be expected. It is of interest to note, therefore, cases in which, though payment was prompt, hardship was incurred during the period when no money was coming in because the family was already near the poverty line. Testimony of this nature indicates clearly the burden upon the injured person of a long legal waiting period.

Two reasons are given for the establishment of the legal waiting period: First, administration of cases in which only a short period of time is lost would be excessively burdensome; and, second, the malingerer would stay away from work a day or so without just cause if he were to be paid for his time. It would appear, however, that a waiting period of three days would relieve the administration of the handling of short-time claims. As to malingering, the fact that the compensation paid is so much lower than the wage earned, and that medical testimony to the existence and extent of disability is required in all cases, would act as a deterrent. A long waiting period defeats the purpose of indemnity for temporary total disability, for such indemnity was designed to relieve the worker during the healing period. Administrative procedure could be provided to deal with what few dishonest claimants might appear, instead of regularly penalizing all injured workers.

Case No. 41.—An American-born negro, 27 years old and with a fifth-grade education, was living with a married sister, she and her brother-in-law being the only earners in a family of eight. Their

combined income was \$33.52. She had begun work at 16 as a stripper in a cigar factory, at \$7 a week, and had stayed there until the factory moved, a year and a half later. She had then gone into domestic service for nearly nine years, beginning at \$4 a week and advancing to \$8. As a friend had told her factory work was much better, with its regular hours and other good features, she had left washing and had got a job in a factory on a foot-power punch press. She began work at 7.30 one morning, and at 9.30 she was at home with the first joint of the right middle and ring fingers gone. Her hand had been caught while operating and the two fingers were traumatically amputated at the distal joint. She stayed in bed for two weeks, except when her sister dressed her and her brother-in-law took her to the hospital. She went once a day the first week and then twice a week for three months. Her sister was pregnant and was confined four weeks after the accident. The washing had to be sent out and her brother-in-law did the cooking. They had a very difficult time. After she was discharged by the company doctor she went to their family doctor for a month. This bill she paid herself. A healing period of 10 weeks was allowed and compensation was paid for 33 $\frac{2}{3}$ weeks in all. It was seven months, however, before she received the first payment. She finally returned to work one year after the accident. Being disabled for the punch press she returned to the cigar factory and became a hand roller at \$6 a week. At the end of the first year she was making \$8 and at the time of the interview, after two and a third years' experience, she had advanced to \$12 a week.

Case No. 42.—An American woman of 38, with a seventh-grade education, was living with her mother, who was a nurse and the chief wage earner. The daughter had become an earner for the first time when 25 years old, starting a small store and averaging a weekly income of \$10 to \$12. After four years she had given it up and become a saleswoman in a coal and feed store at \$3 a week and "extras," which she could not estimate, but after seven years the firm had gone out of business. She had stayed at home two years and had then gone into a factory for the first time, packing food products. At the time of the injury she had had two months' experience and was earning \$11 a week. While she was packing horseradish in bottles, a bottle broke in her hand and a sliver of glass entered the left middle finger. The doctor who dressed the wound said that it was a mere scratch and that stiffness was due to her nervousness, but that when it was healed there could be an operation to straighten the finger. The mother thought there should be an operation at once, if at all, and refused to wait until later. They went to a specialist, who stated that nerve, tendon, and artery had been severed,

and that an operation would help very little. The insurance company offered her \$7, and later \$25, in settlement. She refused both. Then they told her to return to the doctor who had first treated her, for his statement. This doctor now recognized the disability and rated it as total loss of use of the left middle finger at the middle joint. Medical bills, with the exception of \$5 to the specialist, were paid. A healing period of eight weeks and five days was allowed. Compensation covered a period of 10.1 weeks in all. This final settlement was made about two and a half months after the accident and no compensation had been paid during that time. The woman wanted work at the end of the temporary disability period, and since her former employer had gone out of business, she tried packing in another food plant at \$12 a week. Her finger was still painful, and after a week she was forced to leave. At the time of the interview she had not again returned to industry. She did the lighter work at home for a long time, working with one hand. The mother did the heavy work or some one else was paid to do it.

Case No. 43.—A girl of 17, American born, and having a tenth-grade education, was living with her father, mother, sister, and brother. Her father and sister also were working, the combined income being \$37.29 a week. This girl had begun work when 15. At the time of the accident she had been on her first machine job for three weeks, her wage being \$13.75. While sewing belts on a power machine in a rubber factory, she turned off the power to clean her machine and thinks some one must have turned it on again by mistake, for her right index finger was caught and the end crushed. It was necessary to amputate most of the distal phalanx. She was disabled four and four-sevenths weeks. At this time her mother was ill, and her sister, working half-time, cared for both of them after working hours. As no compensation payments were made until some months after the accident, the family had considerable financial difficulty. Medical bills were paid. Compensation was finally allowed for 15 $\frac{1}{3}$ weeks. The worker stated that she was not disabled for her accident job, but that her mother, afraid lest she be hurt again, would not let her return to it. Work was slack at the time, and it was three months before she finally succeeded in getting work as a power sewing-machine operator in a tailor shop. Here she was obliged to work for \$10 a week, and for eight months received no increase. She could have earned more if she had been able to do hand sewing, but her injury prevented this. She then found the same type of work in another shop at \$19 a week. At the time of the interview she was still operating a power sewing machine and for over three years had averaged \$19 a week. She thought she worked more slowly than if uninjured but could not judge the extent

of the handicap. She was unable to do hand sewing for herself because she could not hold a needle. In cold weather she felt pain in the injured finger and when she bumped it she "nearly jumped to the ceiling."

Case No. 44.—As her husband was ill and away from home, an American woman of 29 became the sole support of her family, which comprised husband, self, and two children. At 13 she had entered domestic service, continuing at this work for 14 years. She had then found work in an electrical-supply factory as an inspector at \$19 a week, but after 22 months had become a punch-press operator at \$20.68. After three months on this machine she met with an accident, due to a faulty guard and resulting in amputation of the right middle and ring fingers at the distal joint. She lost three months following this injury. Just one week after returning to work she was again injured while operating this machine; "suddenly the guard failed to work," she stated, and the right thumb and index finger were caught under the die. She was out of work six weeks, and it was more than six weeks before she received any compensation. The nurses gave her some food and clothing to help her through the emergency. Her children did all the cooking and cleaning. Medical bills were paid and compensation was allowed for four and six-sevenths weeks. The finger and thumb were flattened at the ends, and this, added to the previous impairment, disabled her for operating a punch press. Also she became unstrung after the first accident and felt that she should not have returned to the press; so after the second accident the idea of any machine work seemed impossible to her. She was given inspecting at \$12 a week and after three months was laid off. At the time of the interview she was decorating electric sweepers, at \$12 a week. Her husband was not strong enough to work regularly. The two children did a great deal of the housework, as she was unable to sew and was considerably hampered in cooking.

Case No. 45.—An American girl of 18, with a sixth-grade education, was living with her father, mother, and four brothers and sisters, she and her father being the only earners. She had begun work when 16, doing hand sewing and earning \$4 or \$5 a week. After a few months she had become a power sewing-machine operator at \$6 a week. At the time of the accident she had had two and a half years' experience on this machine and was earning \$20 in an overall factory. One day the needle pierced the end of the left middle finger, infection developed, and 16 days after the accident she was obliged to stop work for 11 $\frac{4}{7}$ weeks. The family of seven lived on the father's earnings. No compensation was paid until 16 weeks after the accident, when she received the whole amount. "It's a pity

they can't pay you when you need the money," she said to the interviewer. Medical bills were paid. Compensation covered the healing period. She returned to her former work but lost some wage at first, as she was on piecework and had to get up her speed again. At the time of the interview, three years and eight months later, she and her father were still supporting the family of seven. She was working on the same job and had regained but not exceeded her preaccident rate of \$20 a week. She stated that the distal joint of the middle finger was numb; there was only passive motion, and she could not use the finger in picking up objects.

Case No. 46.—An American woman of 28 years, with a sixth-grade education, was married and had four children. She and her husband were working, their combined income being \$33 a week. At 14 she had become a wage earner, working for about three years in three different factories. During this period she had married and she stopped work for the birth of a child. She did not return to work for several years, and in that time four children were born. About a year before the accident she had felt it necessary to supplement her husband's earnings. For six weeks she had done hand gluing in a casket factory, at \$8 a week; she then had become a waitress for 10 months, earning \$6 to \$7 a week; and after a short illness she had found work in a thermometer factory. For three weeks she had done hand work at \$9 a week, and then had been promoted to operating an embossing press. At the time of the accident she had had two weeks' experience and had advanced from \$10 to \$11 a week. While feeding the press the right hand was caught between type and work, and was held by red-hot type under a pressure of $2\frac{1}{2}$ tons. The hand was badly crushed, one-half the distal phalanx of the middle and the ring fingers was amputated traumatically, and bones of the fingers and two carpal bones were broken, 11 fractures in all. There was considerable infection. She was in a hospital 17 days. For about 10 weeks after the accident her husband continued at work, cared for the children, and helped about the house, but he then deserted the family. Still disabled, and having as yet received no compensation, she at once moved her family into cheaper quarters, and the oldest of the four children, a boy of 11, sold his paper route and his wagon for \$8.50, which paid the rent for a little while. This boy then sold papers on the street, averaging about 75 cents a day, which bought the food. The woman was able to borrow some money from her employer, and 14 weeks after the accident she returned to work although the hand had not completely healed. The next day the first compensation payment, covering five weeks' temporary total disability, was received. After three days she slipped on the ice, reopened the wounds, and stopped work for

a month longer. On her return her employer wrote to the commission, stating that she had been disabled longer than the time allowed and that she had a permanent disability. The permanent injury was rated as total loss of use of the middle, ring, and little fingers and two-thirds loss of use of the index finger. Medical bills were paid, and the total compensation allowed was for 105½ weeks. On her return to work, since she was disabled for her former occupation, she was given a job sealing thermometers, at \$12. "I was given a raise because he knew I needed it," she said. The sealing was done by melting the glass. Tiny splinters of glass often broke off, and she was afraid of getting them in her injured hand; so in two weeks she found work in a paper-box factory, also at \$12 a week. She tried "turning in," but had to use the thumb and finger of the injured hand and the pressure made them sore; she then found that she could do labeling with the left hand, but she was slow at it. She worked at the box factory two and three-fourths years. During this period she married, and finally left for the birth of a child, and had not again become a wage earner. After the accident she had lost weight and her endurance had been reduced, but at the time of the interview, having no economic worries, she was in much better health. Her husband did the sweeping and wrote her letters, the washing was sent out, and a sister helped her with the sewing; she herself could do plain sewing on a machine. She did the remainder of her housework with the children's help, working slowly with the left hand.

Case No. 47.—An American woman, 30 years old, because of separation from her husband had returned to work in order to support herself and her 6-year-old son. She had a sixth-grade education, and before her marriage at 20 had worked for five years as a checker in a laundry and as a buttonhole-machine operator in a shirt factory. After her marriage she had continued to work at the shirt factory, on a part-time job, and later as waitress or food checker in restaurants or hotels. Six months before the accident she had become a saleswoman in a grocery store, and in this time had advanced from \$15 to \$16 a week. At the time of the injury she was unloading pails of candy from a truck, the shelf of which was 2 or 3 feet above the floor. While she was lifting a pail of candy the handle broke, and in order to save the candy, she jumped, caught the pail, and held it with both hands against her body while she carried it a distance of 12 feet. She felt a sudden sharp pain at the side of the stomach and in the lower abdomen, and went to the rest room, but the pain was so severe that she was unable to straighten, and she was taken unconscious to a hospital. When she regained consciousness she insisted on being taken home, as she was not willing to leave her little girl. For two weeks a practical nurse cared for

her at her home. The doctor reported, "severe abdominal pain both right and left lower quadrants in the right hypochondrium; temperature $99\frac{4}{5}^{\circ}$; pulse 88; menorrhagia, hemorrhage, backache, retroversion of the uterus, displacement of ovary. Two years before she had had an appendectomy and one of the fallopian tubes had been removed. In addition to the results already stated, the injury had aggravated and torn loose the walls of the old injury, causing leucorrhoea." She was disabled $10\frac{1}{2}$ weeks. No compensation was paid until after her return to work, and she went into debt for groceries, gas, and other things and borrowed from her mother. Medical bills were paid. On her return she worked three days a week, as she was not strong enough to do more. As she found she could not endure even that much standing, she left after six weeks. Compensation covered the temporary total disability period and the period during which there was loss of wage. After leaving the part-time job at the grocery store she became a checker in a restaurant, work at which she could sit. She began at \$20 a week, and at the time of the interview three and a half years later was making \$32. She had been strong and well before the accident, but since then her general health had been impaired and her endurance reduced. She could do very little standing or lifting and hired some one to do her washing. She felt pain at times in the left side of the abdomen, more especially before menstruation, and menstruation was more painful than formerly.

Case No. 48.—A girl of 16, who had completed the eighth grade and had graduated from a business college, was living with her parents and a brother and sister. Her father had been out of work for several months and she and her brother were supporting the family on their combined income of \$33.50 a week. She had begun work soon after she was 16, as a clerk-typist at \$12 a week, but had left after a month for better pay. She had turned to factory work and had become a packer in a plant manufacturing buckles, beginning at a wage of \$10 and advancing to \$11.50 six months later. At the same time she had played a piano in an orchestra once a week, receiving \$5, and she occasionally earned \$2.50 by substituting for the pianist in a moving-picture theater. Two days before the accident she had been transferred to work on a foot punch press, taking the place of a girl who had been injured on it. While operating, her left middle finger was caught and smashed at the distal joint and one-fifth of the distal phalanx was traumatically amputated. She was in bed three weeks from shock and was disabled for work for seven weeks after that. The family went into debt, as the brother, who earned \$17 a week, was the only support of the group of five. Medical bills were paid, and compensation was allowed for $11\frac{5}{6}$

weeks. She could not return to her former employer as she was afraid of machines and there was no other opening available at the plant. "You couldn't get me to go back on a machine," she said. She later was made forelady. She worked there for three years and was advanced steadily from \$8 to \$25. This factory burned down, and at the time of the interview the worker had been testing flashlights for two weeks, earning \$16.34 a week.

Case No. 49.—A girl of 18, American born, and with a fourth-grade education, was living with her parents and five brothers and sisters. Her father, a contractor, was out of work in the winter, so that she and one sister were the only earners, their combined income being \$27 a week. She had begun working when 16, as an operator on a heel-building machine, and two years' experience had increased her earnings from \$12 to \$15 a week. While she was operating the machine, her left index finger was caught under the die and amputated at the distal joint. She was disabled four and a seventh weeks, and the family of eight, having now but one wage earner, went into debt. Medical bills were paid and compensation was allowed over a period of 12 weeks in all. Since the worker was a minor, compensation was based on a prospective wage of \$22.50 a week. She returned to her former job, but at a time rate, as she was not able to work so fast as before. This entailed a loss of \$1 a week for the seven months that she worked. She then married, and up to the time of the interview had not again become a wage earner.

Case No. 50.—A girl of 18, foreign born but having completed the third grade of schooling in the United States, was living with her parents and six brothers and sisters. Beginning work at 14 years of age, she had been for a year and a half a machine helper in a food factory, earning from \$7 to \$9 a week. Because opportunity for promotion seemed slight, she then had become a punch-press operator in a factory making chemical products, and after two years' experience her wage had advanced from \$12 to \$15 a week. While operating, the left index finger was caught under the die and badly lacerated. It was necessary to amputate three-fourths of the distal phalanx. She was disabled for 15½ weeks. Her father was ill at the time of the accident and she was the only earner in the family of nine. Relatives assisted them, as they were exceedingly hard pressed before compensation payments began. Medical bills then were paid and compensation covered a period of 27 weeks in all. On her return to work she was afraid to attempt operating a punch press, although she was physically able to do so. For this reason she worked on another machine, but experienced no wage loss. She

married soon after, and at the time of the interview had not again worked outside her home. The finger was stiff and deformed at the distal joint, and she was unable to do her washing.

Case No. 51.—An American woman of 50, with a seventh-grade education, had worked before marriage as a shaker, ironer, and folder in laundries, never earning more than \$8.50 a week. She had returned to work after separating from her husband about a year before she was injured. She had done cleaning and chambermaid work for a while, and at the time of the accident had been for nearly six months a dishwasher in a retail store at \$10.45 a week. She went to the storeroom for supplies, and when leaving the room turned off the light, according to instructions. In the meantime a cleaner had moved a pair of scales into the aisle, and in the dark passage outside the storeroom she bumped into them, striking the left shin, and fainted. She did not stop work until seven weeks later, when an ulcer formed at the point of injury, this condition being aggravated by the presence of varicose veins. Because she lived alone and had not been able to save on her \$10.45 weekly income she was in great difficulty before payments began. Friends cooked food and brought it to her; her landlady also provided food and waited on her during the healing period, and the manager of the store gave \$4 for her room rent out of his own pocket. She herself paid for a rubber stocking costing \$9.50, ordered by the doctor, and also for liniment, but other medical bills were paid. She was disabled eight and two-sevenths weeks, and compensation covered the healing period. Just before her injury became so painful as to oblige her to leave work she had been made matron at the store, at the same wage, \$10.45 a week. On her return she found some one in her place and no other opening for her. She became a dishwasher in another store but had to give it up in one and a half months, as she could not endure standing. Her next job, secured through a friend, was as janitress for a telephone company at \$18 a week, but after six months she was laid off. However, she was in doubt as to whether she could have continued much longer, as she found the work hard and made doubly so because of the injured leg. She then turned to practical nursing, which she was doing at the time of the interview. The leg was still weak and painful and she had had ulcers at the point of injury from time to time since the accident, the scars of four being visible. At times she was totally disabled because of the ulcers and varicose veins. She still wore the rubber stocking and it was necessary to bathe the leg with warm witch hazel. Going up and down stairs was hard for her, and continued standing was impossible.

CASES ILLUSTRATING THAT COMPENSATION FOR TEMPORARY TOTAL DISABILITY DID NOT COINCIDE WITH HEALING PERIOD

The time during which the injured person is unable to perform work because of the accident is called the healing period. The duration of this period is set by the doctor who has treated the injury. In some cases either because of a belief that any work is better than none or from a desire to minimize the lost time due to accidents, the injured person is urged to go back before she has returned to normal health, and she is given some lighter task until she is able to resume her regular work. This may prolong the actual healing period and increase the permanent incapacity. In other cases her compensated period is terminated before she considers herself able to return to work, so that there is a period when temporary total disability payments have ceased and earnings have not begun. The fact that at this time she may be receiving indemnity because of her permanent disability does not better the situation. Temporary total disability payments are designed to meet current living expenses during the healing period, and indemnity for a permanent disability is designed to assist the injured persons, after they are pronounced able to work, to regain their industrial status and to make a satisfactory social and home adjustment in spite of a physical handicap.

Case No. 52.—An American woman of 27, with a sixth-grade education, was single and living with her mother, sister, and two brothers. She and the two brothers were working, their combined income being \$40 a week. At 20 she had begun work on a power punch press at \$6 a week, and at the time of the accident she was working in a sheet-metal-goods factory, operating a press and also acting as forelady, at \$18 a week. While inserting work her left index finger was caught between the punch and the die. Her employer told her that if she did not stay out on account of the accident she would get more money. She remained at work and was made a time keeper temporarily, since the sore finger disabled her for operating a machine. For this work she was paid \$8.25 a week, as she was told that she was not worth more in her disabled condition. Infection set in and did not clear up until four weeks after the injury. The permanent disability was rated as 10 per cent loss of use of the finger, and compensation covered a period of three and a half weeks. Medical bills were paid. After five weeks she was put back on her old job, but it took her months to regain her former ability. At the time of the interview she had just changed to punch-press operating in a fountain-pen factory. She was starting at \$18 a week but considered the prospects for promotion good. The

girl stated that as forelady before her accident she had been instructed to lay off, under pretense of insufficient work, anyone who was injured at work, so that the firm might run no more risks. She had laid off some workers in obedience to these instructions.

Case No. 53.—A woman of 50, widowed and living alone, was a foreigner, speaking Hungarian, Slovak, and a little English. At 16 she had gone to work for the first time as a domestic servant in Hungary, and six years later had come with her husband to the United States. Here she had been for nine years a machine operator in a handkerchief factory, then had become a spinner in a worsted mill. At the time of the accident she had been working there for 19 years, having advanced to \$18.25 a week. She was injured while cleaning the machine in motion. The left index finger was caught in the rollers and badly lacerated. The foreman told her that "she would have to come to work every day in spite of her injury; if she didn't feel like doing anything she didn't have to, but she'd have to appear or she'd lose her job." She used to cry at nights, as she was so tired and unstrung. The finger was slow in healing and she had to pay a woman to cook, wash, and clean for her, and even though it cost a great deal she kept the woman five weeks. She felt very helpless without her husband. Four years previously she had had an accident, also while cleaning the machine. Her rag had been caught, the left middle finger pulled in and the tip taken off. Her husband was living then "but not working regular." Afraid of losing her job she had not reported the accident but had caught up her finger in her apron and run home, remaining there for two days. She had told the boss she had hit it when chopping wood. The distal joint of the finger had been stiff as a result of the injury. At the time of the second injury she was alone, and as she spoke English poorly she did not know where to go for assistance. The medical bills were paid. The permanent disability was rated as 60 per cent loss of use of the index finger, compensation for which covered a period of 21 weeks. After the accident she continued on the spinning frame with no lost time, but with two injured fingers she worked slowly for a while, earning \$14. At the time of the interview, two years and four months later, she was receiving \$16 a week.

Case No. 54.—A 17-year-old American girl, with a sixth-grade education, lived with a foster mother and sister, and the combined earnings of the two girls were \$29.82 a week. On leaving school she had worked in a hosiery mill for two weeks, folding at \$6 a week. She had then got a job with more opportunity for advancement in a paper-box factory, where she operated a doming machine. In a year she had increased her earnings from \$7 to \$14.82 a week. While

operating her machine, the right hand was caught between the pressure block and the steel die and the index finger was traumatically amputated at the middle joint. The middle finger was severely lacerated on the flexor surface from the tip to the middle joint, the injury exposing the flexor tendon and resulting in complete ankylosis at the distal joint. After six weeks and five days she was told she would have to go to work or she would get no money for the permanent disability. The fingers were not yet healed and were very sore, but she felt she must return. She was given handwork as a paster at \$12 a week. Medical bills were paid and compensation was allowed for 33½ weeks in all. She was unable to operate the doming machine again but after four weeks was placed on other machine work at \$12 a week. At the time of the interview, three and a half years later, she was making only \$13. The sister had married, and the worker and her mother had moved to a little two-room house. Her mother was "too old to work," but she owned a little land on the other side of town where she raised a few vegetables in summer. The girl could not sew or do housework with any speed. She supported herself and mother, although it was "hard to make \$13 go round." She thought there was not much hope for a raise because she was "no good on piecework since the accident."

Case No. 55.—An American girl of 15, with a sixth-grade education, was living with her mother and four brothers and sisters. She and one brother supported the family, their combined income being \$35 a week. On leaving school she had gone to work as a looper in a hosiery mill at \$10 a week. A month later she was injured. New machinery was being added to the shaft near her machine, the windows were open, and the wind caught her skirt in the moving belt, pulling her forcibly to the floor. The left shoulder was sprained, and the head of the humerus fractured at the epiphyseal line, the fracture extending 2 inches down the shaft. The doctor reported, "It has united in fair position but the head of the bone is tilted inward so as to bring the greater tuberosity up under the acromioclavicular joint, interfering with the free upward motion of the humerus. The girl is 15 and the acromioclavicular joint is not yet calcified. This fact had a distinct bearing on the case as it is possible as time goes on the joint may give way somewhat to make way for the upward sweep of the left arm. I would not do anything toward a settlement with this girl as the longer you wait the better the arm will be." During her disability she was constantly urged to return to work, and after 11 weeks and 2 days she did go back. For this lost time she was compensated, and medical bills were paid. She was kept only two weeks and then laid off. She had not been able to work and her mother stated she "was never right" after the accident, because of her youth and inex-

perience and of the shock and fright. "She never cared to do anything afterwards." She stayed home constantly but did not even "do anything around the house" after the accident. Eight months later she died of pneumonia. At a hearing two years after the accident the permanent disability was set at 10 per cent loss of use of the arm at the shoulder, for which compensation was allowed for 25½ weeks. The company had compensated her on a basis of a wage of \$10 a week. At this same hearing, since she was a minor, the wage basis was adjusted to her probable earnings at 21 years, \$15 a week.

Case No. 56.—A Russian woman of 29, who had had four years of schooling in her own country but was unable to read or write English, had come to the United States in 1913. Her husband had planned to follow with their 3-year-old child, but had been prevented by the war. Not having enough money to go back, for six years she had worked as a mule spinner in a woolen mill, always hoping her husband would be able to come. During this time she had advanced from \$9 to \$23 a week. On the day of the injury the side of her shoe caught in the carriage track while she was spinning, and she was knocked down, striking on the right knee, which was badly strained. The leg was infected and seriously swollen. For six months, part of which time she spent in a hospital, she was completely disabled. The neighbors helped her financially and attended to her personal needs. She had headaches and "felt sick all the time." The foreman kept sending for her to return to work, and as her compensation for the healing period had stopped after 22 weeks, she returned to work at the end of six months although the leg was still swollen and sore. In two weeks she was completely used up, went to the hospital again, and was away from work three additional months. Then for a year she worked as she was able, because she needed the money, but she lost much time. She could no longer do spinning but was made a general helper, receiving only \$12 to \$14 a week for her work. She "couldn't be quick on the job," and all the time the foreman kept hurrying her with, "What's the matter? You no want to work, you're lazy." Finally, after working irregularly for a year, she got enough money to pay for her passage to Europe to her husband and mother. She died two weeks after joining them. The permanent injury was rated as 50 per cent loss of use of the leg, and with the 22 weeks allowed for a healing period, compensation was paid for 108½ weeks in all.

Case No. 57.—An American woman of 29, with an eighth-grade education, was living with her husband, mother, and father. She and her husband worked, their combined income being \$38.86 a week. She had worked as a domestic servant for five years before her marriage at 22, then after four years at home had returned to

work, as she felt responsible for assuming some of the expenses for her father and mother. She had become an operator of shirt and collar presses in a laundry, sometimes working as a feeder on a flat-work ironer. After three years she was earning \$10 a week. While feeding the flat-work ironer the fingers of the left hand became entangled in a piece of cloth and were drawn between the hot roll and drum and held under a pressure of 80 pounds for almost a minute, because it was necessary for some one to cross the room to shut off the power. The severe burns resulting involved the whole palm of the hand and fingers and were so deep at the proximal joints that the tendons passing to the fingers and the deep palmar fascia were affected. An artery in the middle finger was severed and there were nine hemorrhages the first week after the accident. She lost a year and 10 months and her hand was bandaged a year and 3 months of that time. She received medical treatment for seven and a half weeks and after that continued to massage the hand herself with hot oil to prevent contracture. At a medical examination nine months after the accident it was determined that there was total loss of use of the four fingers because of scar tissue, which caused stiffness and rendered the hand tender and sensitive. She was asked to file a wage statement showing work she had performed or what effort she had made to secure work if unemployed. Her statement showed that in the nine months following the accident she had worked a half day and was unable to continue as the hand had become swollen and sore. Medical bills were paid and the final award was for compensation over a period of $132\frac{1}{7}$ weeks, $33\frac{1}{7}$ being allowed for the healing period. On her return to work she did marking, sorting, and bundling at the laundry, since she was disabled for operating a machine. She began at \$10 a week, her former wage, and in one and a quarter years had advanced to \$15. The laundry then changed hands, and wages were so reduced that it did not pay her to remain. She lived in a small town where industrial opportunities were limited, so after that time she did light cleaning by the day, averaging about two days' work a week. At the time of the interview she was occupied in that way. The scars were still sensitive. In spite of the disability, as her mother was getting feeble she did most of the housework, and as her husband's earnings were low she even did the washing, rubbing the pieces clean on a board with her right hand.

Case No. 58.—A 60-year-old American woman, with a fourth-grade education, was a widow, living with one grandchild whom she supported. She had been in domestic service off and on almost all her life. At the time of the accident she had been four years

on her first factory job, operating an unhairing machine in a fur dyeing and dressing plant at \$11 a week. In pinning fur on the apron of the machine the right middle finger was caught and amputated near the middle joint. She was disabled 22 weeks and 3 days, but only 9 weeks and 3 days were allowed for the healing period. Her son paid her rent during the healing period. Medical bills were paid and compensation was allowed for 28 weeks in all. She returned to her former employer and operated the machine for one week at \$8, but she was so hampered by the injury that it was necessary for her to quit. Finally she found work for a few months, pasting labels on suit cases, at \$8 a week. After that she left factory work entirely, and at the time of the interview she was living with a married daughter and helping her do washings at home, by which she earned \$4 or \$5 a week.

Case No. 59.—A woman of German birth, 47 years old and literate in both German and English, having had seven years' schooling, was single and living alone. For 18 years she had been a saleswoman, 15 years in one bakery and 3 years in a second, beginning at \$9 a week and advancing to \$18. Her account of the accident was that the foreman called to her from the bakery; she could not hear him, and so ran up some steps to the shop. These steps were broken, her foot was caught, and she fell, bruising the right side of the face and fracturing the right little finger. She went to her own doctor for treatment and he placed the finger in a cast for two months. She paid her own medical bills. She was disabled seven and a half weeks and the permanent disability was rated as one-third loss of use of the little finger. The employer reported that she slipped and fell in the bakery shop, where she had no business, as she was employed in the store. She said she agreed to accept the five weeks' compensation due for the permanent disability and did not make any claim for the time lost since then, because, when she learned that he was uninsured, she did not want to press her employer too hard. Her employer had told her when she had begun to work for him that he was insured, but after the accident she found that he was not. The State record reported that she lost no time. No compensation was paid until over six months after the accident, and one-third of it went to her lawyer. At the end of the healing period she would not return to her former employer because of his attitude regarding her accident. After seeking two weeks she secured similar work in another bakery and at the time of the interview three years later was still at the same place. There was no loss of wage due to the accident.

Case No. 60.—An American woman of 58, with an eleventh-grade education, was a widow, living with her son and his wife and child.

She and her son were earning, their combined income being \$38.85 a week. Before her marriage she had done clerical work and also had been a saleswoman. After some years at home she had begun working again when 56 years old, irregularly, at what she was able to find, including cafeteria work, and selling and hand sewing in a department store. At the time of the accident she was doing hand sewing on draperies, at \$10 a week. The rungs of the high stool on which she sat at work had come loose, and one was wedged in with a nail. The stool gave way and she fell, striking on the base of her spine. It was three months before she was able to work at all steadily. She had no doctor. She did not return to the store, but wrote to the superintendent asking for a settlement. He sent a check covering a healing period of four weeks and a receipt to be signed. Following the accident there seemed to be a disability not present before. As nearly as she could describe it there was a weakness in the hips, which she noticed especially when she tried to get up from a low chair. She had no notion of methods of handling a case. She dwelt especially on the responsibility of the firm for the accident because the stool was defective. Since the accident she had worked irregularly as a domestic servant. The work required of her had always been light and had not included scrubbing, washing, nor ironing, so that she had not felt the effects of any disability. When she was not earning anything, her son supported her.

Case No. 61.—An American woman of 33, with a seventh-grade education, was the only earner for her family of five, her husband being out of work. She had gone to work at 20 as a ribbon weaver at \$6 a week and after 10 years' experience and an advance to \$12 a week had become a picker at \$12.50. At the time of the accident three years later she had advanced to \$13. The accident occurred because a fellow employee pulled her chair away when she stood up for a moment, and when she sat down she fell on the edge of the chair, injuring her spine. She was much hurt but went home without saying anything. She could not sit down in the street car. She was disabled for 17 weeks, although a healing period of only 9 weeks was allowed. Medical bills were paid and the permanent impairment was rated as 10 per cent of permanent total disability. Compensation was paid for $47\frac{2}{3}$ weeks in all. She returned to work as a picker for a year and during that time was not able to make more than \$12 a week. She then left and at the time of the interview had not again returned to industry. She had extremely severe headaches, to which she had not been subject before the accident. Her back still bothered her and she was unable to do her own washing. She had had twin babies the year before, and she found it very hard to lift and carry them.

Case No. 62.—An American woman of 27, with a sixth-grade education, was single and living with her parents and eight brothers and sisters. All but the mother and one sister were earning. This woman had begun work when 12 years old and had been employed steadily since that time as a power sewing-machine operator, advancing from \$1.50 to \$30 a week in 15 years. Her injury occurred when the machine on which she was operating broke and a piece of casting struck the right cornea. She also complained of pain over the vertebræ in the region of the sacrum and coccyx. An X ray of the dorsal spine, sacrum, and coccyx showed no gross evidence of bone injury or disease. The doctor told her she could go back to work after nine and a seventh weeks, but the eye was still painful and she felt eyestrain as well as headaches, so that she was not able to continue working. She stayed out six months in all. The doctor's bills were paid, but she paid \$12 for glasses which she had to have at this time. Compensation covered the healing period reported by the doctor. She returned to her former job although at first she was extremely afraid lest the machine break again. At the time of the interview, three and two-thirds years later, she was still at the same place. She had experienced no loss of wage when working full time, but whenever she had the severe headaches which had occurred since the eye injury she was much handicapped in her work and sometimes had to stop entirely. She had given up reading and sewing at night as the headaches often followed attempts to read a newspaper or to watch moving pictures. She had worn glasses constantly since the accident and was conscious of strain.

Case No. 63.—An American woman of about 45 was a widow, living alone. She had been a domestic servant for one year, earning \$15 at times, and had then become a cleaner in a theater, at \$12 a week. Six months later, while on her knees scrubbing some marble steps, her left hand had slipped from a soapy step and her weight was thrown on it, the accident causing a sprained wrist. She did not give up her job at once, doing very light work for two or three days, but after that was unable to continue. She went to a doctor a few times, beginning the day of the accident. He strapped the wrist with adhesive and later she did this for herself. She went to another doctor, who advised a rubber bandage, which she got and wore for three years. No X ray was taken. She paid her own doctors' bills and bought adhesive and bandages. She was disabled about six months in all. During this time she tried to work at sweeping only, but found the wrist not strong enough and stopped after two weeks. She lived alternately with two married daughters, who cared for and supported her during the disability period. She was able to do a little light housework but could not wash nor sweep. After six months she returned to the theater and was able to do all

kinds of cleaning except "hand-and-knee scrubbing." After three years and two months she left, as she found the use of heavy suction cleaners too tiring. She got work in a laundry, but after two weeks she fell down at home, breaking the right wrist. Then again she went to live with one of her daughters. At the time of the interview she was still there, not yet strong enough to work. For three years following the accident there was considerable pain in the left wrist in cold weather or when she struck the hand. At the time of the interview there was about 25 per cent loss of flexion of the left thumb. She said that no compensation had been paid and that there was no doctor's report on file. She said that she delayed taking the papers to the doctor to fill out until about two months after the accident. She supposed the papers had been sent in, but she had not seen them.

Case No. 64.—An American girl of 23, with an eighth-grade education, was living at home, where a sister, a brother, and herself were supporting a family of seven on an income of \$29 a week. At 21 she had started work as a telephone operator but after two weeks had changed to the job of weaving fabric for garden hose, remaining at this work for two years, at \$6 a week. She then had got work operating a box-filler machine in a printing establishment. She had had three weeks' experience and was earning \$13 a week. One day, while she was sitting with her foot under the machine, the power was started and an uninclosed rod struck her foot and crushed it. Medical bills were paid and a healing period of six weeks was allowed, but it was six months before she could walk well and felt able to return to work. The permanent disability was rated as 5 per cent loss of use of the foot at the ankle. Compensation was paid over a period of 11 weeks. She was disabled for her former work and found an opening as a power sewing-machine operator in a garment factory, where she began at \$8 a week and at the time of the interview three years later was earning \$12.

Case No. 65.—An American girl of 18 had completed the eleventh grade and taken a six months' business course. She was living with her father, mother, and brother, and she and her father together earned \$66.38 a week. Just before she was 18 she had gone to work for the first time as a stenographer and typist in a department store, and after nine months' experience had advanced from \$15 to \$19 a week. The injury was reported as caused by "accidentally bruising finger on typewriter while pushing carriage back." She could not remember any special accident, and the doctor thought that the injury was due to bruising the bone by use over a period of time. The finger became swollen and painful, appearing like a felon. She went to a doctor one week after leaving work. The infection spread down the tendon sheath into the palm of the hand; the bone became

necrosed, and it was necessary to amputate at the distal joint. After 10 weeks away from work she returned, although she was not fully recovered. Her employer had not urged this, but she went back without consulting the doctor because she felt that she was needed and knew that her job was being held for her. After working 24 days she stopped again, as rest was imperative. This time she was disabled for 12 weeks. Altogether she was disabled for about 23 weeks, 14 weeks longer than was allowed for the healing period. Medical bills were paid, the permanent injury was rated as one-third loss of the left index finger by amputation, and compensation was allowed for $18\frac{2}{3}$ weeks in all. It was nine weeks before she received the first payment. She did not return to her former employer, as she secured a better position, secretarial work paying \$25 a week. After seven months she changed to clerical work with a law firm. At the time of the interview she had held this position three years and was earning \$27.61 a week. She had no difficulty in doing the usual clerical and stenographic work after she had regained her strength. She used pneumatic cushions on her typewriter keys. There was considerable stiffness in the injured finger at the middle joint, making the finger of little use to her.

CASES ILLUSTRATING THAT CLAIMANT EXPERIENCED DIFFICULTY IN REGARD TO PERSONAL NEEDS

Restoring impaired persons to their preaccident status as wage earners has occupied the attention of rehabilitation experts almost to the exclusion of interest in family and social adjustment. This is a natural development, since a large percentage of injured persons are men and their chief concern has been to resume remunerative work. They must play the rôle of wage earner if they are to stay out of the poorhouse. Women wage earners also are, in the majority of instances, compulsory breadwinners, and in addition to their industrial work all the activities which are included in "keeping house" traditionally fall to their share. In the case of disabled women it is necessary to consider the incapacity in terms of housework as well as of industrial work.

It is sometimes assumed that if a woman can be "fitted into a family" there is no further compensation or rehabilitation problem. The fact that the arduous tasks of a homemaker are rendered very much more arduous by reason of a stiff wrist or a lame knee is not taken into account. As the hours of work in the housekeeping profession ordinarily are not regulated, there is no concern when these hours are extraordinarily lengthened. Incapacity for household tasks at the end of the compensated period, in the case of more serious

permanent disabilities, indicates the need for careful revision of the compensation law.

In Ohio, when an accident results in permanent total disability, the injured person receives compensation for life, while in New Jersey and Wisconsin compensation stops after some years, expressed in weeks. In New Jersey and Wisconsin, when an accident results in a major permanent disability, compensation must be paid for a specified number of weeks; in Ohio the same method is used in cases of amputation or of ankylosis, but in cases of partial loss of use the compensation depends upon the submission of reports showing actual or probable wage loss due to the accident. In the case of minor permanent disability, payment of compensation during a specified number of weeks may be expected to tide the injured women over the rehabilitation period, and when it ceases she is supposed to have regained her preaccident status; that is to say, she has been able to make a satisfactory adjustment as a wage earner and in regard to her work at home. If in cases of major permanent disability, as a result of the accident, there is considerable permanent incapacity for home as well as for outside work, it would seem that the injured might receive a percentage of her earnings in consideration of that, the percentage depending upon the extent of the physical disability.

When an injured woman lives with relatives or friends they assist in any nursing which may be needed or in her household activities during the healing period. Such duties may overburden a person already hard-working, but in times of emergency the extra pressure is accepted without protest. That there is considerable work involved in caring for the personal needs of the injured woman and in performing her home tasks is made more evident from a study of the cases of injured women living alone or as part of a household in which there were children and only one other wage earner. If it were possible to pay for the necessary service of that nature it would seem that the results in terms of shorter healing periods and reduced inconvenience would be well worth while.

Case No. 66.—An American girl of 20 was self-supporting, boarding with a married sister. At the time of the accident she was on her first job, having come from her home in a small town to earn her living. She had been feeding a pad-making machine in a metal-bed factory for two months and was earning \$12 a week. The safety inspector gave the following account of the accident: "Machine tenders were placing a roll of paper in the machine. They did not shut off the power while doing this work. The girl was standing on platform waiting to start to work again. She noticed a piece of excelsior on the rolls, reached in to pick it off and was caught by rolls. In trying to release right hand, left was caught.

Rolls were not safely guarded." The right arm was traumatically amputated 4 inches below the elbow joint, the left forearm was badly lacerated and both bones were fractured, and the extensor tendon of the left thumb was severed. She was taken at once to a hospital, where she remained two months. She was totally disabled for eight months. As her married sister had left town just after the accident, the girl had to board with a neighbor when she came from the hospital. She was very unstrung and weak and had to be helped in dressing, combing her hair, and so forth. The permanent disability was rated as loss of the right arm at the elbow and 10 per cent loss of use of the left hand at the wrist. Medical bills were paid and compensation was allowed for 299.2 weeks in all. At the end of the healing period she returned to her former employer and was given a job as checker at \$6 a week. She marked with her left hand. She could not have got work elsewhere. She worked intermittently for 1 year and 10 months. During this time she boarded or lived in a hotel. Her married brother in the town in which she had grown up offered her no assistance except to petition the commission for a lump sum, with the understanding that it be invested for her future and that she live on the \$6 a week which she was being paid, as he thought that on account of the shock she was not responsible for her actions. The commission ruled \$6 too small an amount to cover her living costs and therefore set the rate at \$72.91 a month. She was then committed to an institution for the mentally defective and was still there at the time of the interview. The superintendent of this institution stated that "she ranks mentally as a high-grade moron * * *. She is employed in our kitchen, where she is doing fairly good work. Naturally she is somewhat handicapped by the loss of her right hand, but she has become quite adept in the use of her left hand and the remnant of her right arm. I do not believe her disability affected in any way the condition of her mind."

Case No. 67.—A foreign-born woman, 53 years old and literate in English, was single and living alone. Her first work had been as forelady in a fuse factory, where she had been employed for many years. She then had become a sewing-machine operator in a clothing factory and after one year's experience had earned \$13 a week. When injured she was crossing the aisle. She tumbled over a shaft connecting two rows of machines and fell forward on the concrete floor, breaking both wrists and striking her head and side. Her glasses were broken, her face was black and blue, and there was a large lump on her side. The healing period was set at 14½ weeks, but it was not till some time later that she felt able to work. For several weeks after the accident she could not help herself in the least. Her landlady washed, dressed, and undressed her, and massaged the lump on her side. For these services the latter received and expected

no return. Some, but not all, of the medical bills were paid. While she was unable to work, relatives assisted her financially. Her permanent injury was rated as 5 per cent of permanent total disability. She received compensation for 33 weeks in all. It was necessary for her to return to work as soon as possible, as she had only herself to depend upon. She was disabled for power-machine sewing and finally found light work in a factory making surgical dressings, where she was earning \$12 a week and supporting herself at the time of the interview. She was very unstrung and "odd" and was considered "a little queer in the head" since the accident.

Case No. 68.—An American woman of 33 with a seventh-grade education was living alone. She had begun working when 26 as a saleswoman in a candy store at \$20 a week. After two years she had changed to lasting overshoes, beginning at \$15 and advancing in three years to \$40 a week. She had given up this job because the firm had moved and at the time of the accident she had been demonstrating an electric coffee grinder at a food show for two weeks, working as much as 14 hours a day. She was employed by two grocery companies, one of which paid her \$20, the other \$15. The accident was reported by the first of these two firms. The wage was reported as \$20, and the compensation was based on this wage. She did not realize how compensation was calculated and did not correct the report. She stated that she was cleaning the grinder, having turned off the power, when a boy turned it on by mistake, and her right index finger was caught and severed halfway through the distal phalanx. The finger was dressed with an aluminum thimble, but the wound became seriously infected, causing swelling of the hand and arm, and hospital treatment became necessary. She was in the hospital three days, and the finger was amputated between the distal and the middle joints. She was disabled for $14\frac{6}{7}$ weeks. For a time after the accident she could neither dress nor feed herself. She also had to have water heated in the night to keep her finger in when it hurt so badly that she could not sleep, and she paid room rent so that a friend could stay with her and wait on her. Medical bills were paid and compensation was allowed for $37\frac{1}{3}$ weeks in all, but it was a year before she received any compensation. She was disabled for the work she had been doing, and also for her previous work of lasting overshoes. The grocery company, having no work for her, helped her to secure a position as housekeeper in a hotel at \$34.62 a week. After two and a half years the wage was cut to \$19.62 a week. She left and went into business for herself, becoming owner and manager of a hotel. At the time of the interview she had been in this business 20 months and was making about \$30 a week.

Case No. 69.—An American woman of 53, with a fifth-grade education, was single and living alone. She had first worked as a domestic

servant, but at 20 years of age she had gone to work in a woolen mill as a spooler and twister at \$3 a week, changing after two months to weaving. At the time of the injury she had had 28 years of experience on a loom and had advanced from \$3 to \$14 a week. When leaving the mill the day of the accident she tripped over a box and fell, striking her knee on another box, but did not mention it, as she did not know about compensation. Although the knee was painful from the first, it was 23 days before she went to a doctor, who reported synovitis at the knee joint. He treated her three times and the last time advised her to stay in bed, but as she was alone and had nothing to depend on except a small savings account, she did not give up, but worked for six weeks after the accident. This delayed her recovery. A second doctor reported tuberculous infection when he saw her three days after she had stopped work. He was her family physician and stated that there was no history of tuberculosis in the family. No one had seen the accident and she submitted an affidavit stating what had occurred, and also that the knee had not been previously injured. Medical bills were paid, but she was disabled four months and had to have a woman in the house to care for her for five weeks. After that two neighbors helped her from time to time and when she needed something she pounded on the floor with her cane. She paid about \$40 for this care during disability. Compensation was allowed for a healing period of 17¹/₇ weeks. For three weeks after her return to work she stayed at home one day a week, as she was not strong enough to work full time, thereby reducing her earnings to \$12 a week. There was constant pain in the knee for a year, and at the time of the interview it was still so tender that she had to be careful not to bump it. She felt also that her endurance had been reduced by the accident. She was still working at the time of the interview, earning \$15 a week. Also she was still living alone and doing her own housework, which she said she could do if she "took it slowly."

Case No. 70.—An American-born negro girl, 20 years old and with a fourth-grade education, was single and living alone. At 19 she had gone to work operating a power punch press in a factory manufacturing metal goods. After one year's experience her earnings had increased from \$6 to \$10 a week. While operating her press the left index finger was caught under the die and one-half of the distal phalanx of this finger was traumatically amputated. She lost one week from work. Medical bills were paid and compensation was allowed over a period of eight and three-fourths weeks in all. She returned to her former job, this time at \$12 a week. After six and a half months she had a second accident, this one affecting the right hand. The middle and ring fingers were caught and severely

lacerated and contused. It was necessary to amputate the middle finger at the middle joint and the major part of the distal phalanx of the ring finger. She was disabled four and a half weeks. Since she was quite alone she paid a woman \$2 a day to wait on her and do her work, but she had not enough savings to see her through the healing period. She had to "pinch" and went into debt. Medical bills were paid and compensation was allowed for 40½ weeks. On her return she was disabled for her former work and for five months did hand assembling at \$7 a week. She then returned to punch-press work, making \$10 a week; but after three weeks she decided to leave factory work for domestic service. For two years she did housework at \$12 a week plus her room and board, and six months before the interview she returned to punch-press work on metal goods at from \$19 to \$20 a week.

Case No. 71.—An American woman of 24, with a sixth-grade education, was single and living alone. She had begun work when 19 as a punch-press operator earning \$16 a week, and at the time of the accident was still operating a press and earning \$26.40. Her machine was out of order and she had reported it to the foreman, but he had neither made repairs nor transferred her to another. After the accident he admitted that the press repeated; he had it repaired and put a guard on it. Her hand was caught by the die, the distal phalanx of the right middle finger being traumatically amputated and the end of the index finger badly bruised. She was disabled three and six-sevenths weeks. During this time she paid her landlady \$10 to wait on her and help her dress. No compensation was received until 12 weeks after the injury, and she asked the landlady to wait for payment for room and board. Medical bills were allowed and compensation covered a period of 12⁶/₇ weeks in all. She did not return to her former employer although she did not consider herself disabled for punch-press work. Instead she found employment assembling motors at \$25 a week. When she left to be married, a year and nine months later, she was earning \$28 a week. The finger was still tender and hampered her a little in sewing and in holding things.

Case No. 72.—A 39-year-old woman of Italian birth, with no schooling and very little English, lived with her husband and five children. As it had seemed necessary that she supplement her husband's earnings of \$22 a week, five months before the accident she had begun work in a bakery, where she was feeding a dough roller at \$17 a week. While feeding the roller her fingers were caught between the rolls, bruised, and crushed. The healing period covered 13½ weeks. The hand was sore and painful during this time and her husband did the housework after his factory hours.

The laundry had to be sent out. The family did not at first realize that medical treatment would be furnished, and paid for three visits to their own doctor. They then went to the factory to make inquiry and the woman received further treatment through the insurance company. The permanent injury was rated as 25 per cent loss of use of the right index and middle fingers. She was disabled for the work she had been doing, and because the fingers were stiff and awkward she had not attempted to return to industry. Although the family income was low they "got along" without her earnings.

Case No. 73.—An American woman of 40, with a fifth-grade education, was a widow with three children to support. She had been working about five years, first at domestic service, then as a mender in a hosiery mill, and later stitching in a shoe factory, where she had advanced to \$17.20 a week. Four weeks before the injury she had left this work to become a weaver in a woolen mill because the pay was better. She had advanced from \$17 to \$20. While putting up filling threads she slipped, and her hand was caught and squeezed against the beam. She stated that there were bolts on the loom that were out of order. Her left hand was bruised and one bone was fractured. She lost 55 weeks from work on account of the injury. For one week and one day she was in a hospital; the fracture was reduced and the hand was put in a cast. While there she paid for the care of the children, whom she had placed in different persons' homes. For two months after she returned home, while her hand was in a cast, she paid \$1.50 a week for laundry work. The children did the rest of the housework. Her mother helped her with coal and rent, and she was obliged to go into debt for other necessaries. At the doctor's advice she went back to work, operating a twister, since she was disabled for weaving, but after one week and four days at \$4.94 a week (for which time she was compensated for the loss of wage) the hand became so sore with use that the doctor had her stop again. An operation was performed on the hand to break up adhesions. Medical bills were paid, and the permanent effects were rated as 25 per cent disability to palm of hand where thumb remains. She received compensation for 80½ weeks. When able to work she was disabled for weaving and, although she could have had other work with her old employer, she was able to get a higher time rate elsewhere. She went to a shoe factory, where she did stitching, at which she was experienced. She began at \$14.85 and at the time of the interview had advanced to \$16.50. She stated that she was not hampered for this particular work but that rates were lower than when she had done it before the accident. At the time of the interview there was considerable loss of strength in the hand, although the loss of motion was slight. The palm was stiff but was improving. The hand

was smaller than the right one. It was painful in bad weather and got lame when she did laundry work. Wringing or rubbing clothes was especially difficult. She was still the sole support of her three children.

Case No. 74.—A foreign-born worker, 50 years old, was literate in German, having had six years' schooling, and spoke English as well as German. The family consisted of herself and husband, both working, their combined income being \$32 a week. She had been employed as a domestic servant over a period of 30 years. In the summers, since the families she worked for went away, she had got a job as a cleaner in a theater in order to have more steady work. At the time of the accident she had worked at one theater for four years and was earning \$10 a week. There was a very heavy door at the theater, with no handle on one side. In closing it her right hand was caught between the door and jamb. The fingers were crushed and bones were broken in two of them. She did not return to work. Medical bills were paid and the permanent injury was rated as 25 per cent loss of use of index finger, total loss of middle finger by amputation, total loss of use of ring finger, and 25 per cent loss of use of little finger. Compensation was paid for 330 weeks in all. At the time of the interview, three years later, she could use the thumb and index finger slightly; otherwise she seemed to have practically lost the use of the right arm, which was still bandaged. The right eye was drawn and twitching, and the right side of her face had been drawn to one side since the accident. She was in an extremely unstrung condition. She was still being treated at the State rehabilitation clinic three times a week. Since the accident she had sent the washing out, though she had always done it herself before, and her husband did all the scrubbing and cleaning. They had put oilcloth rugs throughout the house to facilitate cleaning. She could dust with her left hand, but her share of the housework was done very laboriously. She said she could hardly endure having nothing regular to do and seeing no one. She was anxious to work just to occupy her time, but obviously was still disabled.

Case No. 75.—An American girl of 17, with a seventh-grade education, had started to work when she was not quite 14 because of the death of her father. At that time she and a brother supported her mother and three brothers and sisters of school age. At first she had been a hand dipper in a candy factory, advancing from \$10 to \$13 a week in two years. Then she had changed to operating a taping machine in a paper-box factory, at \$14 a week, and in nine months she had advanced to \$20 a week. When she was laid off there, she found work operating a sealing machine in a paper-can factory, and at the time of the accident, after two and a half weeks' experience, was earning \$12 a week. The family make-up was the

same as when she had first gone to work, and her brother's and her earnings amounted to \$42 a week. Her mother went to work after the accident, doing washings at \$2 a day. Soon afterwards the brother married and left home. The economic situation was very precarious. An investigator from the safety department reported on the accident as follows: "A revolving table with six openings. Cans are automatically fed in and kicked out. If they kick out halfway they catch at a shearing point. Then operator stops the machine. She tried to push one out but was caught with the can at the shearing point." According to the girl's statement the machine was not in repair; the cans were sticking. She pushed the belt off and put her right hand in to take out a can. The machine started and her hand and arm were caught and fractured in several places. The man working next to her stopped the machine and pulled her hand out, losing his thumb in so doing. She was in a hospital for four months; the disability was complicated by infection. Then she went to a neighboring city for nine months, and daily attended a clinic where skin-graft operations were performed and electrical treatment and massage were supplied. Altogether it was two years before she was able to work again. The medical report of the disability stated: "Scars on anterior and posterior aspects of forearm and hand * * * the appearance of which indicates that there has been an infectious process, and that the wounds extended to and involved the muscles and tendon sheaths, so that there is some fixation, especially of the thumb, index, and middle fingers, and extensors of the wrist. Limitation of both flexion and extension of the wrist, marked lack of grasping power in the hand, especially in the function of the thumb, index, and middle fingers. Adduction and extension of the thumb are limited, the thumb being held in adduction. Absence or marked diminution in sensation of thumb, index finger, part of middle finger, and parts of the hand supplied by the radial nerve, which indicates this nerve is either caught in scar tissue or was divided at the time of the original injury." She was told that she would be paid compensation for eight weeks and at a rate based on her actual wage. She secured a lawyer, who brought the case before the commission for a hearing. The rate was adjusted, based on her probable earnings at 21 years. A healing period of 32 weeks was allowed, and the permanent disability was rated as 75 per cent loss of use of the hand at the wrist. Compensation was allowed for 176 weeks in all. The settlement for the permanent disability had been delayed until the extent could be determined. It was made about two years and five months after the accident. She paid the lawyer \$200. She was disabled for factory work but finally succeeded in getting work as a salesgirl in a store, two years after the

accident. Here she earned \$10 a week. After eight months she left to be married, and had not returned to industry. At the time of the interview she had one child. In cold weather or when she tried to do much with her arm it pained from the elbow down. The hand got stiff and felt numb and dead. There was no sensation in the thumb, nor in the index and middle fingers. Her mother and sister lived near by, and the mother did her washing and ironing, and the sister her sewing. She kept the house and cared for her baby herself, largely with her left hand. Her husband helped with the harder housework.

Case No 76.—An American girl of 17, with an eighth-grade education, was living with her parents and six brothers and sisters. Her father and one sister as well as herself were working, the family income being \$55.23 a week. She had begun to earn at the age of 15, as a clerical worker at \$8 a week. One year later, in order to earn more, she changed to punch-press operating in a can factory, and in five months had advanced from \$15 to \$18. When she was laid off there, after the armistice, she took a job as a punch-press operator in a toy factory, at \$14.85 a week, and at the time of the accident had worked at this place two and a half months, thus having had seven and a half months' experience on a punch press. While operating, the right hand was caught under the die. The ring finger was traumatically amputated between the distal and middle joints, and the index and middle fingers were so badly crushed that it was necessary at once to amputate them between the middle and proximal joints. She stated that her nerves were "all shot to pieces" by the accident and she could not sleep well. She had weighed 115 pounds, and she lost about 25 pounds. Eight weeks were allowed for the healing period, but she said that she was disabled for $41\frac{4}{7}$ weeks and that even then she returned to work sooner than she should have done because the weekly income was so small in comparison with the size of the family. Medical bills were paid at the time, but she had later spent a great deal of money for medical treatment. Compensation was allowed for 78% weeks in all. She returned to her former employer and was given clerical work at \$13 a week. She was afraid of machines, finding the noise of them trying when working in the same building with them. After two months she stopped, still unstrung because of the accident. For a time after this the doctor would not allow her even to help with the housework at home, but ordered complete rest for her. She held two other jobs for a short time, one as a clerical worker at \$15, one as a telephone operator at \$14 a week. In hunting for work she was refused at two places where she asked for clerical work, because of the amputated fingers.

She married about five months before the interview. Housework was difficult for her. She was unable to wash, iron, sweep, scrub, or sew, as she could not grasp anything, and she was very awkward in peeling vegetables. She could bend the stumps of the three fingers at the proximal joints, but this caused pain. They were in the way and were constantly getting burned when she cooked. They were sensitive when struck and became swollen in cold weather. She could not play the piano so well as formerly and had given up taking violin lessons. She was still under weight and her strength and endurance were much reduced.

Case No. 77.—An 18-year-old American girl, with an eighth-grade education, was living with her parents and three sisters, and she and her father were working, their combined income being \$42. Four months before the injury she had gone to work for the first time, feeding a job press in a printing office, and during that period she had advanced from \$10 to \$18 a week. In attempting to straighten paper while feeding the press, her right hand was caught. The index and middle fingers were badly crushed and lacerated, and the bone of the proximal phalanx of the middle finger was fractured. She was disabled for work $19\frac{3}{7}$ weeks. The first compensation was paid three months after the accident. The final medical examination for extent of permanent disability showed: "Middle finger functionless and useless, partial ankylosis of index, flexor tendon impaired, middle and distal joints functionless; total loss of use of the middle finger, and loss of use of the index finger at the distal and middle joints." Compensation was allowed for $71\frac{5}{7}$ weeks. At the end of the healing period she returned to work at the printing office, doing odd jobs, at \$12 a week, but stopped after three weeks, as she found herself unable to work. Medical bills were paid up to this time; she stated, however, that she met further expense herself. She said, also, that eight weeks after the accident she fainted at the sight of the machine on which the accident had occurred and was in an unstrung condition for two years after the accident, being constantly under the doctor's care during that time. At the time of the interview she had married and had one child. Her husband was supporting the family. The hand was weak, she had little grasping power, and there was much pain in the fingers when struck. Constant noise of any kind bothered her, reminding her of machinery. She was unable to use a sewing machine or electric washer. Washing was sent out. Her husband helped with the housework, and occasionally a sister came in and rendered aid. The family lived in three rooms in order to reduce the necessary labor.

CASES ILLUSTRATING DIFFICULTY OF ADJUSTING COMPENSATION TO WAGE LOSS—IMPAIRMENT CASES

The theory behind the regulation in Ohio was that adequate compensation in the case of definite loss due to amputation or ankylosis consisted of paying a scheduled amount according to the member so affected, but that in the case of loss of use of a member the compensation should depend on wage loss. Since compensation is designed to make up for the economic cost of injury, this arrangement seems eminently sound. However, its success depends upon the ability in each case of impairment to secure from perhaps a number of employers accurate wage statements for a considerable period of time following the injury. Even though the commission has worked out an exceedingly careful technique for supervision, which includes notifying all women so disabled, as well as their employers, of their rights under the law, the problem of securing wage reports is not solved. Furthermore, in many instances when the woman does not return to work there is disability which makes housework arduous but which is difficult to express in terms of wage loss. The solution in the two other States has been to compensate partial impairment of a member according to the extent of disability present, as is done in all three States in the case of amputation or ankylosis.

Case No. 78.—An American girl of 17, with a ninth-grade education, was living with her father, mother, brother, and two sisters. Her father and one sister as well as herself were working to support the family, their combined income being \$69 a week. At 16 she had begun work as a milling-machine operator, at \$15 a week. After four months there had been a general lay-off, following the armistice, and for a month she had done labeling in a food factory at \$13.75, but had stopped because the work was hard. She then had found a job feeding a flat-work ironer in a laundry, and after one year's experience was earning \$12 a week. The power was low on the day of the injury, the sheets did not catch in the rolls well, and it was necessary to feed with hands close to the rolls. There was no guard. The fingers of her right hand were caught, and the hand pulled in against the hot roll. A foot treadle was used to stop the machine, but it did not stop promptly. Serious third-degree burns covered the entire palmar surface of the hand, extending from the tips of the fingers to the base of the thumb. The skin was burned entirely from the edges of the burn and there was much surface to close. Infection and sloughing followed. Medical bills were paid. She was out of work $19\frac{4}{7}$ weeks and received compensation for that healing period. In his final report three and a half months after the accident the doctor stated that there was some permanent con-

tracture. However, since this was not complete at any joint the injury was not compensable. On her return to work she was disabled for operating the flat-work ironer, and her former employer told her he had no other work for her. For three months she did bundling and inspecting in a glove factory at \$12 a week. Then this plant shut down and thereafter the only opportunities for her in the small town in which she lived were as a saleswoman or as a domestic servant. She worked twice in a store, four months in all, but could not get a regular position. On these temporary jobs she earned \$9 a week. For the remainder of the time she did housework, and for the first 14 months made only \$5 a week. At the time of the interview she had been earning \$10 a week, plus her room and board, for nearly two years. There were heavy scars on the palmar surface of the index, middle, ring, and little fingers, extending about halfway into the palm at the base of the index, middle, and ring fingers. These three fingers were joined by scar tissue for about one-fourth of an inch. They were contracted by the scars so that the distal phalanx of each was at about right angles to the straight line of the hand. The little finger was slightly contracted. The fingers could be flexed completely but not extended beyond the position just described, except very slightly by passive motion. She had attempted unsuccessfully to straighten them by binding them to a metal plate at night. This was painful, and usually she could not keep the plate on all night. The circulation was poor and the hand got cold easily and pained in bad weather. The fingers were abnormally thin. The strength and grasp of the hand were much reduced. Her greatest difficulty in housework was in preparing vegetables. Ironing was hard, since grasping anything for any length of time tired the hand. She could do very little sewing and missed being able to play the piano. Although finally she received the same wage, this young girl had a very real handicap following the compensated period, both as a wage earner and at home.

Case No. 79.—An American woman of 44, with a tenth-grade education, was a widow, living alone. She had become a wage earner for the first time when 43 years of age, taking employment as an elevator operator in a store, at \$14 a week. At the time of the injury she had been at this work for one year. In trying to shut off an electric fan her right hand was caught in the revolving blades. The metacarpal bones of the right index and ring fingers were fractured. The tendons affecting the right little finger were severed, and there was loss of considerable bony tissue of the ring metacarpal. An X ray taken four days after the accident showed some displacement of one fragment of the ring metacarpal. In his final report the doctor stated that there was permanent inability to flex com-

pletely the ring and little fingers. She was disabled six weeks and two days. Medical bills were paid, and compensation covered the healing period. She returned to her former job, but about seven months later some customers remarked that they intended to "make it hot" for the employer because of the elevator operator's crippled hand. The manager overheard this and transferred the woman to work on the switchboard. She worked there one year, receiving only a beginner's wage of \$12 a week, and was then laid off. For two and a half years after this she earned \$18 and \$20 at switchboard and semiclerical work. At the end of that time she stopped work because of ill health, and at the date of the interview, six months later, had not returned to industry. She was living with her mother. There was about 75 per cent loss of use of the ring finger. The knuckle was displaced toward the middle finger. Unable to wash or iron, she paid some one to do this. As she could not grasp nor pick up small objects well with her disabled hand, she used the left as much as possible. There was constant pain in the knuckle of the ring finger. In this case there was no wage loss for seven months after the close of the compensated period, but for a year after that, on account of the injury, the woman earned \$2 a week less than her preaccident wage.

Case No. 80.—An American women of 34, with an eighth-grade education, was employed, the combined income of herself and husband being \$23 a week. She had begun to work for wages when 21 years old, cooking in a restaurant "off and on" for 13 years, advancing from \$10 to \$20 a week. Then she had turned to factory work and assembled roller bearings at a weekly wage of \$13. Six months after taking this job, while walking through an aisle to lay finished bearings away, she stumbled over a wire basket of finished goods and fell, striking her left knee. The floor was brick and the knee was badly sprained, but she did not stop work at once. She had been stiff before, she said; "I thought I would wear it out, but it wore me out." It kept getting worse, and two weeks after the accident it swelled rapidly to twice its normal size. She was treated in the company hospital for about two weeks and then stopped work. An X ray was taken, showing a hyper-arthritic condition. The employers questioned whether the arthritis was due to the injury in their plant. The case was investigated. A Wasserman test showed no syphilitic condition. The medical report stated that the condition unquestionably was caused by the industrial accident, and the claim was approved. Medical bills were paid, and compensation was allowed for a healing period of 14 weeks. This time loss was not continuous. For the first five weeks that she was disabled a niece came and did all

the housework, and for about nine weeks longer her husband did it after his work hours. At the end of the compensated period she attempted to work again. She returned to her former employment and was paid \$13 a week as before. The knee was still sore, and at first she had to be helped on and off street cars. Her knee was so painful after she had been on it for a time that she used to cry. It kept getting worse, and after four months she stopped again. The doctor told her the knee would never be well and strong. At the time of the interview there was a sore spot on the knee at the site of the injury, and she used camphor and liniment on it at night. She went upstairs one step at a time, and hardly ever went out, as she hated "to go limping." She held the foot up when she stood and was unable to stand long. She cried while doing the washing, because it was so painful. She could not scrub, as she was unable to get down on the floor. The fact that she weighed 200 pounds aggravated the difficulty. She could have performed a sitting job if she had had some way of getting back and forth to work. There was about 25 per cent loss of motion at the knee. In this case the woman was left with a distinct impairment for her work at home, although she had not established a wage loss.

Case No. 81.—A woman of 67, English born but with only about three years of schooling, had gone to work as a domestic servant when she was 13, on the death of her father, and had continued there until her marriage at 22. She had come to this country with her husband before the war, but he had died in 1917 and within a year she had used up her savings and it had been necessary for her to go to work. She had got a job buckling straps in a leather-goods factory, at \$9.50 a week. At the time of the accident she had had 1 year and 10 months of experience and had advanced to \$12.50 a week. She was living with a sister and brother-in-law. As she pushed her chair back from the worktable, she struck her hand against the point of a knife in a fellow employee's pocket. There was a deep cut on the back of the left hand and the injury was complicated by a serious infection, so that the hand was puffed and inflamed. The doctor at the factory dressed it with iodine. A few days later she went to her own doctor, who sent her to a hospital, where she remained about six weeks. The entire arm became swollen, there was a high temperature, and for a time her life was in danger. After her discharge from the hospital she went there about five times a month over a period of nearly a year for actinic rays and massage treatment. A healing period of $14\frac{2}{7}$ weeks was allowed. Not all medical bills were paid. She stopped going to a doctor when she was no longer able to afford treatment. She paid one-third of her

hospital bill also. At the time of the interview there appeared to be 50 per cent loss of use of the hand at the wrist; there was very little strength and she was unable to close her hand. The wrist was painful when used. She lived in a small community, there were few opportunities, and she had been unsuccessful in finding work. Her brother-in-law had died, and the two sisters continued to live together. She was entirely dependent financially but attempted some housework. She did a little sewing and mending, dusted her own room, did a little cooking, but could do no heavy work. "If I had to make my own living I couldn't live," she said. In this case also the woman had a distinct impairment for her work at home, although she had not established a wage loss.

Case No. 82.—A widow of 38, American born, was supporting herself and two children. She had begun working five years before, at \$10 a week, on a power sewing machine, in an overall factory, becoming assistant forelady three years later at \$14. Then she had operated a buttonhole machine because of the higher pay, and at the time of the accident had been operating that machine for 13 months, earning \$18 a week. While descending an iron stairway at the factory she fell and struck her back on the edge of a step. She did not stop work until five days afterwards, when she went to a doctor. He found the back bruised, sprained, discolored, and tender to touch. There was "involvement of the sacral periosteum." Treatment consisted of demobilization of the sacro-iliac region, and massage. She was completely disabled for $15\frac{3}{7}$ weeks. A niece came and cared for her during this time. She paid the niece small amounts as she could. Medical bills were paid, and compensation was allowed for the healing period. At the end of this time she returned to work. She was not fully recovered, but felt that she could not afford to stay away longer. She was disabled for her old machine and was put on lighter work, but for $30\frac{5}{7}$ weeks she could work only two or three days a week and was compensated on a temporary partial disability basis for this loss of wage. The final medical report, filed a year after the accident, stated, "Weakness of back; it seems that she will always have to do lighter work; there is overanxiety to work for two growing boys; underfeeding; she weighs 79 pounds, has fear of meeting high cost of living." At the end of the $30\frac{5}{7}$ weeks she worked full time but was not able to earn more than \$12 or \$13 a week. After one year and three months at this work she remarried, and at the time of the interview had not again returned to industry. Her back was still painful and weak at the site of the injury, especially during the menstrual period. She could do no washing, ironing, nor heavy cleaning. In this case there was a wage loss following the compensated period and disablement for home activities.

Case No. 83.—An American woman of 50 was a widow, living with a single daughter who was also a wage earner. Their combined income amounted to \$47 a week. A married daughter and her husband boarded with them. At 27 years of age, after the death of her husband, this woman had gone to work to support herself and her four young children. At first she had cooked in a club at \$7 a week, but after three years she had got work as a cook in a factory restaurant. She had been in this position for 20 years at the time of the accident, and had advanced from \$8 to \$25 a week. On the day of the accident she was leaving the factory, when she slipped and fell on the stone steps and sustained a Colles fracture of the right wrist. She stayed away from work 10 weeks and then returned to sign the compensation papers. She was not able to use her hand and arm, but was persuaded to try to supervise the work. However, after two weeks she had to leave. She received temporary total compensation for the 10 weeks she lost immediately following the accident, but though she had to give up her job again because of the condition of right hand and arm, which she constantly needed as cook, her employer told her there was no more compensation coming to her. As she knew nothing about the law, she got a lawyer to assist her, agreeing to pay him half the amount he recovered. He requested a hearing. A medical examination at this time showed, "The wrist deformed and the wrist mobility and flexion of the fingers limited." This took place seven months after the accident. A week before the examination she had attempted to do light work in a restaurant, but had stopped after two hours. Nine months later, after several unsuccessful attempts, she found light work running errands, telephoning, doing light housework, and marketing, which paid \$6 a week. She stayed at this job 11 weeks, but was unable to continue, as the wrist and hand became increasingly sore. Three months later the wrist was operated on, and a chip of the ulna was removed from the wrist. Two months after this operation, the doctor reported her able to do any but heavy work. The case was closed, medical bills were paid, and compensation was allowed for total disability for $66\frac{4}{7}$ weeks and for partial disability for $43\frac{5}{7}$ weeks. When the compensation ended she had not regained her preaccident status. She had worked hard and steadily up to the time of her injury, having stayed in one factory for 20 years, and after her industrial hours she had done all the housework and washing for her children and herself. Afterward, when she first stopped work, her married daughter had gone to work. During the healing period the girls stayed home at times to care for her. Later the married daughter and her husband moved away. At the time

of the interview the single daughter was supporting her mother and also doing the heavier housework. The woman cooked a little and did a little sweeping and dusting. She tried everywhere to get work, as she did not want to be a burden to her daughter. She said, "If I had ever had any other kind of experience I might be able to get something, but I always cooked. No one will take me for that and I would not be strong enough to last." In this case, after the compensated period the woman had been unable to find work which she could do and was disabled for much of her housework.

Case No. 84.—An English woman, 55 years old, was a widow and living with an unmarried son who also was working, their joint income amounting to \$38 a week. Her husband had been killed 15 years before, and she had supported their four children until they were able to support themselves. For 12 years she had washed and cleaned by the day, earning about \$6 a week. Then she had become a weigher in a macaroni factory, beginning at \$10 and advancing to \$13 during the three years and two months which preceded the accident. Her work chair was high and was not stable, because it was on casters. One day as she was getting up on it, it moved and she fell, striking the cement floor on her left side, bruising her left knee, and bruising and spraining her left shoulder. She attempted to continue at work, but after two days found that she could not do so. She stayed away two weeks, receiving medical treatment; then returned to work, but was obliged to stop again on account of disability. An X ray taken after some additional medical treatment showed a sprained fracture of the tubercosity of the humerus. Consequently the arm was immobilized for more than two months. When she was first disabled, her daughter came in night and morning to care for her. Later, as she was unable to comb her hair and dress herself, much less keep house, she had to give up her home and go to live with this daughter, the household consisting of herself, the son, and the daughter and grandchild. The injured woman was not able to do anything which required strength of the left hand or arm. Dusting was possible, but washing and drying dishes, sewing, dressing the baby, or any activity which necessitated picking up or holding an object was out of the question. For $175\frac{4}{7}$ weeks she was compensated as totally disabled. During this time she was given medical examinations to determine the extent of the permanent disability and the summary of the findings showed, "The left arm is swollen from the shoulder to the fingers. There is considerable tenderness present throughout the arm, with partial ankylosis at wrist, shoulder, and elbow joints. All motions of the arm are greatly limited and there is marked general stiffness of all digits. It is evident that the claim-

ant has a disability which is permanent * * *. She assists about the house, doing such light work as she is able to with one hand. The work is not in any way remunerative, but if she were paid in dollars and cents she would be able to earn \$2 or \$3 a week. She should be compensated on a partial disability basis." At the end of the temporary disability she was compensated as though earning \$2 a week; that is, at \$7.33 a week. This basis was still in effect at the time of the interview. She had had a good deal of rehabilitative medical treatment, and it seemed that the degree of permanent disability of the arm would not become less. She was still living with her daughter, granddaughter, and son. The daughter, who had not been well since her child was born, did all the sweeping, washing, ironing, and part of the cooking. The son, aged 32, supported the family. He was not strong, and she felt insecure as to their future. Since her accident they had moved seven times, always into smaller and cheaper quarters. Her condition had not improved. She felt as though the muscles were paralyzed in the side and arm. The arm was cold, and there was no strength whatever at the wrist. There was also some loss of strength in the knee. She limped a little and could not bear her weight on it very long. In this case wage loss due to injury had been estimated and compensation had been paid during the disability period. The amount already received was equivalent to that allowed for ankylosis of the arm at the shoulder, plus an extra 18 weeks toward a healing period.

CASES ILLUSTRATING INJURY INVOLVING THE CENTRAL NERVOUS SYSTEM NOT ADEQUATELY COMPENSATED

Injuries involving the central nervous system numbered 77 of the total of 3,285 injuries. Of this number, the State records indicated no permanent disturbance in 46 cases. In 5 others the injury was classified by the State as organic and permanent. In the remaining 26 no organic lesion was noted, but the recovery was incomplete. In the last-mentioned group, however, since physical examination of the patient uncovered no demonstrable impairment, compensation was paid only during the period of the temporary total disability directly following the injury. A study of the subsequent work history of some of these women in their homes and as wage earners seems to indicate that this method is not satisfactory. A more adequate procedure should be evolved for handling this type of case. Because the examining doctor has been unable to find an organic lesion of the central nervous system following an injury to the skull or spine does not always mean that there will be no disability. Also the disability may not be continuous, but may appear a considerable time after the short healing period (in some cases only

ten days or two weeks was allowed) has elapsed. Technique for detecting changes in the nervous system which were not apparent by present methods is not impossible of discovery. In the meantime, the referring to a neurologist, for diagnosis and treatment, of persons who have suffered an injury which might involve the brain or spinal cord, and the payment of compensation during the period in which this authority considers the patient unable to work, would seem to be equitable procedure.

Case No. 85.—An American woman of 45, with an eighth-grade education, was widowed and living with her mother and two sons. Her mother had a small income and the older boy worked after school. She had gone to work for the first time when 43 years old, doing handwork in an ammunition factory at \$14.45 a week. When laid off, after four and a half months, she had sewed at home for eight and a half months, and then had looked for a factory job because of its regularity. She had got a job inspecting motors, in a factory manufacturing fans and motors, at \$14.45 a week. After four months she had been transferred to hand assembling at the same wage. At the time of the accident she had had five months' experience on this second job and with a piece rate could make as high as \$27.50 a week. She was leaving an elevator in the factory when the elevator operator dropped the gate before she was off and she was struck forcibly on the head and knocked unconscious, remaining so for half an hour. There were contusion and abrasion of the scalp over the occiput, slight concussion of the brain, and nervous shock. Relatives gave her financial assistance during the emergency. She was away from work 18 days, and then returned to her former job. She was not given the rush orders which were paid for at piece rates, but work which paid only a time rate of \$14.45. This resulted in considerable loss of wage and caused her much discouragement. After three weeks her doctor advised her to stop work. She was still very upset, and the noise of the machines bothered her. He dismissed her one week later, although she was still "nervous and fit for nothing." Medical bills were paid, and compensation was allowed for a healing period of four weeks and one day. She did not attempt to return to a factory but began doing sewing at home. The older son left school and got full-time work, and the younger one worked part time to help meet the living expenses. She did sewing at home about two and a half years. She continued to have severe headaches and went to an osteopath, who relieved them and the "nervous" condition to some extent. These treatments she paid for herself, and stopped because she felt she could no longer afford them. About one year before the interview she had begun working in a tailor shop, hoping to increase her earnings. She could make \$3 a day, but was

seldom strong enough to work a full week, two or three days being much more common. She still suffered severe pain in the back of the head, her strength was reduced, and she had not regained the weight she had lost (15 pounds) after the accident.

Case No. 86.—An American woman of 46, with a high-school education, was single and living alone. She had gone to work for the first time 15 months before the injury, as a saleswoman in a retail store, and had advanced from \$7.25 to \$9 a week. On the day of the accident she was sitting on a stool behind the counter when a casting came loose at the bottom of the seat, causing the top part to fall. She struck her head and the base of the spine. After she regained consciousness she was extremely nauseated. She was taken to a hospital and knew no one for four or five days. It was five weeks before she was clearly conscious of what was going on. Her temperature was 101° at first. There was pain and soreness in the region of the right kidney and in the lumbar region, and pain in the back of the head. She was in the hospital 10½ weeks. After leaving she stayed two weeks with a friend and then stayed with a brother until her return to work. She paid no board to either of these. She was disabled 18 weeks. The medical expenses exceeded \$200 (the maximum set by law in ordinary cases), and she paid the excess, \$76.50, herself. Compensation covered the healing period. After her return to her job, at her doctor's advice she worked only half time. Several times she consulted him about working full time, but he always advised against it. For her work on afternoons and Saturdays she received \$5 a week. To supplement this income she did some crocheting at home. There was still pain and soreness at times on the right side over the kidney. She tired more easily, especially from standing and reaching in the store, than she had done before the accident. Her weight had been 183 pounds, after coming from the hospital it was 98 pounds, and at the time of the interview she weighed 168 pounds.

Case No. 87.—An American woman of 36, with a sixth-grade education, was a widow with three sons, one of whom was just old enough to work. She received a small mother's pension, making the family income \$34.65 a week. She had begun work at 33 as a spooler in a blanket mill, at \$7 a week. After three weeks she had been transferred to weaving, and with three years' experience had advanced from \$10.50 to \$22.27. In the mill where she was working at the time of the accident, as there were no screens to stop the shuttles she had been struck several times by a shuttle flying from a loom. On the day of the accident she was struck on the head in that way. The doctor reported, "A deep cut in the right parietal region 2½ inches above the right ear, with marked concussion, fracture of the

inner table, blood clot pressure symptoms, partial paralysis, dizziness and limitation of the field of vision of the left eye and unequal pupils." Six and a half weeks after the accident, at the end of the medical treatment, he reported, "Complete recovery as far as symptoms show to-day. Possibility of Jacksonian epilepsy." The woman stated that the wound bled very freely, also that she had considerable nose bleeding. She was in bed for two weeks, during which time the boys kept house. She lost six weeks and two days from work; medical bills were paid, and compensation covered the healing period. She returned to work before the doctor advised it, as it was necessary for her to be earning, but was still weak, had to stop at times to rest, and could not work so fast as before. This cut down her earnings to about \$18 a week, and it was two months before she regained her former earning power. About one year after the accident she remarried and stayed at home two years. In this time a child was born. Her husband left her. She returned to work and was still a weaver at the time of the interview. She said that when she took cold it caused a sharp pain at the point of the injury. She was still unstrung. "I go all to pieces at times," she volunteered. Then the same sharp pain would return and her back would ache. She tired more quickly than before the accident and had lost 15 pounds in weight. She continued to do the housework but with greater difficulty because of her reduced strength. The boys were very helpful.

Case No. 88.—An American girl of 18, with a seventh-grade education, was living with her mother and seven brothers and sisters. A brother and a sister were earning, besides herself, the weekly income being \$40. Beginning work at 14 she had been a domestic servant for two years, advancing from \$1.75 to \$3 a week cash wage. Then she had become a winder in a hosiery mill at \$8.40 a week, and at the time of the accident had had two years' experience at that work and was earning \$18. The workroom floor was oily, and she slipped, striking her head on a steel door casing. The left parietal region was involved in the abrasion, and she was unconscious for a time. Later there was dizziness, headache, nausea, and fainting. She tried to work after two days but could not, as she was too dizzy. The doctor who came to her home sent her to a specialist for diagnosis. She returned to work three and a half weeks after the accident, and this healing period was compensated. Medical expenses were paid. There seemed no permanent disability at the time. About two weeks after her return there was a discharge in her throat, which, according to the medical report, was "sinus trouble probably due to the injury." She was treated three times, paying \$3 for each treatment. As she could not afford this, she went to a

free clinic, where the only expense was for medicine and spray. She continued treatment at the clinic for a year and eight months and seemed cured, but the sinus trouble had recurred at intervals since that time. She continued to have headaches, experienced dizziness when she became tired, and often had "pain like an iron band around her head." She had not reported to the company this subsequent trouble, as she thought it would do no good, since the case had been closed. After the healing period she returned to her former job, but for a while could not work full time and earned only \$14 a week. Also she lost three hours a week during the year and eight months she went to the clinic for treatment. At the time of the interview she was earning \$20 a week.

Case No. 89.—An American woman of 58 had gone to work 13 years earlier, when she and her husband had separated, and at the time of the accident she still had two children of school age to support. She had worked continuously in the bisque warehouse of a pottery plant, and during the 13 years her wage had increased from \$11 to \$15.84 a week. She was doing Sunday overtime work, because of the drawing of a kiln on that day, when the injury occurred. She slipped on the sandy cement floor and fell, striking the side of her head with great force on the floor and also breaking her left wrist. She stayed one hour more to finish drawing the kiln and then went home and to bed. Two hours after leaving she called the forewoman. Her head and eyes were black and swollen, and she was in great pain. She suffered from almost continuous headaches over the seat of the contusion of the frontal bone, and there was considerable dizziness. Four months after the accident the attending doctor reported, "I am afraid this condition will never be any better, owing to age of woman and nature of injury to head." Seven months after the accident a second medical report stated, "Complains of pain over right eye and temple corresponding to point of injury * * *. Marked tenderness on pressure over this region. Complains of severe headaches which are present practically all the time but apparently much worse at night." Compensation was allowed for a healing period of 31 weeks and medical bills were paid. She was never able to work again because of the pain, the reduced endurance, and the unstrung condition which followed the accident. The severe headaches were practically continuous. After the close of the healing period a medical report stated, "Patient has a fatty heart and is attributing her condition to the injury," and a letter from the employer read, "Injured does not intend to work, as her duties at home are of such a nature that all her time will be required there." She was almost an invalid. Her married daughters helped her financially and went in and did her housework for her. One and a half years after the accident she died. During that period

the most energetic thing she was able to do was to walk two blocks to the home of a friend because she "got so lonely." This she did on three occasions. She had worked continuously during the 13 years preceding the injury, and, according to her forewoman, there was "no one steadier in the bisque warehouse. She was willing to do any kind of work necessary, never lost time, worked a good deal of overtime, and often worked Sundays when they drew the kiln on that day." In addition she had done all her work at home after hours. "If she had any heart trouble it had no effect on her work before the accident," when there was no stronger incentive to work than afterwards. Such a case, in which an injury perhaps lights up a preexisting pathology, presents an especially difficult problem for the injured person.

Case No. 90.—An American girl of 18, with an eighth-grade education, was living alone. She had begun work when 14 and had changed jobs several times, doing domestic service and laundry, factory, and store work. Beginning at \$8 in a laundry, she had made as much as \$30 for a week's work as a drill-press operator. Then the factory had closed at the time of the armistice and she later found work selling in a candy store. At the time of the accident she had been there one year and two months and was earning \$16 a week. An overhead tank attached to a toilet fell when she pulled the chain, striking her on the head. After being unconscious for two hours she was taken to a hospital. Her head ached severely, and she was unable to move about. She stayed in bed two months. Once in that time she tried to get up and fainted. She lost 20 pounds in weight. She was disabled 16 weeks and received full wage during that time. She stated that the insurance company wanted her to sign a release after she had received 16 weeks' full pay. "You are only entitled to \$10.67 a week, but sign and we'll let it go at that," she was told. As she was still suffering from the injury, she employed a lawyer, who made a settlement for \$1,000 for her, taking \$400 of it as his share. As her employer would not take her back at the end of the healing period, she found work as a saleswoman in a retail store where she received \$16 a week. She married soon afterwards and left one and a half years later for the birth of a child. She had not again returned to industry. The headaches continued to recur. About one day a week she would be laid up, because, as she said, "my head and back ache so that I almost go crazy with it." At these times her husband did the work. While in the store she had lost about one day a week on account of the pain in her head and back.

Case No. 91.—An American woman of 44, with a sixth-grade education, was a widow, living with a daughter who also was working, their combined income being \$29 a week. For eight years she

had done house-to-house selling, making an average of \$9 a week. She then had found work in a department store, marking goods in the receiving department. At the time of the accident she had been there two years and was earning \$11 a week. While she was sitting at work, a young man whose father had quarreled with her passed and hit her a heavy blow on the head with a board or piece of corrugated paper. A comb in her hair was forced down, raising welts on the top of her head. The company furnished medical treatment for 12 weeks; then the doctor told her she was all right and should return to work. A healing period of this length was compensated. She had continued under a doctor's care up to the time of the interview four years later, estimating that she had spent \$150 for treatment. She was disabled for work for 28 weeks in all. She then began house-to-house selling again but could not work more than part of one or two days a week, earning about \$3 in that time. Her daughter had married and she lived with her and her son-in-law at the time of the interview, being largely dependent upon them. Since the accident she had had dizzy spells, and while walking about always held on to something for fear of falling. She could not stoop over to pick things up, nor could she do heavy lifting. She had been unstrung and suffered from pain in the region of the stomach.

Case No. 92.—An American-born negro woman, 28 years old, with an eighth-grade education, was married to a man who owned a shoe-shine stand. She had entered domestic service at 26 and after two years had become a freight-elevator operator in a shoe factory. At the time of the accident she had been there eight months and was earning \$8 a week. While going through the hall at lunch time a dumb waiter, which fell because its rope broke, struck her on the back of the head, knocking her unconscious. The doctor reported, "Concussion of the brain and nausea." For three weeks her husband stayed at home to care for her and hired a boy to look after his stand. Medical bills were paid at the time, but afterward she had to pay for additional medical treatment and medicine for the pain in the head resulting from the injury. For a month she had trouble with her eyes. "I could see," she said, "but everything looked gloomy." It was 22 days before she returned to work. The healing period allowed was 15 days. As it was, she still felt weak and unstrung, but she was afraid her job would not be held for her if she stayed out longer. On her return she asked to be put on the passenger elevator, which would have been easier, but her employer insisted that she go back on the freight elevator. She could not stand the work, was forced to leave after a week, and stayed at home two weeks longer. Then she became a stockkeeper in a store at \$9. After seven months she left to avoid being changed to other work, and

stayed at home one year. Then for a year following she operated a flat-work ironer in a laundry, at \$9. During all this time she was having a good deal of pain in her head and her endurance had been reduced. The last work was particularly hard on her; she had headaches and frequently felt sick and nervous. She had to give up the laundry job and then worked irregularly, doing cleaning or washing by the day, making from \$12 to \$18 a week. At the time of the interview she still suffered a severe pain in the head that nearly drove her crazy, she said. Her eyes seemed to be affected at times, and she had never been so strong as before the accident. If she worked away from home she was not able to do all her own housework and would then pay to have her washing and cleaning done.

Case No. 93.—An American woman of 52 was living alone, having separated from her husband 10 years before. She had put her son in a home, and had gone to work in a department store, earning \$20 a week. After three years her son had left the institution and had gone to work, and she had stopped working and made a home for him. Six years later he had died in the Army, and she had gone to work as an examiner in an ammunition factory at \$25. When the plant had closed, after two months, she had got similar work in an electrical-supply factory at \$20 a week. At the time of the accident she had been working in this second factory eight months. A tray fell from an overhead conveyer, striking her a severe blow on the head. She was in a semiconscious condition at first and later was dizzy and unstrung; she was out of her head for two weeks. There was a queer "nervous" condition of the left eye, and her hearing seemed impaired. While she was disabled, a roomer, a friend of hers, gave her the only care that she received and helped her with her housework. Medical treatment covered two weeks, which time was allowed as the healing period. However, it was three months before she could attempt to work. During this time she was unable to walk very far, felt as though she would fall, had dizzy spells, cried frequently, and suffered continuously from headache. She would not return to the factory where she had been hurt, even for her back wages, but went to another electrical-supply plant where she was given assembling to do, at \$15 a week. She said, "I did my best to last, would get soaking wet trying to work," but in three weeks she was "through," unstrung and dizzy. This time she stayed at home two months. After the accident she had taken two roomers, and when unable to work she had some income from them. She tried assembling in another electrical-supply factory, this time earning \$20 a week, but after four months the heat and noise of the factory wore her out, and she left. Although she preferred factory work, she went back to her position as saleswoman in a department

store. At the time of the interview she had been on this job nearly four years and had advanced from \$20 to \$25 a week.

Case No. 94.—A 35-year-old foreign-born worker, who had attended school for four years in her own country, was married and living with her husband and three children. The combined earnings of herself and her husband were \$65. She had gone to work for the first time when 21 years old as a machine operator in a tannery. Here she remained for two years, her wage increasing from \$4.50 to \$8 a week. She had left for better-paid work as a power sewing-machine operator in a clothing factory, where she had been employed off and on during the following 13 years, about 10 years' work in all, and her earnings had advanced from \$10 to as much as \$35 a week during that time. She was working at the time of the accident to help pay for a home. The guard surrounding the shaft under her machine had been removed. She put her head under the table to pick up some object and her hair was caught on the shaft and the scalp was torn off. She was in a hospital 13 weeks, and three skin-grafting operations were performed. She was under a doctor's care for between eight and nine months before the scalp healed. Altogether she stayed away from work 65 weeks and 4 days on account of the accident, and compensation was paid for the full time. In addition a settlement of \$750 was made on account of the permanent disfigurement, and 15 per cent of the total was added to the compensation received because a safety order had been violated. On her return to her former occupation she found the accident had been so severe a shock that she was unable to remain, and she gave it up after four days. She could not even run a sewing machine at home. The scalp was painful at times, especially in changing weather. The left side of the head had been most seriously injured, and she was unable to sleep on that side. She had not again attempted to return to industry.

Case No. 95.—A 72-year-old American woman, with an eighth-grade education, was a widow living alone. Her husband had died 17 years before and had been sick for some time before that. At 43 years of age she had become a wage earner to support him, their three children, and herself. At first she had sewed for private families, earning \$4 and \$5 a week. After nine years she had become a hand ironer in a laundry, beginning at \$4 a week. At the time of the accident she had been working 21 years at the same laundry and was earning \$11. The children were all grown up and married. On the day of the accident a fire alarm was sounded. Everyone thought it was a joke, until smoke began to pour from the dry-house. She was working on the second floor. All the other workers ran, but she was afraid to go fast for fear she would be knocked down. They ran past her down the stairs, and it seemed a long time before she got

out. As she was wearing a sleeveless, low-necked waist, she grabbed her street clothes on her left arm. Her right arm was bare, and that and other exposed parts—shoulders, neck, face, ears, and left elbow—were badly burned. She was partially overcome by the smoke. As she reached the bottom step she was struck on the top of the head by some falling object, a pane of glass or a brick. Outside all was excitement. People were “struggling for their clothes, getting out the safe, and so forth.” She crawled along the fence for two blocks to get a doctor, hardly knowing what she was doing. She was terribly dizzy. “I was scared to death,” she said. “It was the shock of my life.” Medical treatment covered a period of six and a half weeks. She could not lie down, because the neck and back were so badly burned, and for six weeks she sat in a chair. Her right arm was in a sling during this time. Her daughter came and did all her housework. It was 17 weeks before she could return to work, but compensation was allowed only until the time she was able to get around the house—six weeks and two days after the accident. She had a great deal of dizziness before returning to work, and was unable to go out alone because the dizzy spells came on so suddenly. She would have gone sooner if it had been at all possible, for after compensation ceased she was dependent on her son, who had a wife and three children to support and was not in good health. Besides there was a mortgage on her house, which she was trying to pay off. On her return to work she had to begin working full time at once. The laundry was hot, she stood all day, and the arm still bothered her. The dizziness which had come over her at intervals since the accident was the hardest disability of all to work under. She had to stop at times and hold on to the ironing board to keep from falling, but she did not tell any one, as she was afraid of losing her job. With the coming of warm weather the next summer this dizziness came more frequently, and the foreman told her she could have a vacation, as she looked so bad he was afraid she'd fall over. She stayed home three months and then returned, not wishing to be dependent on her children. The next two summers she again took vacations of three months each. In the winter, about three months before the interview, she seemed to be getting worse. The closeness and steam of the laundry bothered her. She did not know what she would do if she lost her job, but she told the foreman that if he could not move her from the middle of the room to a place near a window she would have to leave; so he moved her. She was very uncomplaining. Her final comment was, “I get along, but I've had a bad time of it.”

Case No. 96.—An American woman of 45, with an eleventh-grade education, was separated from her husband and living with her mother, whom she supported. For 11 years before her separation

she had helped to manage a drug business. She then had become a saleswoman in a department store, and had worked 11 years in one store at \$24 a week. On the day of the accident, while she was seated at a counter, a scaffold which was being used in connection with some alterations fell, striking her on the back of the neck and between the shoulders. She received medical treatment for 11 days beginning on the day of the injury. The doctor reported, "Sprained back and injured spinal nerves." An X ray taken at this time showed "no evidence of bone injury in the cervical or dorsal spine." She was out of work two weeks and six days. The firm had urged her to return sooner, and she had tried to do so, but she began to cry when she got to the store and she was sent home. Medical bills were paid at the time, but she had afterwards consulted doctors because of the injury and paid the bills herself. Compensation was allowed for the healing period. When she was disabled she was alone in the house, as her mother was on a visit, and a friend gave up her work for a time and stayed with her. Then the landlady returned and cared for her. She sent her laundry out. She had borrowed money because compensation payments were delayed until the fourth week. After her return she continued work as a saleswoman, with no loss of wage due to the accident. At the time of the interview she was still subject to extreme pain, beginning at the back of the neck, going up into the head, and down the spine. This pain would begin about a week before her menstrual periods, and continue through them, so that she would lose one or two days from work each month. She estimated that in the first year following the accident she had lost nine weeks in all. There was almost continuous pain in the back. She did not sit up straight and she held her head to one side "to lessen the pain in the neck." She was extremely unstrung and several times had fainted at work. Before the accident she had not had any of these symptoms and had worked steadily.

Case No. 97.—An American girl of 16, with a third-grade education, was living with her mother and aunt. She and her aunt were working, their combined income being \$42.11 a week. She had become an earner 11 months earlier, taking a job as a waitress, and had advanced from \$13 to \$15 a week. On the day of the accident she was going down a flight of marble stairs after lunch. They had just been scrubbed and were still covered with soapsuds. She slipped and fell from the top to the bottom, striking the lumbar region of the spine just below the waist. Her head and shoulders as well as her back were severely bruised. "I went to get up but couldn't move," she said. The doctor reported that the bruising of the back just above the pelvic bones had made her very nervous and might be the cause of a recurrence of St. Vitus's dance with

which she was afflicted when a child. She received medical treatment for 18 days. Medical bills were paid and compensation was allowed for a healing period of one week and three days. Her back was bruised and sore and she was very unstrung. As her employer had been urging her to come back, she tried it for a week, after seven months' absence, but then had to stop. "Being a waitress is no job with a weak back," she stated. Following this attempt she stayed at home for nine months longer. She then got a job of sealing in an electric-lamp factory, work at which she could sit down. At the time of the interview she was still doing this work and her wage had increased from \$14 to \$17 for a full week's work. She had not been able to work steadily, however, and at one time had stopped entirely for eight months. Before the accident, although never very strong, she had always worked steadily. The bruised area on her back was still tender and painful, especially when she got overtired. She had married a few days before the interview, and was doing all her own housework, but very slowly.

Case No. 98.—An American-born negro woman, 42 years of age, with a fourth-grade education, was married and had two children. For three years she had been assisting her husband in their support, and the combined income was \$33 a week. She had done laundry work for private families for a time, then had got a job of stamping meat in a packing plant, and had had six months' experience there, advancing from \$12.50 to \$13 a week. On the day of the accident she was coming down a cement incline which was wet and slippery, when she fell backward, striking her head and right shoulder. There was some concussion of the brain, as well as a sprain of the right shoulder and right wrist. She was unconscious for a time, but went home alone and did not call a doctor until two days later. Treatment consisting of cold applications and liniment was continued a little over a month. She was disabled nine weeks, but the healing period allowed was five weeks and four days. Medical bills were paid. She returned to her former work but was afraid of the place and soon left. After doing laundry work for a time she got a job in another packing plant, handling meat in the smokehouse at \$10 a week, but at the end of two weeks she stated that she left because her "nerves gave way, the work was so monotonous." She then received permission to cook and serve lunches at this same plant and earned \$12 to \$14 a week in this way. After a month she gave it up as too hot. From that time until the date of the interview she had done laundry work irregularly, earning about \$12 a week. She stated that from time to time ever since the accident she would have a feeling as though she were about to fall. She had been deaf in the left ear, her eyes seemed weak and sore (she wore glasses), and

there were occasional headaches. A weak, unstrung condition made it impossible for her to work steadily. She stated that all these difficulties had appeared only since the accident.

Case No. 99.—An American girl of 21, with a sixth-grade education, was living with her mother and brother. She and her brother were the earners, their combined income being \$49.60 a week. At 18 she had become a salesgirl in a 5-and-10-cent store at \$12 a week, six months later changing to department-store work, which she had continued during the three and a half years preceding the accident, advancing from \$12 to \$15 a week. While getting stock in the stock-room she fell from a stepladder, striking the lower part of the spine. The entire coccyx was displaced to the left and lay in a transverse position. She was out of work at first for 28½ weeks. The permanent disability was rated as 15 per cent of permanent total impairment. She stated that the medical expenses much exceeded the legal limit and that she paid the excess. She had receipted doctors' bills for \$80.50 and stated that there were other items also. Compensation covered a period of 87 weeks in all. On her return to work she could not endure standing and left after three days. She then stayed at home for about a year and a half. Even after that she did not find work which she felt she could do, as she wanted a job with opportunity to sit down much of the time. Four months before the interview she had again tried selling in a store, at \$13 a week, but was discharged in three weeks, as her employer, in looking up references, learned of her accident from the store where she had been injured and was not willing to "take a chance on her." She stated that she had had an unpleasant experience with the first employer, which she believed accounted for this attitude and refusal to recommend her. The company had insisted that she submit to an operation and she had refused, on the advice of her own physician, doubting that such procedure could reduce the disability. Then the insurance company had wished to settle the permanent disability for \$300, but the State bureau awarded her \$600. About two months after losing this last job she found employment making calendars in a factory by hand at \$14 a week. Her back still bothered her, but as she could sit at work she felt that she would be able to stay. The mother did the major part of the housework both before and after the accident.

Case No. 100.—An American woman of 43 was living alone, attending to her household duties as well as supporting herself financially, her income being \$13.05 a week. She had been employed in three different soap factories, since becoming an earner, always doing handwork, and was loading empty cans on trucks at the time of the injury. While she was stooping over, filling cans on a truck,

another loaded truck struck the one she was working on, and she was thrown violently to the floor. She suffered severe pains and headaches and was taken to a hospital a week later. An X ray showed "a linear fracture extending from a point 1 inch external to the superorbital ridge upward and backward to the superior temporal region. There was no sign of bone depression or of intracranial pressure." X rays also were taken of the dorsal, lumbar, and cervical regions of the spine. "The fifth lumbar vertebra showed fracture of the body on the left side near the margin. No displacement or deformity." During this time she complained of headaches, general nervous condition, and pain in limbs and chest. Examination showed some spinal symptoms and some anæsthesia of both legs. After seven weeks in the hospital she was sent to a sanitarium for three and a half weeks, and then returned to a hospital for exploratory laparotomy. According to the report there was "ptosis of stomach and transverse colon, both on floor of pelvis. Parts were restored to normal position and fixed there." On her discharge from the hospital five weeks later she went to live with a married son. At the time of the interview she was still being compensated as totally disabled. Examinations had been made from time to time. Seventeen months after the accident a neurologist reported, "traumatic neurosis. I think that especially with the legs there is much exaggeration, but as to weakness and general 'nervousness' I am inclined to place credence in her statements. No organic disease of the central nervous system; her reflexes are intact; Wassermann negative, no sciatica, leg weakness idiogenic." A later medical examination reported her "emaciated, sallow, general condition one of nervous debility, totally disabled," and the final report before the interview recorded the following: "Claimant complains of feeling worse—headaches, dizziness, impaired vision, impaired hearing, pain in abdomen, cramps in legs, insomnia, loss of appetite, sinking and falling spells, general weakness. She states that she is not able to do any work * * * all symptoms subjective." At the date of the interview (four years and three months after the accident) the daughter-in-law stated that the injured woman's condition was no better, that she was in fact apparently weaker, and that the daughter-in-law thought she would not live long. The pain in the head and back continued, she fainted occasionally, and had to stay in bed a good deal. At her best she would cook a little, wash dishes, and tend a few flowers. The daughter-in-law did the other housework and took care of her. A neurological examination and compensation during disability were both provided in this case.

Case No. 101.—An American woman of 39, with a seventh-grade education, was a widow with one child to support. She had gone to work for the first time five and a half months before the accident,

when her son, who had supported the family of three, had died in the Army. She had had no training in industrial life, but in her job, consisting of hand sewing, she had advanced from \$18 to \$21 a week. One day, when she was riding on a freight elevator, the gate was not securely fastened, and the sliding doors caught on the fire doors and were thrown violently out of place, striking her forcibly in the lumbar and sacral regions of the back. At the time of the interview she was still disabled for work. She had received medical treatment for five weeks and had then been discharged as a malingerer. Following this a second doctor had taken an X ray of the lumbar spine, which showed "no fracture or dislocation." Nineteen weeks after the accident an orthopedic surgeon made an examination and reported: "Claimant states that immediately after the accident she had pain in the lower portion of back, vomited, was troubled with frequent urinations for about two weeks, during which period she was in bed. She was unable to walk erect. She complains of pain throughout entire course of spine, especially over lumbar vertebræ, and right sacro-iliac region. She has headaches daily. She menstruated regularly until the time of the injury, following which there was cessation for 10 weeks. She had two attacks recently in which there was some disturbance of consciousness for two or three hours. She is now able to do light work in her room but continues to have pain in the back of the head when active. Family history negative; personal history negative; color good; well nourished. She walks rather guardedly, attitude slightly forward, holding spine rigid. In stooping she does not flex the spine. There is no local evidence of injury, no curvature of spine, or any palpable evidence of deformity. She calls attention to a slight nodular mass, small and movable, which only on most careful deep palpation can be elicited in right superior gluteal region. It is evidently gradually disappearing. I am confident that it is not responsible for any disability that may exist. Passively we get movement of the spine in all directions, but with some resistance. She complained of pain on pressure over spine from cervical to lower sacral region, also over right sacro-iliac region. Examination of cranial nerve is negative. Tendon reflexes are all brisk, equal right and left. There is no clonus. I would advise rest for a month, then work." Following this, examinations were made at intervals and she was still reported unable to work. A little over a year after the accident "hospitalization with diagnosis by a specialist" was advised. Three months later this was arranged for. After two months' observation the attending doctor reported "traumatic neurosis." Temporary total compensation was continued. At this time the 13-year-old daughter attempted to secure work, as the injured woman feared compensation would be discontinued. Later a

medical report stated, "injury to sciatic nerve, traumatic sciatica." She was compensated as totally disabled for 146 $\frac{5}{7}$ weeks. She was then reported as earning \$4 a week by furnishing lunches to two men and doing some mending. Thereafter, up to the time of the interview, she was compensated on a wage-loss basis. Medical expenses were paid. At the time of the interview she was living in a hotel room and was unable to work. Her daughter stayed with a brother in the winter when she attended school and with her in the summer. Neighbors brought the woman her food, and a sister came in and cleaned her room. It was heated, so she did not have to worry about that. She managed to do what cooking was done. She walked with a limp. "I used to swim and dance," she said, "never nervous, lots of pep, now I just sit in my room. It's so hard to get around, so painful." It was only when her daughter was home that she was able to earn a little, serving lunches to two men, and as her only income was the compensation, she felt constantly insecure and fearful lest it be discontinued, not realizing that the obscure nature of her disability necessitated frequent examinations. A neurological examination and compensation during disability both were provided in this case.

CASES ILLUSTRATING THAT PAYMENTS FOR SCHEDULED NUMBER OF WEEKS DID NOT COMPENSATE FOR PERMANENT IMPAIRMENT

There were considerable legislative differences in the three States in regard to the compensation paid according to extent of disability. These differences have been dealt with somewhat in detail in another section of this report (see Part II). This legislation embodies the theory that payments of money over a number of weeks, the time depending on the extent of physical disability, adequately compensate a woman for a permanent disability. This theory may be justified in the case of the woman who has been left with a minor permanent disability, but in the case of a more serious impairment, although the woman may have secured work by the close of the compensated period—due to a humane employer, an interested employment agency, or a rehabilitation service—she has an actual handicap throughout the rest of her life, and in many instances the woman is disabled for all available work. This inadequacy, from the point of view of the injured woman, indicates not that there is shortcoming in administrative procedure, although in some cases she would have benefited by contact with a rehabilitation or an employment agency, but that change in legislation, providing for further compensation, is of first importance.

Case No. 102.—An American woman of 38 was supporting an invalid husband and herself. She had been a teacher for two years before her marriage, but had stopped work when she married. When her husband had joined the Army during the war she had taken a job, operating a skirt-knitting machine at \$20.50 a week. After two years her husband had returned, they had moved, and at the time of the accident she had for five days been a knitter in another skirt factory at \$20 a week. The machine at the first factory had a revolving bottom and a stationary top, while on the new machine this arrangement was reversed. She stopped the machine to fix a broken needle, started it, and put up her left hand, as had been her custom with the old machine, and was caught between the revolving arm and the machine, so that the left hand was thrown into "the driving point of contact." There was a compound comminuted fracture of the middle phalanx of the index finger, with lacerations. The middle finger was traumatically amputated at the middle joint, and the ring finger at the distal joint. The injury to the index finger caused complete stiffness at the distal joint. Medical bills were paid and compensation was allowed for $49\frac{2}{3}$ weeks, this including a healing period of $12\frac{2}{7}$ weeks. For three months her husband did all the housework. She was unable to return to work until $13\frac{4}{7}$ weeks after the accident. Then she was told that the only job for her was as forelady in the winding department, work which also entailed operating a winder. She was extremely nervous about any machine operation, but it was necessary for her to earn money, as her husband was sick much of the time. Although she began at \$20 a week, her wage was reduced to \$15, as she was much slower after the accident. She had been a steady operator before the accident, but it left her exceedingly unstrung and shaky. After two years she was given clerical work in the office, earning \$17 and later \$18 a week, while girls on the knitting machines were making as much as \$25. She worried for fear she should lose her job, because it would have been "impossible to find another," since winding and knitting were the only kinds of work in which she had had experience, and she was slow at one and disabled for the other. "If they ever told me I was through there I'd be done. No firm that didn't feel they owed me something would take me." Because she could not grasp objects with her left hand, she was not able to do her washing, ironing, or sewing. She sent the laundry out and bought her clothes. She stated that it took her longer to do her housekeeping after the accident than before.

Case No. 103.—A foreign-born worker, 54 years old, who had had eight years of schooling and spoke both English and German, was living with her husband, their combined income being \$84.50 a week.

They had no children at home. She had worked for 18 years as a mender in a worsted mill in Germany. The family had come to the United States, and she had got work in a worsted mill here as forelady in the mending department. At the time of the accident she had held this position for 18 years and had advanced from \$9 to \$29.50 a week. She was walking downstairs when some boys rushed past her, and she was tripped and fell, striking her right knee. She stayed away from work 25 days, returned and worked a week, and was then laid up for five months and one week. During this time a daughter came home to help her. The permanent injury was rated as 5 per cent loss of use of the right leg. Medical bills were paid and compensation was allowed for $33\frac{1}{3}$ weeks, which included a healing period of six months. As the knee was still bothering her at the end of the healing period, she decided that they would have to get along on her husband's earnings. About two years after the accident her husband died, after an illness of four months. During his illness she tried everywhere to get work. She was not able to return to her former job, as it involved constant getting up and down or standing, which she could not do. At last, through a friend, she got a job at napping, in a worsted mill. At the time of the interview she had been working there for a year and four months. Beginning at \$16 she had advanced to \$19, still \$10 less than she was earning before the accident.

Case No. 104.—An American woman of 35, with a fourth-grade education, was single and supporting herself and her mother, who was 76 years old. She had gone to work at 16 in a silversmith's establishment and had remained there steadily for 19 years, doing a variety of work as required. At the time of the accident she was earning \$24.50 a week. She was polishing a frame on a lathe, when her right hand was caught and part of the thumb was torn off. The entire thumb was surgically amputated later. While she was disabled her mother did cleaning and washing to pay their expenses. The daughter lost 10 weeks and 4 days, $31\frac{1}{3}$ weeks of which was allowed as a healing period. Medical bills were paid, and compensation was allowed for 62 weeks in all. On her return she found herself partially disabled for her former work. She operated the same machines but her speed was very much reduced, and she could earn only \$15 a week. At the end of two years she was laid off. After that she was able to get only housework, at \$3 a day, and as this was irregular she seldom averaged as much as \$9 a week. Since the accident her mother also had attempted to supplement their income by doing housework when she was able. Their standard of living had been decidedly lowered since the injury, and they felt very insecure in regard to their future.

Case No. 105.—An American girl of 16 was living with her parents, a brother, and two sisters-in-law. She, her father, and the brother supported the family. Her first work had been as a wrapper in a food factory, at \$6 a week, but she had left after one month to work in a metal-goods plant as a punch-press operator at \$15.30. At the time of the accident she had been there just a month. She stated that her machine was faulty and that she had reported the fact several times. The press repeated, catching and severely lacerating the four fingers of her right hand. Later it was necessary to amputate the index and little fingers at the distal joint, and the middle and ring fingers at the middle joint. The hand healed without infection but was very tender, and she was able to do nothing at home for three months. Medical bills were paid, and compensation covered $43\frac{2}{3}$ weeks. She attempted to return to work at the end of the healing period allowed (six weeks and two days) while the fingers were still tender. She was given hand assembling at \$12 a week, but was laid off in two weeks. After that she was disabled for five weeks longer. When she returned to work she was afraid of a machine job and tried housework, but she was unable to earn her way at that either and was laid off in three weeks. In her search for work which she could do she was refused five different jobs because of her injury. Finally she secured employment at catching paper off a press. Her wage was \$13 and in 23 months at this work she was unable to increase her earnings. During this time she was extremely sensitive about the appearance of the hand. Two years after the accident she said she would “marry and settle her handicap.” Her husband did a great deal of the housework. She was unable to sew or to shake things, and washing and ironing were too difficult for her.

Case No. 106.—A foreign-born woman, literate in Polish and able to speak English, was married but had no children, and she and her husband were working, their combined income amounting to \$40 a week. She had gone to work first as a spinner in a silk mill, where she had stayed for nine years before her marriage, advancing from \$7 to \$14 a week. A few months after her marriage she had returned to industry as a silk weaver, beginning at \$14. At the time of the accident she had been on this second job two years and was earning \$20. There was a flaw in the warp on one of the looms, and the shuttle, deflected by it, flew from the loom and struck her forcibly in the abdomen. There was considerable bruising and internal injury, which was rated as 5 per cent of permanent total disability. She was in bed at home for three months and then was six months in a hospital. Medical bills were paid until she left the hospital. After that there were other bills which she paid herself. She re-

ceived compensation for 22 weeks, a healing period of three weeks and three days being allowed. She was out of work for two years because of the accident. Then she found work in a large bakery at \$11 a week. There she was employed six hours a day, sitting down, breaking eggs and beating them for cakes. At the time of the interview she had held this job for two years and was still earning \$11 a week. However, she said that since the accident she had been "sick all the time, no feel good, can't do work at home, can't wash, can't stand up long." Her husband had a job and also helped around the house. The laundry was sent out.

Case No. 107.—An American woman of 35, who had an eighth-grade education and had attended business college for a year, lived with her mother, supporting her financially and attending to the household activities after working hours. She had begun to teach at 15, continuing for 10 years, earning \$6.93 a week at first and advancing to \$9.24. She then had stopped for a year to attend business college, and for the next five years had taught in a commercial school, beginning at \$13.86 and advancing to \$17.32 a week. She was then offered stenographic work in a university office, beginning at \$18.47 a week, and at the time of the accident had held this position for four years and two months and was earning \$21.93. In getting up from her desk she caught her foot on the extended leg of a chair and fell, striking her right arm on a desk drawer and fracturing the humerus. It was a subcondyloid fracture, extending into the elbow joint and tearing it into three or four fragments. The ulnar nerve was involved. She could not afford to keep up their apartment while losing part of her wage. Moreover, she was unable to do any housework, and her mother was too old and feeble to do it. For these reasons they moved at once into an apartment with a married sister. The fracture was reduced in a hospital, where she remained for some time. She was unable to use the arm or hand after this operation. While in the hospital she practiced writing and taking shorthand with her left hand and got very expert at it. On return to work four months later she was much slower in her work, but her employers were very considerate, relieving her of much routine and hiring a clerk to type and assist her in other ways. Osteomyelitis developed and about 15 months after the accident a second operation was performed. Infected bone was removed, and the ulnar nerve was sutured. She then received therapeutic treatment—heat, electrical treatment, and massage—to maintain muscle tone and restore nerve function. After this operation she was able to use the right index and middle fingers and the thumb to some extent, though the ring and little fingers were still without strength or feeling. Following

this medical treatment she could type with the right index and middle finger but she could not write, because she could not control the movement of a pencil. The strength of the arm and hand were much reduced and there was limitation of motion of the arm at the elbow. The permanent disability was rated as 40 per cent loss of use of the arm at the elbow. Altogether she lost $17\frac{1}{2}$ weeks from work. Medical bills were paid and compensation was allowed over a period of $107\frac{1}{7}$ weeks in all. She continued with the same employer until about two and three-fourths years after the accident. Then she took work as an advertising writer for about 10 months, finally becoming secretary of a music school at \$28.80 a week, a position she had held 14 months at the time of the interview. After the accident, as she was disabled for housework, she and her mother continued to live with her married sister. The exposure of the ulnar nerve had left a constant point of tenderness. There was atrophy and some wasting away of the muscles supplied by the ulnar nerve. She was unable to lift objects with the right hand or to open a door with it. The second operation made it possible for her to comb her hair. She used the hand as much as possible. She stated that she had been particularly fortunate since the accident in getting work with people who knew her and had always relieved her of routine work which would have been difficult, if not impossible, for her to do. For this reason she had not experienced any wage loss.

Case No. 108.—An American girl of 19, with a seventh-grade education, was married and living with her husband and their two children. Her husband worked but irregularly, their combined income being \$29 a week. She had married at 15, and at 18, after the second child was born, she had gone out to work, as her husband's earnings had been insufficient to support the family. She had worked in a food factory, first as a paster for three months, then as a machine labeler for a year and a half, earning \$12 a week. Then she had been transferred to taking bottles off a suction chain conveyor, with a weekly rate of \$14. Three days later her left hand was caught in the chain. It was necessary to use a hatchet to get it out. She stated that five other girls had been caught in the same way while she had been working there. The side of the hand was badly torn, the whole hand was smashed, and "all the finger joints broken." For six weeks her hand was on a board, and she could do very little around the house. A cousin came to help her, charging a small amount. She could not afford this after four weeks, and then her mother, who lived near, helped a little. She lost $13\frac{5}{6}$ weeks from work. Medical bills were paid. The permanent disability was rated as 50 per cent loss of use of the index finger and total loss of use

of the little finger. Compensation was allowed for $44\frac{5}{8}$ weeks. On her return to work she was given a hand job, inspecting cans, at \$10 a week. It was a wet, dirty job, and it was necessary for her to work with her hand in water part of the time. She was afraid to let it go, as she knew of no other factory jobs open to her in the small community in which she lived. She was "nervous about anything with power." She and her husband separated while she was on this job, and she had herself and two children to support alone. After two years, during which the hand gave her considerable trouble, she found work trimming ribbons by hand in a silk mill. She said, "this goes much better." At the time of the interview she had worked at it for a year and four months, but was still earning only \$10 a week. All four fingers showed 50 per cent loss of use. Tendons and nerves were involved in the scar tissue. She could bend the hand a little, but it was not strong. It was painful and tender, more so in cold or damp weather. Her mother, on whom she had relied for many things, had died a few months before, and she had only herself to depend on for their financial support, the housework, the cooking, and the making of the children's clothes. She made the latter by hand, as she could not run a sewing machine and could not afford to buy them. She could do no lifting with the hand. She became very tired at the end of her day's work and felt discouraged and insecure.

Case No. 109.—An American woman of 28, with a seventh-grade education, was single and living alone, but contributing irregularly to her father's support. During her industrial history of about $12\frac{1}{2}$ years she had worked largely at domestic service or as a pantry worker in restaurants, earning from \$6 to \$20 a week. The accident occurred while she was using an electric meat grinder for the first time. She had used hand grinders, but had had no instruction nor experience with those driven by power. While running the fingers of the right hand around the bowl to wipe off bits of meat adhering to it, her hand was caught by the knives. It took an hour to get it out of the machine, and it was necessary to give her an anæsthetic to accomplish it. The four fingers were severely lacerated, the flexor tendons of the middle and ring fingers were severed, and all extensor tendons were cut. The condition was complicated by infection. An X ray showed fractures of the middle phalanx of all four fingers and of the distal phalanx of the ring finger. The accident caused severe shock. She was in a hospital 24 days. Medical bills were paid and a healing period of seven weeks and six days was allowed. She stated that she was disabled five weeks longer, and then returned before she was really strong enough because it was necessary for her to earn. No compensation was paid until 37 weeks after the acci-

dent. Full wage was paid for the first two weeks, and a collection amounting to \$100 was taken among her fellow employees to help her through the emergency. A sister also helped her financially. About five and a half months after the accident an examination was made to determine the extent of permanent disability and the report showed, "Loss of use of the index finger at middle and distal joints, total loss of use of the middle and ring fingers, and loss of use of the little finger at the distal joint." Compensation was allowed for $85\frac{1}{3}$ weeks in all. Three months after her return to work, the tea room where she was employed closed and she was much concerned about losing her job. There was an opening in another tea room, but there was much hesitation about employing her until her former employer recommended her strongly. She felt sure that without this help she could not have secured work. At the time of the interview she stated that her greatest handicap was due to a generally reduced endurance, which she ascribed to the accident. She was extremely unstrung, had lost weight, and tired much more easily. She used her left hand much more than formerly and learned to operate hand meat grinders and bread-cutting machines, which was part of her job, with the left hand. There had been no loss of wage, as she was a time worker, and being very conscientious she managed to do all that was required of her. She did her own washing and mending as before but with great difficulty. She was anxious to get work where she could sit, and was considering looking for a job as a food checker.

Case No. 110.—A 65-year-old worker, born in Czechoslovakia and literate in both Czech and English, was living with her husband. She was the only earner, as her husband, who was considerably older than she, worked only in the summer. Her first work was as a domestic servant when she was 19, but she had married a year later and remained at home for 40 years. Five children had been brought up during that time. At 59 years of age she had gone to work again, as a dishwasher in a hotel at \$3 a week, staying about four years and stopping because of illness. After staying at home for a few months she found work as a tobacco stemmer, earning \$11 a week, and at the time of the accident she had been at this job two years. While at work she slipped and fell, sustaining a Colles fracture of the left wrist. She went to a hospital at once. The attending doctor reported: "After the splint was removed she received treatment at the hospital, massage, etc. Examination six months after the accident showed flexion very good; in fact, all wrist movements normal, lacking about 5 per cent of complete flexion at wrist. Anatomically the results are fairly good; circumference of the wrist is one-half inch greater than of uninjured wrist. Enlargement is at

the end of the styloid tip of the ulna, a callus of bone. The grip is not strong. Otherwise I do not believe there will be any permanent disability, at most 5 per cent at the wrist." The insurance doctor rated it as 10 per cent loss of use at the wrist. Medical bills were paid. A healing period of 12 weeks was allowed and compensation was paid for 31.2 weeks in all. When she went to the hospital, her husband went to live with one of the married children; and when she was discharged she lived with another for a time. "But the children have enough to do supporting themselves," she said. She tried to get her old job back, but "he wouldn't give it to me, said I couldn't strip fast enough with a sore wrist." She had not worked again. Her husband was "old and tired" but had worked all the year round since the accident. The wrist had been sore ever since the accident, and bothered her with her housework. The husband had always helped with the housework and continued to do so. "But the worst of it was, I lost my job."

Case No. 111.—A 44-year-old American worker was married and she and her husband were working to support their four children on a combined income of \$25 a week. Her industrial history had been long and steady. Beginning at 14, she had been a domestic servant for 16 years. Then she had married and stayed at home for eight years, during which time four children had been born. When injured she had been at work again about five and a third years and, except for four months as a sander, she had fed flat-work ironers in laundries. Her earnings had increased from \$5 to \$12 a week. While feeding flat work her right hand was caught in a sheet and drawn into the rolls. There was a bar which acted as a warning, but which did not keep the hand from the rolls. The flesh was torn from the back of the right hand, and the back of the fingers and the palm of the hand were severely crushed and burned (second and third degree burns). Extensor tendons were torn. The medical examination showed, "Severe burn covering fingers and entire palm to the wrist; healing complicated by infection. Extensive scar tissue interferes with the motion at the wrist. Limited motion of thumb. All four fingers in maimed condition." A year after the injury the index, middle, and ring fingers were amputated between proximal and middle joints. When finally examined, the thumb and little fingers were ankylosed. The permanent disability was rated as total loss of right hand. A healing period of 124 weeks was allowed. Medical bills were paid, and compensation was allowed for 273 weeks in all. She tried to get work again but it was impossible. She returned to her former employer, thinking he might give her a job at folding, but he told her there was no such work for her. She tried another laundry also. Her husband deserted, and she sent the two older children to work; one remained in school, and one

had died. They had moved several times, and at the date of the interview were living in three small, dark rooms. She had contracted some medical bills, which she was unable to pay, and for a month before the interview she had been working for the doctor two days a week, wiping up the office floor. She had to use the left hand entirely, and it was very slow and tiring work, but it was enabling her to pay her debt. She was allowed \$2.25 a day for this. She could do no sewing and had to send out the washing and ironing. She did the other work herself but was very slow at it. Immediately after the accident the children had done all the work, but since the older ones were working (a girl of 16 and a boy of 17) they were too tired when they came home at night.

Case No. 112.—A widow, an American, was living with a son and two daughters. The mother and one daughter were working, their combined earnings amounting to \$27.84, and the two other children were in school. The mother had started to work at 26 years of age, upon the death of her husband, becoming a ware brusher in a pottery, at \$12 a week. After eight years she had moved into the city to put two of her children in school, and had got a job operating a speed lathe in a multigraph factory, where her wage was to be \$15.84 a week. Her work consisted of removing burrs from gears. On her second day, while pressing the file against a gear, a chip flew off and struck her left eye. The next day the plant nurse removed the steel from the eye, and she stopped work, but no doctor saw the case until four days after the accident, when the cornea was entirely ulcerated. The doctor made two calls a day for two weeks, as the suffering was intense. The ulcer was cauterized twice, and about four months after the accident it was necessary to enucleate the eye. She was in a hospital 12 days at this time. The right eye became infected, and there was danger for a time that the vision of this eye would be impaired. She received medical treatment over a period of five months and these expenses were paid. No compensation was paid until the thirtieth week after the accident. The younger daughter left school and went to work with her sister. A married sister came to live with them and did the housework for a year. A healing period of $36\frac{3}{7}$ weeks was allowed, and she received compensation for $135\frac{3}{7}$ weeks in all. At the time of the interview the left eye socket still became infected at times. She could not wear her artificial eye long at a time, as it was too painful. The right eye also troubled her a good deal. She had opened a rooming house, and as the roomers did their own cleaning, she had little to do. Two of her married sisters lived in the rooming house and took most of the responsibility. One daughter had married and left, but the younger daughter was still at home and earning. The

woman was very unstrung. She rarely went out of the house, and her rehabilitation would be a very difficult task.

Case No. 113.—An American-born negro girl, 21 years old, with a seventh-grade education, was single and living with her mother and three brothers, all of whom were working. She had begun earning when 11 years old, going into domestic service, and worked through vacations until she had finished school, when she became a full-time worker. At the age of 20 she had changed to the job of feeding a flat-work ironer in a laundry, earning \$8.86 a week. At the time of the injury she had been there seven months. While feeding linen into the ironer the fingers of her left hand were drawn into the rolls. The palmar surface of the hand was severely burned. She was given first aid at a hospital. After five months she was still disabled, and as she had received only one week's compensation she presented a claim. A later medical examination showed, "Index and middle fingers in position of partial flexion due to heavy cicatricial scar, which extends into the middle of the palm. These fingers are joined with a web and scar tissue; distal phalanges of these two fingers have practically been destroyed. The distal phalanx of the ring finger is badly scarred, with almost total destruction of the soft tissue of the palmar surface. The little finger is also scarred. The ring and little fingers are straight, but she can not voluntarily flex them. She is unable to do any work requiring the use of this hand. Surgical treatment is advised." At subsequent examinations the prospects for improvement from plastic surgery were considered slight, and because there was considerable doubt as to final success it was decided not to operate. At the final examination the permanent disability was rated as total loss of use of the four fingers of the left hand by ankylosis. Medical bills were paid. Compensation was allowed for $149\frac{4}{7}$ weeks, which included a healing period of $50\frac{4}{7}$ weeks. The first compensation payment had been based on the report of a doctor who stated that she would be disabled for two weeks, and it was nearly a year before she received further settlement. She was not able to return to work after the accident. At the time of the interview she had been married a few months. The hand was practically useless to her. As her mother was 70 years old and unable to do much at home, they sent the washing and ironing out. She was unable to sew, and her husband did his own mending. She cooked slowly, using but one hand.

Case No. 114.—An American-born negro woman of 29, with a fifth-grade education, was working so that she and her husband could support their five children and themselves. Before her marriage at 19 she had worked four years as a domestic servant, earning

from \$3 to \$3.50 a week plus her meals. After that she had remained at home for about four years, except for an occasional day's work, and then had gone to work in a laundry at \$2.25 and later \$2.50 a day, working, on an average, three days a week. At the time of the accident six years later she was operating a flat-work ironer. Her left hand and lower forearm went under the hot roll and were severely crushed. She managed to pull the right hand out without injury. It was necessary to amputate the left arm about 2 inches below the elbow. Medical bills were paid, a healing period of 17½ weeks was allowed, and compensation covered a period of 166 weeks. She was disabled for all available work. She continued to do her own housework, but was considerably handicapped at these tasks. She used a hand-driven machine for washing. An artificial arm was to be furnished her, but she was rather dreading the attempt to use it, as any tight bandaging of the arm was painful.

CASES ILLUSTRATING INADEQUACY OF REHABILITATIVE PROCEDURE

"Fitting a permanently disabled woman into a family," that is, finding that there is a father, son, or husband capable of supporting her, and assuming that the situation will be satisfactory to her and to the other members of the group if she will do what household activities she can in view of the nature and degree of her disability, is a phrase of considerable currency but very misleading. As a matter of fact, both from her own point of view and from that of her group, it is as necessary as in the case of her brother that the restoration to the preaccident status, socially, industrially, and in the home, be as complete as possible.

Rehabilitation begins with medical and surgical treatment directly following the accident, and if that is adequate the further rehabilitation of the patient obviously is a more simple process. A regulation which militates against such proper treatment is the law stating that medical aid shall not be paid beyond certain limits except in special cases. If the maximum amount of medical aid which one person may receive is thus set by law, or if it is necessary to secure an order from the compensation board if the injured woman needs more than a specified amount, she may forego necessary medical treatment. This may mean increased temporary suffering and a longer healing period, and it may mean also a permanent impairment which proper care might have reduced and, in some cases, have entirely eliminated. It is obvious that in each case such medical or surgical treatment as is necessary should be available. Any increase in the patient's range of possible work leaves her freer in her choice and decreases the objectionable necessity of forcing her into shoe-string-

selling occupations. The recent advance in the science of bone surgery means a tremendous decrease in the incapacity resulting from fractures and bone infections. Union of severed nerves, accompanied by electrical stimulation to promote muscular nutrition, has resulted in the recommand of useless members in an increasing number of cases, and the proper treatment of adhesions after infections, dislocations, and fractures is contributing its share toward this decrease of incapacity. In the case of certain internal injuries, not immediately acute enough to demand surgical attention, the need for operative treatment may later be indicated, but the injured woman does not realize that because her condition is due to her industrial accident she should be treated at industry's expense. A plan which would include a follow-up examination in all cases in which a physician thinks further treatment may be necessary should be part of a comprehensive medical plan, and the results in terms of reduced incapacity would be very real.

After medical and surgical treatment, the next step in rehabilitative procedure is vocational training. In cases where the injury has been such as to incapacitate the injured woman for work in which she has had experience, she may be forced to look for new work with fewer assets than she had at the very beginning of her industrial history. She then needs contact with an agency which will help her to plan for as remunerative and interesting an occupation as she can perform, if she is to be prevented from blindly attempting to locate new occupational opportunities.

The third step in rehabilitative procedure is placement. An employment division in connection with the medical clinic and the vocational-training service is the ideal arrangement. Increase in the extent and efficiency of physical rehabilitation and vocational training decreases the necessity for effort in placement. Another important problem to be considered in the adjustment of disabled women is that connected especially with older women who are apt not to respond so readily to medical treatment or to retraining as do younger ones and placement is more difficult. An old-age benefit in addition to compensation and rehabilitation benefits is a means of meeting the situation in such cases.

The following cases show some inadequacy in one or more of these main divisions of rehabilitation procedure.

TYPICAL CASES OF INADEQUATE MEDICAL ATTENTION, SURGICAL TREATMENT, NURSING CARE

Case No. 115.—A 33-year-old worker, born in Croatia, with one year's schooling in the old country, was literate in her own language but spoke English imperfectly. She and her husband lived together,

but he would "sit for hours, no work," and she was the only wage earner. She had worked in the fields in Croatia until she came to America at 28 with her husband. After arriving she had gone to work immediately as a labeler in a can factory, earning from \$13 to \$15 a week. Five years later she had changed to a metal-forgings factory, where she operated a punch press. At the time of the accident she had had six months' experience, and her wage was \$16.50 a week. She said, "Every day somebody else get a finger off; me no, me work good. Me say three times to foreman, machine bad, plate too hot. Plate broke, pieces flew in my face. Me finish. No more sleep, no more eat, no more nothing. Every morning me say 'me no see'; every day me say 'me no see' for one week. They say 'That's all right.'" During this week she had been given first-aid treatment but no foreign body was located. The left eye became much inflamed. On the eighth day an X ray was taken, showing a piece of steel, $\frac{3}{4}$ by $\frac{3}{4}$ by $\frac{3}{4}$ mm., in the eye. She went to a hospital and remained there 19 days. On the first day a magnet operation and iridectomy were performed. One piece of steel was removed from the eye, and four pieces were removed from the face. One piece came out of her chin seven weeks later. A healing period of $12\frac{6}{7}$ weeks was allowed. Medical bills were paid. The permanent disability was rated as total loss of sight of the left eye, and compensation covered a period of $111\frac{6}{7}$ weeks in all. It was one and a half years before she returned to work. She was disabled for operating a punch press. Her former employer would have given her a job as a cleaner, but that did not pay much. She was unsuccessful at three other places where she tried to get handwork because she was told that with one eye she couldn't work on a machine. Finally she found an opening, operating a flat-work machine in a laundry at \$10 a week. After 17 months, hoping to earn more, she changed to handwork in a metal-goods factory at \$12 a week. Three months later she left, as she found the work too hard with her disability. Her husband had left her. "He no like I can't see; go away with other lady." A year before the interview she had begun taking boarders, and she supported herself in that way. She could not sew. The right eye had bothered her a little since the accident.

Case No. 116.—An American of 20, with a sixth-grade education, was living with her parents, brothers, and sisters, and was one of eight earners in a family of 11 persons. She had been an armature winder in electrical-supply factories from the time she had begun to work at 16, and had advanced, during the four years, from \$7.50 a week to \$25.50. On the day of the injury the machine she was operating was revolving at high speed, an armature flew out from it, and a shaft struck her glasses. The left glass was broken, cutting

the eyeball and upper left lid. She was in a hospital eight days. The eye was very painful and she insisted there was something in it, but she was sent home at the end of that time with nothing having been found. She could not open the eye at all for two weeks after that, was sick with it, and in bed most of the time. Her mother then took her down to the medical division of the insurance company. No anæsthetic was given. When she asked for cocaine, the doctor said, "Gee, you don't want much!" He removed from the eye a piece of glass one-eighth of an inch long and one-sixteenth of an inch wide, and was very rough in doing it. For three weeks the doctor kept insisting that she go to work, and finally he set a date, six weeks after the accident, when she would have to begin. He said he was sending in the release, and she would not be paid any more money unless she went back to work then. On that date the eye was bandaged and sore, and as she was unstrung and felt unfit to work, she did not go. The next day she went to the doctor again and he sent her right down to the factory. She stayed half a day, but her employer said she was not fit to stay and sent her home. She tried to work from that time and continued to have treatments from the same doctor, who kept telling her that she should work steadily. He also said there was a question whether the eye was affected at all, and that if there was disability it was not due to the accident. She worked very irregularly for five months, being supported for the most part by her father. During this time her employer sent her twice to an oculist in a neighboring city. Then there was a hearing before the commission, at which the insurance company held that the disability, which was evident, was due to a pre-existing cause. The commission conferred with her oculist as to the condition of the eye before the accident. Permanent disability was rated as 50 per cent loss of vision of the left eye. Medical bills were paid and compensation was allowed for 62 weeks and one day in all. Immediately medical treatment ceased. The eye still troubled her, and she stopped work. She had further medical treatment over a period of about 17 weeks, at a cost to her father of \$108. She looked everywhere for a job but was unsuccessful. Her only experience had been as a winder, and that required too close concentration. About a year after the accident she married. Before the accident she had always done a large share of the housework. At the time of the interview her mother did her sewing for her, and she sent her washing and ironing out. Her husband did the scrubbing.

Case No. 117.—An American woman of 24 was single and living in a boarding house. She had always lived on a farm, and two and a third months before she had taken a job away from home, for the

first time, as an assembler in an electrical factory at \$12.25 a week. In stepping off a platform her shoe heel caught and she fell, striking on the left knee. The pain was excruciating, and she was unable to walk. This happened at noon. The forelady took her to her boarding house in an automobile, suggested that she use hot applications, and left. The landlady said she was "white as a sheet, in a great deal of pain, and the knee was badly swollen." The landlady, feeling quite helpless in the emergency, called up the plant for directions, but got none. Nothing was done, and the injured woman "hollered all night." The next day a doctor came, bandaged the knee, and gave her medicine. After two weeks in bed, during which time the pain was severe, she was removed to a hospital and an X ray was taken, which showed a fracture of the patella. The knee was placed in a cast. She remained in the hospital nine and a half months, during that period receiving electrical and baking treatments. Medical bills were paid. The permanent disability was rated as 30 per cent loss of the use of the left leg at the knee. Compensation was allowed for 96.13 weeks, which included a healing period of 10 months. After leaving the hospital she returned to her parents' home on the farm. The knee still bothered her, and she limped and kept off it as much as possible. A few months later she married and had not again returned to industry. At the time of the interview there was one child. The husband was earning. She was "more handicapped for housekeeping on a farm that she would have been for factory work."

Case No. 118.—An American woman of 41, who had finished the seventh grade and attended a business college for one year, was married, her family consisting of her husband, two children, and a grandchild. She and her husband were earning, their combined income being \$55.35 a week. She had begun working at 39 when her husband had been taken ill, and had continued, as he had since been unable to work steadily. For 15 months she had spliced rope in two tent factories, advancing from \$13 to \$22 a week. Then she had changed to lacquering by hand in a scales factory, and after six and half months' experience was earning \$25.35 a week. As she was walking from one room to another with a handful of scoops she fell over a box which was in the aisle, and a piece of steel against which she struck became embedded in the right ankle. The first day the wound was sore, and she herself put iodine on it. The second day it was worse, and she went to the plant doctor, who had the nurse put iodine on it and told the woman to go back to work. Two days later the ankle was badly swollen. The doctor put a rubber bandage on it and told her not to come back to him any more. After that he would not look at the ankle and kept telling her to go to

work. "What do you want to lay around for?" She said it wasn't her nature to lie around. Her husband was ill, and it was very necessary for her to work. She continued to work for three months, although the ankle still troubled her and it was necessary for her to sit at work. Her earnings dropped to \$19 or \$20 a week. At the end of this time she went to her own doctor, who sent her to a hospital. A piece of steel was removed from the ankle. A serious infection had set in by this time; it finally involved the leg above the knee joint. Her temperature ran as high as 104°. It was necessary to make several incisions. She was discharged from the hospital after four weeks, but after two weeks at home had to be readmitted for another four weeks. She attempted to go to work four and a half months after the accident, but stayed only three months, because an ulcer at the site of the injury would not heal. She had not been able to return to industry. During the year and a half following the injury she was in the hospital five times. The ulcer would heal and then break down again. Finally, during her last stay in the hospital, the ulcer was removed and skin was grafted over the wound. She was discharged from treatment 2 years and 10 months after leaving work. The wound was healed at that time, but there was still pain in the ankle, and it became tired easily. Medical bills were paid and compensation covered a healing period of 131 weeks. At the time of the interview she was still unable to work. The leg was no better, and she kept it up on a chair a good deal of the time. As she could not stand for any length of time, she was unable to do her own work. Two of her sisters had moved into the first floor of the house and did her washing, cooking, and machine sewing. It was one year and three months since compensation had ceased, and her family, which consisted of her husband, two children in school, and one grandchild, was getting along with difficulty on her husband's earnings.

Case No. 119.—A 30-year-old American woman, with a fifth-grade education, was married, and she and her husband both were wage earners, their combined income being \$54 a week. She had begun work at 24, doing hand packing in an ammunition factory for three years, at \$12 a week. The plant had closed and she had got work as a foot punch-press operator on metal goods. The workroom was "dark and smelly," the press a "high, old-fashioned type." On her second day the press repeated, taking the tip of a finger almost off. The doctor sewed it on, and she did not leave work but was put on hand assembling, continuing to go to the doctor daily. In five days she left, as she had an opportunity to advance her earnings as a foot punch-press operator in a celluloid factory. After a year and a half, during which time her earnings increased from \$13 to \$13.50, she changed to operating the same type of machine in an optical-

instrument shop. During the year which followed she advanced to \$18.50 a week, and had a record as the "fastest operator they had" and the one they relied on to do work on gold when necessary. While working there, machining small pieces, she smashed her right thumb in the press. The nurse bandaged the thumb and she returned to the foot press without losing any time, running long stock through. The pieces rubbed against the sore thumb as she worked and so irritated it that she went to a doctor the second night. Infection set in, the arm was swollen to the shoulder, and there was danger of losing the whole arm. She was out of work 17 weeks. Toward the end of that time the insurance-company doctor sent for her to come to the office and accused her of sticking a pin in the thumb and infecting it in that way. He offered to settle on the basis of one-third loss of use of the thumb. Her husband was out of work at that time, she was out of work and able to do very little at home, her mother was still with her, their rent was \$30 a month, and she thought she would better take what she could get. She accepted the settlement. For the first two weeks of the healing period her husband cared for her, got breakfast, and left a lunch prepared. Then her mother came and looked after her and kept house. Medical expenses were paid. The permanent disability was rated as one-third loss of use of the thumb, and compensation was allowed for $35\frac{2}{3}$ weeks in all. On her return to work she was afraid of the punch press, after two accidents, and did not want to attempt to work on that machine, but the foreman insisted, and she operated it, earning \$15 a week. The thumb was sore and stiff. Suddenly, after two weeks at work, "the thumb was under the die and smashed again in the same place as before." She fainted, was taken home, and stayed four days. When she returned she was put on a drill press, which was safer. She worked for a week at the time rate of \$15 and then was told she would have to go on piecework. As she knew she could not make even the time rate, she left. "After you're hurt they don't want you. You lose what position you've worked for. It didn't take long after the accident before they were through with me." She then tried power-machine sewing, but after three months her wage was reduced from \$13.40 to \$12 a week, and she left. She applied for other factory work but "didn't have the speed." During most of the two and a half years which preceded the interview she ran a rooming house and estimated that she just about made her living expenses. The thumb still got sore at times and then she could not use the hand at all. At the time of the interview there appeared to be more than $33\frac{1}{3}$ per cent loss of use of the thumb.

Case No. 120.—A 39-year-old American woman, with a fourth-grade education, had begun to earn at 26 years of age, doing laundry work for private families irregularly over a period of 10 years.

Then she and her husband had separated and it had been necessary for her to get more regular work. For a year she had charge of a diet kitchen in a hospital, at \$11.50 a week. Leaving this work because of unsatisfactory hours, she had done hand packing in a glass factory for two years, at \$9.50. This plant had closed, and at the time of the accident she had been doing handwork in a food factory for four months, at \$9 a week. She and her daughter lived together, and the latter earned about \$4 a week. While in the washroom of the plant the woman slipped on a wet floor and fell, straining the back and sacro-iliac joint. Both back and joint were strapped, and she remained from work four days, returning with the back still troubling her, as it was impossible to get along on the little the daughter earned. The medical report stated that she should have remained away two and a half weeks longer. About four weeks after her return she discovered a lump on the left side of the abdomen. The doctor whom she consulted said it was probably due to the accident. He treated her several times and advised an operation for hernia, but she refused, as she was afraid of operations. About five and a half weeks after her return to work she stopped once more. The back was again strapped. This time she was disabled for 12 days. The doctor's bills were paid, but she paid for some medicine herself. Compensation was allowed for the healing period, but no payments were made until after her return to work. Her work at the food factory included lifting trays of cakes and placing them on trucks. She was no longer able to do this heavy lifting, nor was she able to continue at a standing job. For this reason she had done hand sewing on vests almost constantly up to the time of the interview (four years and nine months after the accident), earning \$11 a week. She had visited a sister for four months in the interim, and during that time had worked in the sister's grocery store. She found the constant standing and lifting too hard for her and knew then she could not attempt such work again. The back was still painful and the lump still noticeable in the abdomen. She was living alone, as her daughter had married. She was very much handicapped for any work at home which she could not do sitting down. The daughter did all her laundry work for her and assisted her in other ways.

Case No. 121.—An American woman of 24, with a third-grade education, was married and living with her husband and stepson. She and her husband were wage earners, their combined income being \$37.40 a week. She had worked for the first time about four years before the injury, acting as marker and sorter in a laundry, and in three years and seven months she had advanced from \$8 to \$9.50 a week. Then she had changed to folding flat work at \$10,

and after four months she had advanced to \$11. While she was shaking a sheet one day, the left eye was struck by the edge of it, and the medical report was "infection following abrasion of the cornea, conjunctivitis, and interstitial keratitis." She was disabled for five weeks and six days. During this time her mother came to help with the housework. Medical bills were paid, and compensation covered this healing period. She received no medical treatment after the healing period. As word then was sent to her that she should return to work, she thought that she had to go back. She continued at her former occupation for three weeks but could see so little that she was afraid of another accident and left. At the time of the interview she had not again returned to industry. Later she had tried to get work, applying at three laundries, but was told she "couldn't see well enough to work." The eye still bothered her and she could not see well enough to sew. She had to buy all her clothes and had difficulty in doing her housework. Since there was a complicating venereal infection in this case, medical treatment for the venereal condition as well as for the local injury was necessary for her proper rehabilitation.

Case No. 122.—An American woman of 35 was married and living with her husband. She was the only wage earner, as her husband was out of work on account of ill health. She had been a waitress for 20 years, advancing from \$4.50 to \$25 a week (including tips, and meals estimated at \$5) during that time. Water had been spilled on the floor, which was covered with a composition rubber fabric. She slipped and fell, knocking against a lattice as she did so, and striking the left parietal region of the skull and the lumbar spine. The back, sides, back of head, and ear were severely bruised and there was a severe strain in the lumbar region of the spine. She stopped work for the remainder of the day, returned the next day, worked short hours for two days, quit for four days, worked two more, and then had to stop entirely, as she could not stand the strain. The first doctor who treated her stated, "It seems to be a case of traumatic hysteria." A second doctor reported, "Contusion of head, side, and back; complains of pain in these regions. Findings subjective. No external evidence of injury." An X ray showed no bone injury. Nineteen months after the accident a third doctor whom she consulted reported, "Retroversion and retroflexion of the uterus, which dates back to the date of the accident. Prior to this date the patient says she was always in good health." Some medical bills were paid. She was not examined by a neurologist. A healing period of six weeks and five days was allowed. She lost 20 pounds almost immediately and had not regained it since. She was "no good at all after the accident." There were pains in the

lumbar regions of the spine. She became very dizzy and faint at times. Menstruation, which had given her no trouble before the injury, was extremely painful. She tried to work around the house, thinking the symptoms would wear off, but she had no strength and her endurance was very much reduced. Two years and four months after the injury she attempted canvassing for a soap company, but she fainted on the street the second day and had to stop. For 20 years she had worked as a waitress, often taking night assignments in addition to her day work, and had done her own housework as well. She had a good reputation as a waitress and could get all the work she could do, "but when you are hurt no one wants you." She had returned once to her former employer, but he had nothing for her. At the time of the interview her husband was working part time. He also did the sweeping and cooking. The washing and ironing were sent out. "If I starved, I couldn't work."

Case No. 123.—An American woman, 40 years old and with a high-school education, was single and living alone, but contributing regularly to her father's support. Beginning work when 28, she had done domestic service for seven and a half years, her earnings increasing from \$2 to \$8 a week. She then got a job doing hand repairing on motors. In three years and eight months she had advanced from \$7.30 to \$24.20 a week. While she was at work a 14-pound motor rolled off the bench onto her foot, causing severe contusion and a stellate, comminuted fracture of the distal phalanx of the great toe, followed by serious infection. There was acute cellulitis, which involved the entire leg, resulting in abscess formation. She was sent to a hospital for treatment. One medical report showed, "The patient is a cripple in the uninjured leg (talipes varus). All weight must go on the injured leg. The type of injury and the fact that she has no home has necessitated long hospitalization." She was discharged from treatment 10 months after the injury, although still under observation, and continuing herself to dress the leg. The final medical report stated, "Cellulitis of leg and abscess formation, followed by erysipelas of both legs, finally resulting in a chronic osteitis of fibula with sinus formation." She was "somewhat nervous and exhausted as a result of the long period of infection and suppuration." Four months later she returned to a hospital, and this sinus was opened and the tissue curetted and sutured. Thereafter it began to heal. Medical bills were paid. She returned to work two years and seven months after the accident and compensation was allowed for this disability period (137 $\frac{1}{7}$ weeks). About two months after her return she reported more or less constant pain in the foot and leg and occasional swelling. Her wage on her return was \$19.50 a week, but since there had been a

general reduction in rates it was decided that this wage loss was due to business depression and not to her injury and that no temporary partial compensation was due. If she had been on a piecework basis she would have experienced a greater wage loss, as she was not able to do so much work in a day as formerly. Moreover, she had to "take a vacation" occasionally to rest, and once she had stayed at home a week because of ice on the streets. Her work consisted entirely of repair of light motors, although before the accident she had often worked on heavy ones also, "a man's work," but with her reduced strength she was not able to do this. There was still pain in the foot and ankle at times, and there was a sore spot under the great toe, though not where the weight fell on it. Her endurance was much reduced. The case was still under medical observation. Before the accident she had contributed to the support of her father, who lived with her sister. She had paid the rent, bought his clothes, and given him spending money. During the disability period she had some income from a sickness-insurance benefit and continued to send him some money. As she herself lived in a rooming house she had no housework to do. In this case there had been continual medical surveillance since the accident and surgical treatment had been furnished to rehabilitate the injured woman as effectively as possible.

Case No. 124.—An American woman of 34, with an eighth-grade education, was single and living alone. She had begun to work at 21 in a printing and binding establishment, and for 10 years had done a variety of hand and machine work, advancing from \$4 to \$12 a week. She had changed then to feeding a cylinder printing press in an envelope-manufacturing plant, and at the time of the accident, three years later, had advanced to \$16.50. While descending some steps at the factory she turned her ankle and fell down the remaining steps, striking just below her left elbow and fracturing the forearm. She was taken to a hospital, where an X ray was made, the fracture was reduced, and the arm was strapped against her chest. She remained in the hospital one week. When the arm was unstrapped about five weeks later the elbow joint was completely stiff. A second X ray was taken, which showed a piece of bone about an inch long broken off and lodged in the joint. She returned to the hospital for two weeks and the bone was removed. For about a month after leaving the hospital she was given electrical treatment and massage to reduce the stiffness, but this was only partially successful. She was out of work 12 weeks altogether. The limitation of movement at the elbow joint was rated as 20 per cent loss of use. Medical bills were paid, and compensation was allowed for 56.8 weeks in all. She returned to her former job

at the end of the healing period, and for one week worked half-days. There was pain in the arm for two months. In feeding the press she was able at first to move the arm only at the shoulder. Since she was on a time rate she experienced no loss of wage. At the time of the interview she had advanced to \$19 a week. She was conscious of no handicap in her work. She was living in an apartment with two other girls and did her share of the housework. However, when the arm was raised above her head in combing her hair or in reaching for some object, or when held against her side while carrying objects, it lost the power of motion and she moved it with the other hand. The movement at the elbow was freer than at the time of the final examination, and she stated that improvement had come gradually with use. The resort to X ray and the provision of electrical treatments and massage had reduced the permanent disability as effectively as possible.

Case No. 125.—An American girl of 16, who had just graduated from high school, was living with her father, mother, and three brothers and sisters, and she and her father were the wage earners. She had begun work as a salesgirl at the ice-cream counter in a 5-and-10-cent store the year before, working Saturdays and vacations. Her wage for a full week was \$13, making the family income \$63 a week. One day a bottle of pop which she was lifting from a shelf, slipped in her hands, struck the shelf, and exploded. A piece of glass struck her forcibly under the left arm, cutting it above the elbow. She was treated by the insurance-company doctor and was at home for three weeks. She then returned to the store and worked full time, stopping one and a half months later to enter college. The case was compensated as one of temporary disability, three weeks in extent. When she came home three months later on her Christmas vacation, the whole hand was numb and her mother took her to a doctor, who stated that the ulnar nerve was severed and advised an operation, in order to "reduce loss of use at wrist." She was referred to two neurologists for diagnosis and advice. One stated, "There is a complete severance of the ulnar nerve at the point of injury. She has had treatment, including mild massages, and baths, and mild faradism every other day. I was unable to demonstrate further return of muscular tonus. Surgery will be the other alternative, that is, a cable auto nerve transplant, or union of the two ends in the event that treatments of this kind shall prove to be of no avail. In the light of our present knowledge of nerve surgery, and especially the ultimate results obtainable therefrom, which are not too promising, one hesitates in advising surgical intervention." The second doctor stated, "Apparently sustained a severing of the ulnar nerve. Scar smooth and fairly free. The resulting atrophy, paraly-

sis, and loss of sensation due to loss of function of ulnar nerve is evident. However, the lower fragment of the nerve can be definitely outlined in the normal groove, within internal condyle of humerus and apparently up to scar about one and a half inches above. Along the upper fragment about one inch above scar seems to be thick, and it seems that the neurons are gradually regenerating and growing down along their normal course. The rolling of the nerve filaments under one finger in palpation below the scar gives twinges of sensation and thereby one would expect return of function. Bearing in mind the eight-month interim since the accident, would advise watchful waiting two or three months and then, if necessary, radical surgical interference for nerve suture, and in the meantime general sustaining treatment of the parts." The commission concluded that the decision in regard to an operation should rest with the injured girl. The nerve was sutured, and she was given electrical treatments before the operation and for a period of over a year after it. These treatments were beneficial. According to the final settlement, a healing period of 85 weeks in addition to the first 3 already recognized was allowed. Medical bills were paid. The permanent disability was rated as 10 per cent loss of use of the left hand at the wrist. Compensation covered a period of 107.2 weeks in all. Treatment stopped when the settlement was made. She was told that she herself would have to pay for further medical attention. Seventeen months after the accident she got a job at clerical work in a mail-order house at \$16.50 a week, but was laid off in two weeks. After this she tried everywhere for work but could find nothing. She had begun to learn typewriting at night school just before the accident, but with two fingers useless could no longer operate this machine. Later she realized that to operate a comptometer only two fingers were needed. She took a six weeks' course, and then got a job at \$17.32 a week. She had worked there six months at the time of the interview. There was no motion or strength in either the ring or the little finger. Both were contracted at the middle joint. There was no sensation in the little finger or in half the ring finger. The scar on the arm was painful. She said, "There are very few jobs I could do now. The comptometer requires only two fingers, but the usual method is to hold a pencil while operating." She had to pick up a pencil each time, which reduced her speed. She continued to live with her parents and three brothers and sisters, and housework had not been required of her either before or after the accident. In this case, although the operation to suture the nerve was not successful, all possible medical treatment to restore function was provided.

Case No. 126.—An American woman of 25, with a seventh-grade education, found it necessary to go to work when the allotment

money from her husband, who had enlisted during the war, failed to reach her. She had worked for three and a half years before her marriage at 17 and for two months soon afterward, always at handwork. She had then remained at home for six years. When her husband enlisted, she and her three children went to live temporarily with her father and mother, two brothers, and a deceased sister's three children. In this group only one brother was earning. For a year she was a waitress, but some night work being required which would have interfered with the care of her children, she changed to punch-press operating in a factory making electrical supplies. She had begun at \$14 a week and in three months had advanced to \$17. This amount, together with her brother's earnings, had made the income of the group \$39. One day while operating the machine, her right middle finger was caught under the die and severely lacerated. She stated that the accident occurred at 9 o'clock and that she lay in the hospital room of the plant until 5, when the doctor appeared and sewed the finger. When first disabled she went into debt and received some financial assistance from her mother-in-law. The husband, who returned soon after the accident, went to the insurance company, but they would offer very little. Their statement regarding the injury was: "Some disfigurement of the tip of the middle finger, but not to the extent of interfering with her earning capacity or her ability to secure employment." The husband secured the assistance of a claims agency in presenting the case before the commission at a hearing. A healing period of six weeks was allowed and the permanent disability was rated as 16 $\frac{2}{3}$ per cent loss of use of the finger at the distal joint. Medical bills were allowed and compensation for seven weeks was paid in a lump sum about four months after the accident. There was some infection, and it was six months before the finger was entirely healed. The return of the worker's husband had made it unnecessary for her to work away from home.

Case No. 127.—A 65-year-old American worker was a widow, living alone. She had been a practical nurse irregularly ever since she was 15, and in addition to that had worked in a paper factory and as a hand ironer in a laundry, also irregularly. At the time of the accident she had been handling tobacco in a warehouse for two and a half months, earning \$12 a week. A wire was carelessly stretched across an aisle, and she tripped over it and fell, causing an anterior dislocation of the left shoulder, bruising the outer side of the left leg and the left hip, and straining the left elbow and wrist. The accident happened in the morning, but she continued to work until 5 o'clock by resting the left arm on a box and working only with the right arm. It was 10 o'clock that night before she got medical aid. She was disabled for work four weeks and two

days, and during that time friends came in and cared for her. Medical bills were paid and compensation was allowed for this healing period. She returned to work before she felt able, as she needed the money, but the lifting of tobacco was too hard for the injured arm and in two weeks she left. After that she went back to practical nursing. At the time of the interview she said there was some loss of strength in the left elbow and the left hip was somewhat weak. The shoulder ached after doing washing or ironing. It drooped even when sitting, and she was unable to lie on it without pain. She did cleaning, mostly with one hand. When nursing she had to have help to lift things which formerly she had lifted alone. She said that she had closed the case herself and had never brought the permanent disability to the attention of the State commission.

TYPICAL CASES OF NO OCCUPATIONAL TRAINING THOUGH DISABLED FOR PREACCIDENT JOB

Case No. 128.—An American woman of 42, who had separated from her husband four years before the accident and had become a wage earner for the first time, found work in a greenhouse, by which she supported herself and three children. Her wage there had increased from \$10 to \$14 a week. At the time of the injury she was tying roses, and pricked the left middle finger on a thorn. A severe infection followed, and the finger was lanced twice, but at the end of three weeks it was getting rapidly worse and the infection had spread to the hand and arm. Another doctor called in consultation advised immediate hospital care. Her parents lived next door, and her mother did her housework and looked after the children while she was gone. Medical bills were paid. A healing period of 19.8 weeks was recognized. The permanent injury was rated as 75 per cent loss of use of the index, ring, and little fingers at the proximal joint and 100 per cent loss of use of the middle finger at the proximal joint. Compensation was allowed for 78½ weeks. Her husband returned two or three months after the accident but died about three years later. The husband was ill for some time before his death. She had tried to find work ever since the end of the healing period, as she had depended on her father and mother for all her expenses—food, rent, and clothing—from the time compensation had ceased, but she lived in a small community and there were no openings. Three and a half years after the accident she had begun raking and mowing graves in a cemetery, at \$11 a week, but the work was irregular. Two months later the two older children had gone to work. She wanted them to continue in school but had to take them out. At the time of the interview the hand was drawn up, as tendons were involved in the scar tissue. There was practically no

motion in the index, middle, and ring fingers at the proximal joint. The hand still pained, and the suffering was especially severe if she used it much. She was slower in everything she did, and it was impossible for her to wash, iron, or sew. She bought ready-made clothing for herself and the children. This woman had considerable financial responsibility, with three children to support; the openings for work in her small community were few, and she presented a need for retraining in order to be adequately placed.

Case No. 129.—An American negro woman 19 years old, with a second-grade education, was separated from her husband and living with a married sister, being one of four wage earners in a family of six. As a child she had worked in cotton fields and had helped her mother, who took in washing. At 19 she had taken her first regular job in the kitchen of a cafeteria, at \$10 a week. After three months she had left for better wages as a trucker in a fertilizer factory, and at the time of the accident she had had three weeks' experience there and was earning \$20 a week. Part of her work was loading box cars. An iron plate or runway connected the car and platform. As she was leaving a car, this plate slipped, causing her to fall between the car and the platform. The right arm and chest were bruised, the right knee was dislocated, the tendons and ligaments of the leg were ruptured, and the right hip was bruised and sprained. She was unconscious and suffered a severe shock. After five weeks the doctor's report showed, "The patient changed for the worse and it was exceedingly hard for me to diagnose the changed condition * * * I sent her to a hospital * * * condition was of an internal nature * * * whether it was due to neurasthenia or to malingering I can not say. Owing to trouble with the hip she is still using a crutch." Medical bills were paid then and compensation was allowed for a healing period of nine weeks and three days. One month later, though scarcely able to work, she returned to her former employer, as she did not want to depend on her sister's family any longer. She was given work sweeping and shaking out sacks, at her former wage. She was still using a crutch (continuing to need it for nine months after the accident), and for some time had to be carried up and down the stairs to the workroom. Sweeping and shaking made the right arm swell and ache. Three months later work was slack, and she was laid off. After three months of unemployment she got work operating a power machine, sewing labels on shirts at \$18 and later \$20 a week. She found this work very hard because the constant turning of the work hurt her right arm and the use of the knee press hurt the knee. After two months the leg swelled and troubled her. After six months' work she quit work at the advice of a firm doctor. At this time she went to a doctor

three times a week for several months, paying him \$1.50 a visit. During the two years and nine months between her leaving that work and the interview she had worked only three weeks, in a doctor's office at \$8 a week. The constant slopping about in water made the leg painful and swollen, and she was unable to stay longer. She had had great difficulty in getting such jobs as she had held. She had gone again and again to the free city employment bureau and was still going. "I have to pick my work on account of my arm and leg." When out of work she had subsisted on contributions from a sister and a brother and occasionally from her mother. She was renting a room, as the sister's house was crowded. She helped her sister to care for her nieces and nephews and at times helped her to clean, as well as attending to her own housework, but sweeping and scrubbing for any length of time made her chest and arm ache. The right leg was still painful; on the day of the interview she had the calf of the leg bandaged. The right arm also was painful and sometimes was swollen at the wrist. Her general strength and endurance were much reduced. This young woman had performed low-skilled, heavy work before her accident, and training for an occupation which did not require a great deal of strength at the right shoulder or continuous standing would have made effective placement possible.

Case No. 130.—A 15-year-old girl, born in Italy, had had three years of schooling there. She was illiterate, but could speak English. She lived with her father, mother, and sister, the mother keeping house and the other three working. The family income was \$36 a week. She had started to earn three months before as a packer in a candy factory. She had been a steady, hard worker, and the boss had told her she would make a good operator. She had advanced from \$8 to \$10 a week. On the day of the accident she was told to help a girl on a power press which cut candy. She had not operated any machine before. Two hours later three fingers of the right hand were caught under the knife. The middle and ring fingers were traumatically amputated at the middle joint and the little finger between the middle and proximal joints. She was told not to worry, as she would be given a steady job. She was in a hospital four weeks and two days and home one week, as the hand was still sore and in the way. The healing period was compensated, medical bills were paid, and compensation covered a period of 68 weeks in all. She returned to her former employer at the end of the healing period and was told to come back in a week. A week later she was told there was nothing for her. She wanted a packing job and felt that she could have done the work. In the meantime her sister had married. The father was old and working irregularly and there was little money coming in. The father and mother

bothered her for money, as they were old, had worked all their lives, and had no support anywhere. For ten weeks she looked for a job, but everywhere she was told that because of her hand she could not make speed. Finally, in an ivory-button factory, she was given a job of packing, at \$8 a week, but was laid off in a week as she was too slow. A month later she found the same sort of work, packing in a celluloid-button factory, at \$8. Again she was laid off in a week. Then a friend got her a job, packing in an electrical-supply factory. She stayed there nearly a year and a half, making no more than \$10 a week. Then she was laid off again, and her mother had her put in the House of the Good Shepherd for a year, as she was "growing up wild." After the year was up she stayed at home a month and then ran away and went back to the institution. She said that she couldn't get a job on the outside and couldn't support herself, much less her father and mother. Her parents wanted her to leave the institution, but she refused. At the time of the interview she was still there, working for her board and lodging. This young girl, after three months' factory work, was left with a disability which, without retraining, made adequate placement impossible.

Case No. 131.—An American girl of 19, with a seventh-grade education, was living with her parents and six brothers and sisters. Her father, brother, and herself were earning, their combined income being \$92. She had begun working at 14 as a general helper in a laundry. After four months, during which time her wage had increased from \$3.50 to \$6 a week, she had changed to packing in a shoe factory, remaining there three years and eight months and advancing to \$15 a week. She then had changed to a position paying still better, operating a steam press and making phonograph records, at \$17 a week. During the five and a half months which preceded the injury she had increased her wage by \$10 a week. In the five years she had been working she had advanced steadily in earning power from \$3.50 to \$27 a week. The press was equipped with a gate, which was designed to warn the operator, by touching the left arm, that the hand was in danger. She was not conscious of the guard having touched her, and her hand and lower forearm were caught and badly crushed. The arm was amputated a little below the elbow. She was disabled for 26 weeks. Medical bills were paid and compensation was allowed for 174 $\frac{2}{3}$ weeks in all. An artificial arm was furnished her, but it did not prove very satisfactory, as it was heavy, causing a callous on the stump, and the felt harness was hot. She wore it for one summer only. She returned to her former employer and was given a job at playing records to test them. She began at \$15, and when she left to be married two years and

nine months later she was earning \$16 a week. This capable young girl presented so serious a need for retraining as to make any sort of adequate placement impossible without it.

Case No. 132.—An American negro woman, 43 years old, with a tenth-grade education, was single and living alone. She had done washing and cleaning by the day for about 15 years, making as much as \$18 a week. When her employers left the city she got a job cleaning paint vessels by hand in a factory making paint, ink, dyes, and chemicals. She had been at work two days, and her wage was to be \$15 a week. In going down the stairs her heel caught on the second or third step from the top and she fell to the bottom, striking on a cement floor. She weighed about 200 pounds. The right leg and knee were bruised and lacerated, also the side and back over the eighth, ninth, and tenth ribs. The right knee and the muscles of the back were badly sprained. The back was strapped, and later a brace was put on the knee. She was disabled 14½ weeks following the injury. Then she tried to work but could not do so continuously, as the knee joint was stiff and gave way when she walked. When she filed a wage statement it showed that in a three months' period she had done six days' work away from home, a little mending, a little washing at home, and some writing and answering the telephone for a neighbor. Altogether she had earned \$24.86. In the next six weeks she earned \$10.25 for the same sort of work. Compensation for these periods was paid on a loss-of-wage basis. She was then totally disabled two months, as the doctor directed her to use antiphlogistin on the knee and keep off her feet. Soon after this period a medical examination showed the knee and shoulder joints apparently normal, the doctor stating, "She complains of pain and distress in both joints which I am inclined to accept as correct." Her next work was hand sewing for a friend, a seamstress with whom she lived, thereby paying for her board. This work was valued at about \$2.25 a week. Later she did other bits of work—washing, caring for a child, and so forth. She was allowed compensation on a loss-of-wage basis for about 10 months. A final medical examination after this period was reported: "Complains now of limitation in use of right shoulder and pain on motion. States knee gives her no trouble now and has not for a long time. States no trouble with right shoulder until about one year after the injury. We fail to find any condition which could be attributed to the injury." The case was then closed. Medical bills were paid. Altogether she was compensated for a healing period of 26²/₇ weeks and for a temporary-partial-disability period (on a wage-loss basis) for 71²/₇ weeks. During the latter period compensation often was delayed by the necessity of sending in wage reports, and at these times her friends gave her

board and lodging free. After compensation ceased she worked as steadily as possible. As she was unable to go out to do day's work, she did laundry work at home. This did not pay so well because, for one reason, she had to pay for soap, gas, and electricity used. At best she could make but \$12 a week for work which formerly paid \$18. In bad weather she could make but \$5 or \$6 a week. At the time of the interview she stated that her back and shoulder gave her no trouble, but that her knee was still sore and a little stiff and cramped at times. It was weaker and tired more easily, so that she could not stand constantly. At the time of the accident and ever since she had been boarding with friends. When she needed nursing care they supplied it, and when she had no money they charged her nothing for board and lodging; otherwise she did not know how she would have paid her way. In this case a woman who had been a domestic servant for 15 years was injured three days after changing to factory work, and retraining for an occupation at which she could be seated was necessary for adequate placement.

Case No. 133.—An American woman of 26, single and one of two wage earners in a family consisting of her mother, brother, sister, and brother-in-law, had always worked with one firm, which manufactured electric lamps. She had measured carbon (a hand job), had operated machines, and had cleaned lamps. At the time of the accident she was labeling lamps in a flashing machine at \$21.30 a week. A 15-watt lamp exploded as she started to take it off the machine, and a piece of glass struck her in the eye. It was possible to protect the workers against this type of accident by erecting screens. She stated that the girls had asked for screens, but the boss called them "Calamity Janes." Two days after the accident screens were put up. The injury to the girl resulted in laceration of the cornea and lens and traumatic iridectomy. Full wage was paid her during the 10-day waiting period. She was taken care of by her mother and sister during that time. She then went to the country for four weeks and during that time received \$15 a week in addition to compensation to pay her board there. Her loss of vision amounted to 90 per cent, of the right eye. Compensation was allowed for 109 $\frac{2}{3}$ weeks, which included a healing period of 21 weeks. At the time of the interview a year had passed since the compensation period had closed; the mother had died, the girl had continued to live with the sister and brother-in-law, who now had a child. They had supported her almost entirely during that time, as she had been able to work very little. She returned to her former employer after the healing period and he gave her a job at sorting labels by hand at a lower wage than before. However, she was so nervous that she seemed unable to work steadily; the foreman kept

telling her to hurry up, and this made it even more difficult. Finally she was laid off. She had had two other jobs since the accident, one washing dishes in a hotel at \$10 a week which she gave up because working steadily seemed impossible, and then, because she was unable to secure any but domestic-service work, she finally tried washing dishes and cleaning in a restaurant at \$12 a week. She quit this after one month because she was required to clean the men's toilet. The left eye seemed to be getting sore with the strain; also she imagined everyone was looking at her, although the disfigurement was hardly noticeable. The sister saw no future for her unless she could be roused out of her self-consciousness and timidity, and was worried as to what steps might be taken, as she and her husband had not enough money to keep the girl indefinitely. The sister considered the accident responsible for the unadjusted condition, because the girl had always been a very steady worker and had had no neurotic symptoms prior to the injury. This woman was in evident need of retraining in order to make successful adjustments at home and in industry, and efforts toward her rehabilitation should have included psychiatric treatment.

Case No. 134.—A 30-year-old, foreign-born worker was literate in English and had had a seventh-grade education. Her family consisted of her husband and their five children. She had gone to work for the first time three weeks before she was injured, to help her husband, as the plant where he was employed was running only three days a week and he was earning only \$13.50. She was one of a team of four operating a cigar-making machine, and during the three weeks she had increased her piecework earnings from \$16 to \$23 a week. A whistle was blown at the plant at 11.55 as a signal to stop work, and on the day of the accident, after hearing it, she called to the others of the team and asked if they were ready to stop. They said they were, and she began cleaning her part of the machine. Unexpectedly one of the others started the machine again to do "re-rolls." Her left thumb was caught under the straight filler knife. The distal phalanx was badly smashed, and a piece of bone had to be removed. She was out of work five weeks and one day. At that time there were at home an 8-months-old baby, a 4-year-old girl, and a boy of 8 who was ill with infantile paralysis; a boy of 12 was kept in school, and the oldest child, aged 13, had been staying at home to look after the baby and the sick son. This child and the husband did the household chores and together looked after the woman. Medical bills were paid. The permanent injury was rated as loss of use of the left thumb at the distal joint, and compensation was paid over a period of $33\frac{5}{6}$ weeks. As the woman

was unstrung and afraid when she went back to work she was given a hand job, unwrapping defective cigars. The left hand still was bandaged and sore, and the nurse dressed it daily. In 10 days she went back to the machine. The first day her skirt was caught in the transmission. She "gave a yell and pulled," but the skirt was torn off. This made her even more afraid of the machine. She tried to work on it two weeks longer, then she was "all in" and went home and to bed. She needed money and would have worked if it had been possible. She felt very worried and tired, and at the time of the interview had not returned to work. In this case a mother with five children had gone to work for the first time in a factory, had been injured on a machine three weeks later, and the occurrence had made so profound an effect that retraining and consultation with a psychiatrist were necessary if she was to regain her pre-accident status.

TYPICAL CASES OF DIFFICULTY IN SECURING EMPLOYMENT

Case No. 135.—An 18-year-old American girl, with a seventh-grade education, was single, boarding, and supporting herself. She had begun work at 16 as a sorter in a bolt-and-nut factory, at \$11.50 a week, changing in two months to a more remunerative job as loader in a lamp factory. In two years there she had advanced from \$14 to \$16 a week, and then had become a lacer operator in a box-board factory at \$18, because the former work was hard on her eyes. After one month's experience her left middle and ring fingers were caught while operating. "You can't guard a lacer; you have to be on your guard yourself every minute." The ends were mashed off, and the ring finger was severely lacerated at the proximal joint, exposing the bone. While disabled she went to stay with her mother, who cared for her. She was out of work seven weeks and three days, two weeks longer than was allowed for the healing period. Medical bills were paid. She was taken back on the lacer at the same rate, but she had lost so much speed and was so nervous about the machine that she was not able to earn that much. She stayed a month and then was married. About a year later it was necessary to work again. She tried her former employer and was told she was disabled for the lacer and that there were no other openings. After four or five rejections she got a job in a kettle factory as a dipper, at a reduction of \$3 from her preaccident wage. In six months she had worked up to \$18 again, but had to stop because she was pregnant. A year and two months before the interview her husband had left her, and she again had looked for work to support herself and child. She had tried at every place at which she had ever worked, and several others, and had been unable to get a factory

job. There was about 25 per cent loss of use of the middle and ring fingers at the distal joint. Finally she had to take housework, at \$10 a week. She was paying her mother to keep the baby and was able to see it only once a week. She wanted factory work, with its shorter hours and better pay, but there seemed no place for her.

Case No. 136.—An American woman of 49, with a sixth-grade education, was working to help with the expenses, the combined income of herself and husband being \$25 a week. She was on her first job at the time of the accident, as janitress for a telephone company; she had been employed for one year and had advanced from \$8.50 to \$10 a week. She disinfected transmitters. While carrying a basket of transmitter horns she stumbled over another basket, left in the aisle, and fell, striking her right knee. The medical report showed periarthrititis and ordered a seamless knee cap, electrical treatment, and massage. She wore the cap for a year. Some medical expenses were paid. After three weeks and four days she returned to work and compensation was allowed for this healing period; but on her return the knee gave so much trouble that she was obliged to have further medical treatment, for which she herself paid. She estimated this expense at \$100. She was told that she would have a job for life, but after working eight weeks and suffering a good deal of pain, which she tried to stand, as she thought her knee was improving, her daughter became ill. She got off to go to the daughter and on returning, three weeks later, found that the job had been given to some one else. She said, "they could not wait for me and got some one permanently." After six months she found work as a saleswoman in a retail store at \$6 a week. This involved standing, and after five weeks she left. She tried at the telephone company and at several other places to get some sitting job, but had been unsuccessful. The knee was still painful. As she was heavily built it was impossible for her to stand for any length of time. She had the scrubbing and cleaning in her home done, because she could not get down on her knees. She was living on one floor of a house, to avoid going up and down steps. She was still having medical treatment, and had not returned to industry. The husband provided the income and also did some of the work at home.

Case No. 137.—An American woman of 24, with a ninth-grade education, was living with her parents and five brothers and sisters, being one of four wage earners in the family of eight. The combined income was \$71 a week. She had begun work at 17, doing power-machine sewing on shirts, and in six and a half years in the same factory had advanced from \$10 to \$20 a week. At the end of that time she had changed to punch-press operating in a factory making paper specialties, beginning at \$10 and advancing to \$14

during the three weeks preceding an accident in which her right middle finger was amputated at the distal joint. She lost two weeks at that time and then returned to the same work. Seven months later she received the injury whose record forms part of the present study. Her machine had not been working right all the morning before this accident. She had stopped it to take paper out of the die, at the same time pulling the belt around with her left hand. It went farther than she intended and the die came down on her right index finger, cutting nearly half way through the bone between the distal and middle joints. A tendon was severed and the permanent disability was rated as one-third loss of use of the index finger. She was disabled five weeks. Medical bills were paid and compensation was allowed for 15 weeks and 1 day. After the first accident the middle finger had healed quickly, and she had returned to work very soon; but after the second one the whole hand seemed useless. She said she lost her nerve regarding power machines, so that she could not have operated a press and did not return to her former employer for work. After the five-week healing period following the second accident, she looked everywhere for work and was refused many times because of the hand. After three months she found work as a machine operator on dresses, at \$10 a week; in five months she was making only \$13, although before the accident she had made as much as \$20 at such work. She then married and at the time of the interview had not returned to industry. With the right index finger almost completely stiff at the distal and middle joints, and the right middle finger amputated at the distal joint, she had to learn to do everything in a different way and was awkward at her housework.

Case No. 128.—A 19-year-old, foreign-born worker, literate in English only, was living with her father, mother, and five brothers and sisters. Her father was in bed with "a touch of paralysis"; one brother was just back from France and had no job; three younger brothers and sisters were still in school. She and one brother were the only wage earners, their joint income being \$40 a week. She had begun work when 15 as a packer in a sewing-machine factory at \$12 a week. Eighteen months later she had begun working at night, packing in an ammunition factory and earning from \$18 to \$25 a week, but after four months her mother had insisted that she give up night work. She then had got a job as a power punch-press operator on metal goods. She was obliged to start at \$10, but in two years had advanced to \$18 a week. Her hands were caught under the die while operating. The right thumb was traumatically amputated at the distal joint, and the left index finger at the middle joint. For some weeks after the accident she heard nothing of com-

pen-sation; then she paid a lawyer \$10 to write a letter and an "inspector" came. A healing period of 10½ weeks was allowed, medical bills were paid, and compensation covered a period of 74 weeks in all. At the end of the healing period the fingers were healed but were still tender and extremely sensitive. She applied for work with her former employer, but he had nothing for her. The family was in great need, and she felt that she must go back to work as soon as possible. She went everywhere looking for work, even to adjoining towns, but nobody would take her. Eleven months after the accident a man in a suit factory told her she might try hand sewing at \$10 a week. The first morning she stuck a needle into the sore finger, fainted, and was taken home. Finally, two months later, she had a "chance to marry," and at the time of the interview had not returned to industry. She was handicapped for housework. After a little washing or scrubbing the injured finger and thumb became exceedingly painful.

Case No. 139.—An American negro woman of 24, with a fifth-grade education, lived with her husband and one child, the combined income of herself and husband being \$31.66 a week. Her industrial history had begun one and a half years before as hand-work in a rubber factory, where she had advanced from \$8 to \$11. The plant had closed six months later, and for a year she did washing, ironing, and cleaning by the day, making about \$10 a week. Then she returned to factory work as a foot punch-press operator in a metal-goods plant at \$11.66 a week. At the time of the accident she had operated a press for one month. While removing work from the press with her right hand, as was customary, the middle finger was caught, the accident resulting in a compound fracture of the middle phalanx. She was disabled six and a half weeks. During that time she paid to have her washing and cleaning done. Medical bills were paid. The permanent disability was rated as 40 per cent loss of use of the middle finger, and compensation was allowed for 17 weeks in all. She returned to her former employer, and he gave her light work packing tin, at \$2.20 a day, but she was not fast enough and after three days she was laid off and was told there was no other work for her there. For eight months no work was available. Then she found an opening at domestic service by the day, and at the time of the interview, two and a half years after the accident, she still was so employed. As this work was irregular, she was not able to count on any definite income. The finger was stiff; it interfered with washing more than with any other of the household tasks which were part of her work.

Case No. 140.—A 32-year-old worker, born in Russia, had gone to school there for seven years, leaving at 16 to marry, and had attended

night school for three winters in the United States. She and her husband had separated when she was 31, and she had taken their daughter and son with her. She then had become a wage earner for the first time, to support herself and children. The daughter had gone to work soon afterwards, earning \$19 a week, but the son had remained in school. From the beginning the worker had operated an ironing machine in a handkerchief factory and after a year's experience had advanced from \$6 to \$18 a week. Then her left middle finger became sore and inflamed from constant rubbing against the hot drum in taking handkerchiefs off the machine. At the time of the injury she burned the finger more seriously than usual. She continued at work for a week, but a serious infection set in, involving the hand and arm, and she was forced to stay at home. Her daughter stopped work to take care of her, but they could not afford that long, as she was now the sole wage earner. The mother was away from work seven and a half weeks and returned while her finger was still sore. Permanent disability was rated as loss of distal phalanx of the middle finger by amputation, and 10 per cent loss of use at the remaining joints. Medical bills were paid, and compensation covered a period of 24 weeks. Since work on the ironing machine was considered to be out of the question, on account of the condition of her hand, she was given mending to do. She liked this work but could make only \$12, and as it was necessary to earn more she returned to the ironing machine after a week. The finger was still bandaged, and she was so much slower at first that she could make only \$14. At the time of the interview, three and a half years later, she had not made more than \$17 a week. The finger was drawn up and, although there was some motion at the middle joint, there was no strength, which meant it was of no use to her in her work. It was tender, and her control of the hand was poor. Her daughter had married and moved away, and her son "needed all he made." This meant that she must support herself, and the possibility that she might not be able to do so kept her in constant dread. She worried about her work, partly because of the steam and the heat in the place, but chiefly because she was afraid of burning another finger. She would have liked to ask for a change but did not dare to risk losing what she had. She bore with considerable difficulty the added strain of housework after hours.

Case No. 141.—An American negro girl, 16 years of age, having a seventh-grade education, was one of three wage earners in a family of 11, their combined income being \$24.50. At 15 years of age she had gone to work as a domestic servant, but had changed to factory work five months later because of the better pay. She had operated a foot-punch press in a leather-goods plant, beginning at \$9.25, and

during the 15 months preceding the accident had advanced to \$10 a week. She was putting lead rivets in leather belts, when she tripped the press, while her right hand was under the die, and a rivet went into the distal phalanx of the index finger. After the rivet was removed, infection set in, which involved the hand as well as the finger. The resulting injury was rated as 10 per cent loss of use of the finger. Medical bills were paid, and compensation was allowed for nine weeks and one day, including a healing period of seven weeks. The family had a good deal of financial difficulty during the disability period. The mother was "jobbing around," making \$4.50 a week, and the brother made \$10, their combined earnings and the compensation having to cover the expenses of the family of 11. The injured girl's finger and hand were swollen when she returned to work. She was put back on the press but had an awkward time, being slow at feeding with three fingers; she was unable to make more than \$7.50 a week, and left after two months. After that she did not look for anything but handwork, and had a good deal of difficulty in placing herself. After searching for two months she found work, washing celluloid novelties. She held this job for two years, earning \$7 and \$8 a week. At the time of the interview she had been sorting buttons six months and making \$8.50 a week, her highest wage since the accident.

Case No. 142.—An American girl of 15, with a seventh-grade education, was living with her mother, brother, and two sisters. She and her mother supported the family, their combined income being \$27 a week. She had begun work at 14 as a packer in a candy factory. Later she was made an assistant in the first-aid department. In a year's time she had advanced from \$14 to \$17 a week. While walking through the factory she struck her ankle against a metal water tank. The plant doctor took an X ray and found that the tibia was fractured about 1 inch from the lower end. The fracture was reduced and the ankle was placed in a cast. She was disabled for six weeks. Medical treatment was furnished. Her full wage was paid for the time lost, and the case was closed. On her return to work she found her place in the first-aid department had been filled and she was given kitchen work in the employees' lunch room. This involved much standing and walking, and the ankle began to trouble her, swelling at times and giving pain. She reported this twice to the plant doctor, but he assured her the ankle was all right. After working one and a half years at kitchen work, she left because of increasing trouble with the ankle. She got a job at inspecting hosiery, starting at \$15 a week. After three months she was raised to \$17 and at the time of the interview a year later was inspecting at the same wage. The ankle became swollen at times and was painful in cold weather. Her mother was still using hot applications. The

girl was obliged to stand at her work and often came home crying because of the pain in the ankle.

Case No. 143.—An American woman of 21, with a sixth-grade education, was living with her parents, being one of three earners in a family of five. She had begun work when 17 and had worked continuously since that time, making \$12 a week. For a year she had been a packer in a cigarette factory, although "ashamed of the job." After that she had worked in two textile mills, for two years as a winder and for one as a weaver. At the time of the accident she had been five months in a plant making motors and generators, where she had learned to operate a variety of machines, being shifted as needed. She liked this machine work and was "making good." Starting at a time rate of \$12 she had advanced to \$18 on piecework at the end of the five months. While operating a punch press she fed with the left hand and took out with a metal "poker" in the right. The press repeated, catching the left hand under the die and smashing the middle and ring fingers. A healing period of 14½ weeks was allowed and medical bills were paid. The permanent injury was rated as 50 per cent loss of use of the middle and ring fingers, and compensation covered a period of 38 weeks in all. At the time of the interview the distal and middle joints of the middle finger and the middle joint of the ring finger were stiff. She had married about four months after the accident and had not returned to industry, although she stated that she would have done so had it not been for the injury. She considered herself disabled for any machine work. She said the left hand was useless to her. She did all the work in her house, using only her right hand, and was hampered accordingly.

Case No. 144.—A 65-year-old American worker, with an eighth-grade education, was single and boarding with the family of a married sister, which included the sister, her husband, and their six children. A large part of her life she had done dressmaking irregularly, staying at home a good deal with an invalid parent. At 48 she had gone to work steadily, sewing in clothing stores, 2 years in one establishment and 15 in the second. In this time her wage had increased from \$12 to \$15 a week. On the day of the accident, while walking rapidly on a recently oiled hardwood floor, she slipped and fell, sustaining a Colles fracture of the left wrist and seriously bruising the head and left side. Medical bills were paid, but she herself paid for some drug-store supplies. She was disabled 44 weeks, and compensation was allowed for this healing period. Four and a half months after the accident the medical report stated: "A condition which is frequently found in older people has developed. The arm was very edematous from the beginning and the

infiltrate which was consequent to the injury has developed into fibrous tissue, and great stiffness has developed in all the joints, not only of the wrist itself but of the fingers * * *. We are using baking in this case." She returned to her former job at the end of the healing period, and worked six months at \$18 a week. As she was very unstrung, her doctor then advised her to stop for a rest, and she remained away from work five months. From that time on she worked irregularly whenever her strength permitted. The final medical report showed, "Marked stiffness of the wrist and all digits except the thumb." Since she had returned to work at an increased wage and had asked for no further compensation, the case was closed with the understanding that, should it be shown at any time that there was loss of wage due to this injury, it would be reopened. She was still boarding with her sister at the time of the interview. There remained considerable stiffness at the wrist and at the finger joints. She sometimes suffered cramps in the left arm from the shoulder down. She was unable to lift anything heavy with the left hand, and at the store had to have help in moving the dummies which she used. She had had headaches off and on since the accident, which she had not had before. She said she was not prepared to ascribe all her "nervousness" to the accident, as she was advanced in years and it might be partly her age. She did not expect to keep her job long, as her employers had told her that she was not so fast at her work as they would like.

Case No. 145.—A woman of about 55, born and educated in Ireland but having lived for many years in Argentina, was a widow living alone. She had gone to work for the first time in a hotel laundry eight years before the accident. She was receiving \$9.23 a week and her room and board. At the time of the injury she was operating a power wringer, alone in a room infrequently used, when her left hand was caught in the wringer. An elevator operator heard her cries and came to her assistance. The middle, ring, and little fingers were mashed and lacerated. The hand was cut so that the bones were exposed and arteries and tendons were severed. Infection set in, involving the fingers and the entire hand. The tendons were so badly torn that they could not be united. Six months after the accident there was reported, "Marked stiffness of all fingers; unable to flex or extend them; considerable tenderness; limited amount of function." She was compensated as totally disabled for seven weeks and six days. Thereafter she was paid on a temporary-partial-disability basis at \$4 a week; that is, as though she were able to earn \$6 a week. At the time of the interview she was still receiving compensation for temporary partial disability and sending in a report of her earnings once a month. It was impossible to

get a record of her employment since the accident, as she had been able to work only very irregularly. After a few days' trial the hand and arm would swell and ache to the shoulder and she would be obliged to stop. She tried many jobs where she had to wash or clean, and in each she was laid off or forced to give up after a few days or a week. There was still considerable stiffness in all four fingers of the injured hand, and loss of strength and motion at the wrist; the hand and arm ached and became swollen in cold weather. She was kept at the hotel for a time after the accident. After that she stayed with a brother or sister or with a friend. She was able to do little for them in return for her support and was much discouraged, feeling that she was living largely on charity.

Case No. 146.—An American woman of 57 was a widow, living alone. She had gone to work for the first time five years before, at the death of her husband, at first stuffing olives in a wholesale grocery at \$4 a week, and three years later marking material in the receiving room of a department store at \$12 a week. She had been engaged in this latter work two years and three months, and had advanced to \$15 a week, when she was injured. While she was opening a door at the store, another person attempted to open it from the opposite side. The door knob struck the left thumb, fracturing the proximal phalanx. A small fragment of bone was chipped off. The doctor reported recovery delayed, "because patient used her hand too much and did not keep thumb at rest." She lived alone, had to do her own housework, and could not afford to get anyone to help her. Two months after the accident she returned to work but stayed only two weeks, as "the hand was still in a serious condition." She was compensated as totally disabled for $35\frac{3}{7}$ weeks, with the understanding that if she established a wage, and it was lower than the preaccident one, she would be compensated on a temporary-partial basis. The medical reports showed an inflammatory condition, probably tenosynovitis, finally involving the index finger and the wrist, considerable stiffness of the thumb and index finger, and pain on passive motion. An X ray showed dorsal backward displacement of the lower end of the ulna and slight posterior prominence of trapezium bone, as if partly dislocated. At the time of the interview there was 25 per cent loss of use of the thumb at the proximal joint. She had had a hard time doing things for herself and at first could use only one hand. She used to strap a broom to the injured hand in sweeping. The stiffness and lack of grasping power made it difficult for her to do even light work. She said that the examinations were extremely painful and she could hardly keep the tears back, but that she bore with them many times. She was always nervous when she went to the doctors.

They always said there was nothing the matter and told her to go to work. She tried to get her old employer to take her back, and applied for cleaning in several banks, but could not get work anywhere. Wherever she inquired she was asked, "Why did you leave your old employer?" Then, "If they won't give you work you can't expect us to" was the general refusal. She complained, "I'm too up in years though I can still work; you're through if you're hurt; no one cares about having you." She had been full of energy before the accident. One doctor had said to her, "There's nothing the matter with you but nerves." She answered; "If I were a man you wouldn't say this. I'd level you to the floor." Three years after the accident a welfare agency gave her work selling in a store, at \$4 a week, but she was laid off in three weeks. At the time of the interview she was living in an old ladies' home, having been there most of the time since the end of the compensated period, as she had no funds.

Case No. 147.—A 55-year-old American woman, with a sixth-grade education, was a widow living with one son, their combined income being \$42 a week. She had been a dishwasher in a restaurant for four years before her marriage at 19. She remained at home until she was left a widow at 37 with two sons to support. Then she got a job in a restaurant kitchen, working from 8 to 5, and then going home to get supper, to clean the house, and to make most of the boys' clothes. For 18 years she was a steady, hard worker at this restaurant. Within that time the boys finished school, and one married. Eight months before the accident she had left the restaurant for a dishwashing job in a department store, because of the better pay. She received a cash wage of \$8 a week. On the day of the injury, while at work in a basement kitchen, she slipped on the wet floor, fell backward, striking on the right hand and spine, and sustained a Colles fracture of the right wrist and a sprain of the lumbar muscles of the back. She was compensated for a healing period of $68\frac{5}{7}$ weeks. Nine and a half months after the accident the employer brought the case before the commission, believing that compensation for temporary total disability should cease and that she should try to establish a wage. At that time she was unable to work and the attending doctor reported, "Wrist ankylosed and very painful, about 60 per cent loss of function." The doctor who made an examination for the employer reported, "Impossible to bend hand backward beyond a straight line, and fingers could not be flexed completely to palm * * *. I believe the permanent stiffness in the fingers is the result of prolonged immobility and should recover in two or three months, with massage and passive motion." A third examination

was made in the name of the commission, with the following report: "Complains she is extremely nervous and suffers constant pain in hand and fingers * * *. Wrist mobility is somewhat limited, flexion of fingers greatly limited, function of hand greatly impaired, and unable to do work requiring constant use of same." An X ray at that time had shown "impacted fracture of lower end of radius with some anteroposterior thickening of lower end of radius." The question of wage also was brought before the commission. The firm had been paying compensation based on the cash wage of \$8. It was determined that the meals furnished were worth \$9, and the commission ordered compensation paid on the basis of a wage of \$17. At the end of the 68⁵/₇ weeks for which she was compensated she was requested to furnish a statement showing the wage she was then able to earn. Seven months later her attorney filed affidavits of the injured woman and two neighbors to the effect that she had made repeated efforts to secure employment, but that no one would employ her. Finally the board she received at home was taken into consideration as offsetting the board she received when working. The housework which she was able to do was estimated as worth \$3 a week and her wage loss at \$5 a week, which entitled her to compensation of two-thirds of \$5, or \$3.33 a week. This amount was still being paid at the date of the interview, 216¹/₂ weeks after the accident. At that time she said the hand was still as stiff and painful as just after the accident. She had been refused by at least 10 employers to whom she had applied for work. "Hain't anything else I can do because I've done kitchen work from a girl up; I'm injured for life and can't do anything about it." Her former employer said he had nothing for her, although he also said she ought to go to work. She would "just sit and worry," she said, "and it gets on your nerves, especially when you're used to working. If there was a job anywhere you wouldn't stay around home for \$3.33 a week and keep the fire up." For eight months after the accident her son did everything at home, and at the time of the interview he still did the washing, cleaning, and sweeping at night and on Sunday, and before he went to work did the more difficult tasks like cutting cabbage and peeling potatoes. For a long time after the accident neighbors came in and did the cooking, but at the time of the interview the woman was doing her own cooking and a little dusting. She wore black all the time to save washing. "I was always wiry, not a lazy bone in my body. I get nervous doing nothing. I wish there was some job for my left hand. I can't ask my son to stay single, and what can I do if he gets married? The money does not even pay for my food and clothes, and he does the supporting and most of the housework, too."

CASES ILLUSTRATING IGNORANCE OF LEGAL RIGHTS

Regulations as complicated as those which have grown up regarding the compensation and medical treatment of industrial injury sometimes require considerable understanding on the part of the injured person if she is to secure the benefits intended under the law. A clear estimate of the temporary total disability period, of the extent of permanent disability, of the part which medical or surgical treatment might play in reducing impairment, of what constitutes a compensable fatal accident, are but a few points in regard to which the injured person or the claimant often is almost totally ignorant. Some persons are protected by knowing what steps they must take in regard to each problem, many are protected even though they are ignorant of the routine, and others employ lawyers because they feel helpless to meet the situation. The treatment of injuries and the payment of compensation should proceed irrespective of the injured person's knowledge of the compensation act; nor should there have to be recourse on his part to law, since disputed points usually are of a medical rather than of a legal nature. If compensation commissions are to insure adequate enforcement of the provisions of workmen's compensation laws, each must eventually create a division the function of which shall be personal follow-up work on compensation cases.

Case No. 148.—An 18-year-old American girl with a sixth-grade education, was living with her father, mother, and 10 brothers and sisters. Her father, one brother, and herself were working, earning together \$45.40 a week. She had begun work at 15 as a knitter in a hosiery mill for three months, at \$8 a week; had taken from a saw in a box factory for one year and three months, at \$11.50; had been a salesgirl in a 5-and-10-cent store for seven months, at \$10; and then, a week and a half before the accident, had got a job in a food factory, putting cookies on trays, at \$12.90 a week. When leaving the factory one day she fell on the cement steps, striking her back above the left hip. The back was bruised and sprained. She continued to work for two days and then stopped because of the lameness and pain and was at home in bed continuously for three months. During this time the company doctor attended her. When the three months had expired a representative of the insurance company called with a settlement, for her to sign, which estimated the healing period at five weeks and five days. He said that if she refused to sign she would get nothing. She settled on that basis. Her job had involved lifting of the trays which she had filled, and after the accident her back was not strong enough for lifting. Her employer had promised her easier work, but when she applied at the end of the three months he told her he had nothing for her. She returned to

retail selling at \$9 a week but stopped after three months, as she found the lifting of goods trying. At the time of the interview she had not again returned to industry. She still felt pain in the back if she did any lifting or bending or if she stood for very long. She continued to live at home with her parents. Her mother was taking in washing, and she assisted in that and in the other work, but did no washing on the board nor heavy lifting.

Case No. 149.—A foreign-born woman of 23, who was literate in Polish and English, was married and living with her husband and baby. She and her husband were earning, their combined income being \$40 a week. She had begun work when 15 as a power sewing-machine operator on silk waists, at \$12 and \$13 a week, and had worked steadily there until her marriage seven years later. Then she had remained at home a year and a half, during which time their child had been born. Her husband, a longshoreman, had had irregular earnings, averaging \$15 a week, so when the baby was four months old she employed a woman to care for it and returned to her former work. Beginning at \$16 she had advanced to \$25 a week in one and a half months. She was doing ruffling on fine material, and it was necessary in operating to have her fingers close to the needle. On the day of the injury the right middle finger was pierced by the needle, and the needle broke off, a piece being left in the finger. The company doctor to whom she went said that nothing serious was the matter, but she was in great pain, had dizzy spells, and was unable to eat. Some time later an X ray was taken, showing a piece of needle in the bone. This was removed and the bone was scraped several times. A healing period of eight weeks was allowed. Medical bills were paid, and the permanent disability was rated as complete loss of use of the middle finger at the distal joint. At the time of the interview both the distal and middle joints of the finger were stiff. Compensation was paid for $21\frac{2}{3}$ weeks in all. When first she went to the insurance company they asked her to sign a paper but did not explain the reason. She supposed that the company merely wanted to know her name. Later, when she was given money to cover the permanent disability, she was told that her signature had meant that she was satisfied. "But I was not satisfied; they made a fool of me." In the interval before compensation was paid she pawned her jewelry for the immediate needs of the family. While she was disabled she paid the woman who cared for the baby to do the housework also. She said that the compensation no more than paid this woman's wage. For a short time after the compensated period she did a little home work, taken from a factory. The work consisted of making a fold in a piece of paper. Aside from that she had not again become an earner. At the time of the interview she had three children and could not go

to work and do her own housework too, because the injured finger kept her from working rapidly. Sewing was difficult, as she could hardly wear a thimble. The injured finger was very painful at times.

Case No. 150.—An American woman of 24, with an eighth-grade education, was single and living with her father and mother. She had been delicate from childhood and had been kept much at home and given the best medical care known to her parents. After leaving school she had done millinery work as an apprentice for a few weeks, had done fancy work for sale, and had given a few music lessons, always working at home, but until five months before the accident she had never held a regular job. At that time she had looked for work, not for economic reasons but in order to get experience away from home and to see other people. She had become a saleswoman in a retail store and in the five months' period had advanced from \$10 to \$14 a week. While she was sitting on a stool at the store, the stool collapsed, throwing her forcibly to the floor. Her back, hips, and legs were badly bruised. She was cared for at home for three or four days and then taken to a hospital. Some time before the accident she had had her appendix and ovaries removed. The attending physician stated that because of this operation the accident was a more serious one than would otherwise have been the case. After being taken to the hospital she was operated on immediately, but her mother was not told the nature of the operation. She did not rally from this operation and died in the hospital seven weeks after the accident. A healing period of three weeks was recognized and compensation was paid only for that period. Her parents had made no inquiries to determine whether there was any possibility of connection between the injury and their daughter's death.

Case 151.—An American woman of 21, with a sixth-grade education, was married and had one child. She and her husband were working, their combined income being \$58 a week. She had learned dressmaking at night school, and her first earnings had come from sewing in private homes. When 14, desiring steadier work, she had begun operating a foot punch press on metal goods, at \$10 a week. After one week she had been transferred to a power punch press, and for a period of seven years she had continued fairly steadily at this job, advancing from \$15 to \$22 a week. Then the family had moved, and three weeks before the accident she had begun the same work in another factory, at \$18 a week. On the day of the injury the press repeated, and about one-third of the distal phalanx of the middle and of the ring finger was amputated. She was disabled from work for three months, and during that time she paid her mother-in-

law to do her housework. The healing period allowed was six and two-thirds weeks. She stated that the insurance company had made no offer to pay compensation for the permanent disability, but that a friend of hers who worked in the commission office had explained that she was entitled to such compensation, and the matter had been brought to the commission. Medical bills were paid and compensation was allowed for $12\frac{2}{3}$ weeks in all. On her return to work she said she could have managed to work on the power punch press but was afraid of it and felt safer to return to the foot press, on which she had worked up to the time of the interview. The fingers were tender and for a long time she had worked with tape on them, which hindered her. For six months she had been unable to make more than \$16 a week. Then her earnings had begun to increase and after three years she was earning \$25. She was disabled for sewing, which at times had been a source of income to her. Also she was unable to wash clothes, as she could not keep the fingers in water.

Case No. 152.—A 35-year-old woman, born in Ireland and having a seventh-grade education, was living with her husband and stepson. She and her husband were working, their combined income being \$48 a week. She had begun work when 17 as a bunch-maker in a cigar factory, at \$7 a week, remaining five years and advancing to \$9. Since then she had worked in a printing establishment for six months, at \$12, and as a domestic servant, at \$6 and her board, for over nine years. Then she had married a man with one child, had remained at home for a time, and one year before the accident had returned to industry as a cigarette-machine feeder, advancing in the 12 months from \$12 to \$18 a week. The machine was operated by a team. The operator was talking to a third person and started the machine while the worker was straightening a packet. Her left index finger was caught and badly lacerated. The firm told her to continue to come to the plant for the regular hours, and she would be paid her \$12 a week; otherwise she would get no compensation. She "went and sat around" and was not asked to work, but was so feverish, sick, and unstrung that after a week she could not stand it any longer and left work and went to her own doctor. A friend told her of compensation and she referred the case to the State commission, which allowed a healing period of two weeks and rated the permanent disability as 20 per cent loss of use of the index finger. Some medical bills were paid, but she paid for five visits to her own doctor at \$1 each. Compensation was allowed for eight weeks and one day in all. After the two weeks she returned to her former employer but was refused a job, she said, because she "had heard of compensation; the girls hurt there are always told not to lose any time; none of them know about compensation."

A friend who had worked at the same place seven years confirmed this statement. The injured woman knew of no available work. She was disabled for cigar-factory work and printing-shop jobs. Nearly three years after the accident she got work as packer for a grocery company, but the pay was only \$12 and at that she was so slow that she was laid off in three months. She had not again attempted to earn. Since the accident she had paid some one to do her washing, and she was hampered in many small ways for her housework.

Case No. 153.—A 25-year-old American worker, with a seventh-grade education, was single and supporting only herself, paying \$5 a week board to a married sister. Beginning at 13 she had done pasting in a leather-goods plant for two years. Later she had packed cigarettes for six years, and three weeks before the accident she had found work as an operator of a press making collapsible tubes. Her pay had increased from \$14 to \$20 a week in the eight years she had worked. Her guaranteed minimum at the time of the accident was \$12 a week, and it was possible for a fast worker to make \$20. A few made 100 gross of tubes a day and the others had to try to keep pace with them. She had done only 70 gross the day before the accident, as the needle on her machine was bad. She had spoken to the die setter about it, and he had said he would see to it in the morning. The next morning he did not show up. She was "running them through," that is, without the guard which, if attached, must be pressed by the hand with each operation and is used only by beginners, as it slows the work. The tubes stuck. "They always stick when the needle is bad," she said. It took her a little longer to get one tube off, and the right middle finger was caught and smashed. The insurance doctor whom she saw first wanted to take it off, but she refused. He wrapped it up dry and told her to come back in two days. She was "scarcely able to get home." The finger was crooked, dry, and hot. She went to her own doctor for treatment thereafter. The foreman kept sending for her to come back to work. She wanted to return, as compensation had been estimated on the basis of the minimum guarantee of \$12, and she had had to depend a good deal for financial assistance as well as for nursing care upon her sister. She returned to work after nine and a half weeks, although the finger and hand were still sore. At about this time the insurance doctor went to see her. She reported the following conversation: Brother-in-law, "What does she get for the finger?" Doctor, "Get? That's only a scratch; she doesn't get a cent." Brother-in-law, "The finger is no good to her." Doctor, "Will you step out of the room? My business is with this girl." Brother-in-law, "You tell me to get out of my own house—maybe you'll step out of that

front door." Doctor, "Well, I'll bet you \$500 to \$5 she won't get a cent." The girl knew of the local office of the commission and applied there for an adjustment of the claim. The permanent injury was rated as total loss of use of the middle finger at the distal joint. Medical bills were paid, and compensation was allowed for 22 weeks in all. On her return to work she was put on the same press and the wound was "all open in a few hours." She went to her own doctor, who told her she must stay off the press for two months. She was then given a job of putting corks in caps, easy work on a light machine. The wage was \$12 a week. However, in a week she tried the press again and continued to operate it for 16 months, making as much as \$22 a week. She then had a second accident, which occurred in the same manner as the first and which smashed the same finger. She was out of work two months. The insurance doctor claimed that she was able to return sooner, but the hand was too sore. She refused to go back to the press again as she felt disabled for operating it, because of the mental shock as well as the physical disability. "How we used to cry when another girl lost a finger!" she exclaimed. She had liked press work before and would not have operated the machine for putting corks in caps, as it was "child's play," but she became afraid of even that. She was made a general helper, doing various kinds of handwork at \$15 a week. After four months she married. At the time of the interview the finger was still sore and hurt when knocked against anything, but it did not prevent her from doing her housework. She had not returned to industry.

Case No. 154.—A 15-year-old American negro girl, with a sixth-grade education, was single and living with her parents and two brothers and sisters. Her mother worked, earning \$16 a week. Her father had had a bad accident about 10 months before (ankle fractured), which had made it impossible for him to get his job back. He worked wherever he could, averaging \$13 a week. The combined income of the three came to \$41.10 a week. Beginning at 14, this girl had been a domestic servant for nine months, at \$7 a week, and then had changed to factory work, operating a foot punch press on metal novelties. After four months' experience she had advanced from \$10 to \$12.10 a week. One day, while operating, her right index finger was caught under the die, and a compound fracture resulted. She was only 15 and was new at machinery. "You're awkward when you don't understand," she said. The hand was in a sling for five weeks. At first only medical bills were paid. Not knowing that she could make a claim for further disability herself, she took the advice of a friend in a lawyer's office and employed the lawyer to look into her case, agreeing to pay him out of the compensation money. The healing period was set at five weeks, and the

permanent injury was rated as 20 per cent loss of use of the index finger. Compensation was paid for 10 weeks and 4 days in all. The lawyer took one-fourth of the total amount. At the end of the healing period she was able to work, but the hand was sore and swollen and she could not go back to the punch press. She tried everywhere but it was 10 weeks before she found an opening, operating an elevator in a store at \$11 a week. At the time of the interview the index finger was stiff at the distal and middle joints. Having married soon after securing work as an elevator operator, she had left that job and had not since returned to industry.

SUMMARY OF THREE HUNDRED AND EIGHTY-FIVE INTERVIEWS

In addition to the 154 cases of permanent disability which have already been presented are 231 not published in this report as they would add no new point to the discussion. There follows a brief summary of certain information regarding the 385 cases, relating to the adjustments made by the injured women.

Personal.

Of the 385 cases, 325 were native-born women, 24 of that number being negroes. Of the native born, 47 had had some high-school education, 71 had completed the eighth grade, and 167 had had some other grade-school education. Four had never been to school. Of the 60 foreign women, 53 were able to speak English; 34 of the total could read and write English; 1 could read English but could not write; 3 could read and write their own language only; 2 could read their own language but could not write it; and 3 could not read nor write any language.

Economic.

In a considerable number of cases (182) the woman was responsible for the support of other persons as well as herself. In 29 instances she was the sole support of one or more children; in 13, of one or both parents; in 6, of a husband or sister. In 59 cases she contributed to the support of children, and in 75 to the support of parents. Of the remaining group, 128 belonged to households having several earners and may have had responsibility for others as well as themselves, and 71 supported only themselves.

Vocational training.

Seventeen of the women had had some vocational training. Of these, 10 had taken courses in stenography and typewriting or book-keeping, 4 had studied in teachers' training courses, 1 had learned dressmaking, 1 had learned comptometer operating, and 1 had studied and taught piano playing.

Experience in accident occupation.

There were 137 women who, at the time of the injury, had worked less than 6 months at their occupation. Of these, 10 were injured on their first day; 13 had had one day but less than one week of experience; 5 had had one week but less than two weeks; 28, two weeks but less than a month; and 81, one month but less than six months.

Physical rehabilitation.

In 52 cases some rehabilitation service was indicated. Six of the women were fitted with prosthetic appliances (eye glasses in 2 cases, leg braces in 2, and artificial arms in 2). Fourteen had been rehabilitative-surgery cases, and 32 had received electrical treatment, massage, baking, or special exercise.

Industrial rehabilitation.

There were 47 women who had not returned to work after the accident. Of these, 40 were disabled for all available work and 7 remained away for reasons not connected with the accident. In addition, 6 women had returned to industry but after a short attempt found themselves disabled for all available work. Of the 40 disabled for industry who never returned to work, in 5 cases the disability was major (50 per cent or more of permanent total impairment), in 5 cases it was less serious (25 per cent but less than 50 per cent of permanent total impairment), in 23 cases it was minor (less than 25 per cent of permanent total impairment), and in 7 cases the impairment was such as not to allow of the assignment of a per cent of disability.

Including the 6 who were able to remain only a short time, 338 women returned to industry after the accident. A large number of these (269) had returned to their former employer, but 11 had been laid off within one month and 9 more within six months. An additional 43 after an attempt to work had quit on account of their disability. In the case of 14 of the 69 women who had found work with a different employer, there had been no opening with the former employer.

An analysis of the information regarding the ability of the 338 injured women to perform preaccident work reveals that there were 166 women who, when able to work, had returned at once to their preaccident occupation, and 21 who had returned to it after an interim at less skilled work. A considerable number (151) were quite disabled for their former work, and 6 who made an attempt to perform it had found it impossible to continue. Of the 151 who were disabled for their former job, 7 had turned to domestic service and 63 from machine operating to handwork for all jobs

since the accident. Three women had found it impossible to work otherwise than irregularly after the accident, on account of the disability.

Of the 338 who returned to industry, 95 never equaled their former wage, 82 received the same wage, and 161 reported higher earnings than before.

since the accident. These women had found it impossible to work
 other ways than regularly after the accident on account of the dis-
 ability. Of the 232 who returned to industry, 22 never equaled their
 former wage, 22 received the same wage, and 181 received higher
 earnings than before.

APPENDIX A
GENERAL TABLES

TABLE I.—Extent of disability according to State classification, by nature and location of injury and by State

A. NUMBER

Nature and location of injury	New Jersey						Ohio						Wisconsin								
	All women	Fatal cases	Permanent disability cases				Temporary disability cases	All women	Fatal cases	Permanent disability cases				Temporary disability cases	All women	Fatal cases	Permanent disability cases				Temporary disability cases
			All classes	Dis-mem-ber-ment	Loss of use	Other				All classes	Dis-mem-ber-ment	Loss of use	Other				All classes	Dis-mem-ber-ment	Loss of use	Other	
All cases.....	1,077	3	313	146	155	12	761	1,544	6	132	107	21	4	1,406	3,642	6	89	42	42	5	547
Bruise, contusion, crush.....	278	1	69	25	41	3	208	431		53	45	6	2	378	188	1	18	8	9	1	169
Burn, scald, crush and burn.....	47	1	6	3	3		40	71	1	7	4	3		63	34	5	3	3			26
Concussion (other than dismem-berment and loss of use).....	13		3			3	10	51						51	8						8
Cut, laceration, puncture.....	362		87	21	62	4	275	481	2	27	16	10	1	452	232		24	3	17	4	208
Amputation (traumatic).....	108		98	94	4		10	107		31	31			76	35		30	30			5
Arm.....																					
Fingers, thumb.....	108		98	94	4		10	107		31	31			76	34		29	1			5
Dislocation.....	17		3		2	1	14	25		1	1			24	5						5
Shoulder.....	5		1		1		4	5						5	2						2
Elbow.....	4						4	1						1							
Wrist.....							4	3						3							
Hip.....							2	2						2							1
Knee.....	2		1		1		1							1							1
Ankle.....	3						3	3						3							1
Other.....	3		1			1	2	11		1	1			10							1

Fracture.....	101	25	25	76	138	11	10	1	126	53	12	1	11	41
Humerus.....	1			1	3				3					
Ulna, radius, or both.....	8	1	1	7	31				31	7	1		1	6
Hand.....	2			2	8				8	1				1
Fingers, thumb.....	22	11	11	11	34	11	10	1	23	8	3	1	2	5
Tibia, fibula, or both.....	6			6	3				3	5				5
Foot.....					3				3	1				1
Other.....	62	13	13	49	56	1			55	31	8		8	23
Sprain, strain.....	128	15	15	113	188	1			187	65				65
Back.....	19	2	2	17	34				34	10				10
Hernia.....	3			3	5				5	3				3
Shoulder.....	5	1	1	4	19				19	1				1
Elbow.....	4			4	6				6	2				2
Wrist.....	24	3	3	21	31				31	18				18
Hip.....	3	1	1	2	7				7	3				3
Knee.....	15	3	3	12	16				16	5				5
Ankle.....	39	4	4	35	47				47	19				19
Other.....	16	1	1	15	23	1			22	4				4
All other.....	23	1	3	3	15	52	1	2	49	22	2		2	20

¹ Excludes 19 cases not reporting nature of injury.

² Excludes 1 case not reporting nature of injury.

³ Excludes 2 cases not reporting nature of injury.

⁴ Four cases in which the original injury was an amputation but the most serious final disability was loss of use of member.

TABLE I.—Extent of disability according to State classification, by nature and location of injury and by State—Continued

B. PER CENT

Nature and location of injury	New Jersey					Ohio					Wisconsin								
	Fatal cases	Permanent disability cases				Temporary disability cases	Fatal cases	Permanent disability cases				Temporary disability cases	Fatal cases	Permanent disability cases				Temporary disability cases	
		All classes	Dis-mem-ber-ment	Loss of use	Other			All classes	Dis-mem-ber-ment	Loss of use	Other			All classes	Dis-mem-ber-ment	Loss of use	Other		
All cases.....	0.3	29.1	13.6	14.4	1.1	70.7	0.4	8.5	6.9	1.3	0.3	91.1	0.9	13.9	6.5	6.5	0.8	85.2	
Bruise, contusion, crush.....	.4	24.8	9.0	14.7	1.1	74.8	-----	12.3	10.4	1.4	.5	87.7	-----	.5	9.6	4.3	4.8	.5	89.9
Burn, scald, crush and burn.....	2.1	12.8	6.4	6.4	-----	85.1	1.4	9.9	5.6	4.2	-----	88.7	14.7	8.8	-----	8.8	-----	-----	76.5
Concussion (other than dismemberment and loss of use).....	-----	23.1	-----	-----	23.1	76.9	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Cut, laceration, puncture.....	-----	24.0	5.8	17.1	1.1	76.0	.4	5.6	3.3	2.1	.2	94.0	-----	10.3	1.3	7.3	1.7	-----	89.7
Amputation (traumatic).....	-----	90.7	87.0	3.7	-----	9.3	-----	29.0	29.0	-----	-----	71.0	-----	85.7	85.7	-----	-----	-----	14.3
Arm.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Fingers, thumb.....	-----	90.7	87.0	3.7	-----	9.3	-----	29.0	29.0	-----	-----	71.0	-----	100.0	100.0	-----	-----	-----	14.7
Dislocation.....	-----	17.6	-----	11.8	5.9	82.4	-----	4.0	4.0	-----	-----	96.0	-----	85.3	85.3	-----	-----	-----	100.0
Shoulder.....	-----	20.0	-----	20.0	-----	80.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Elbow.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Wrist.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Hip.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Knee.....	-----	50.0	-----	50.0	-----	50.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Ankle.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Other.....	-----	33.3	-----	-----	33.3	66.7	-----	9.1	9.1	-----	-----	90.9	-----	-----	-----	-----	-----	-----	100.0
Fracture.....	-----	24.8	-----	24.8	-----	73.2	-----	8.0	7.2	.7	-----	91.3	-----	22.6	1.9	20.8	-----	-----	77.4
Humerus.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Ulna, radius, or both.....	-----	-----	-----	-----	-----	87.5	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Hand.....	-----	12.5	-----	12.5	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	14.3	-----	14.3	-----	-----	85.7
Fingers, thumb.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Tibia, fibula, or both.....	-----	50.0	-----	50.0	-----	50.0	-----	32.4	29.4	2.9	-----	67.6	-----	37.5	12.5	25.0	-----	-----	62.5
Foot.....	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----	-----	100.0
Other.....	-----	21.0	-----	21.0	-----	79.0	1.8	-----	-----	-----	-----	100.0	-----	25.8	-----	25.8	-----	-----	100.0
Other.....	-----	-----	-----	-----	-----	74.2	-----	-----	-----	-----	-----	98.2	-----	-----	-----	-----	-----	-----	74.2

Sprain, strain.....	11.7		11.7		88.3	.5					99.5					100.0
Back.....	10.5		10.5		89.5						100.0					100.0
Hernia.....					100.0						100.0					100.0
Shoulder.....	20.0		20.0		80.0						100.0					100.0
Elbow.....					100.0						100.0					100.0
Wrist.....	12.5		12.5		87.5						100.0					100.0
Hip.....	33.3		33.3		66.7						100.0					100.0
Knee.....	20.0		20.0		80.0						100.0					100.0
Ankle.....	10.3		10.3		89.7						100.0					100.0
Other.....	6.3		6.3		93.8	4.3					95.7					100.0
All other.....	30.4	13.0	13.0	4.3	65.2	1.9	3.8		1.9	1.9	94.2		9.1		9.1	90.0

TABLE II.—Length of healing period, by extent of disability and cause of accident

A. NUMBER

Cause of accident	All women	All permanent disability cases	Permanent disability cases having a healing period of—				
			Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes.....	1 3,249	797	85	168	377	143	24
Hand tools.....	114	17	4	2	8	3	
In hands of injured worker.....	104	17	4	2	8	3	
In hands of fellow worker.....	10						
Handling of objects.....	487	60	9	8	27	13	3
Heavy objects.....	198	24	3	3	10	7	1
Sharp or rough objects.....	259	34	6	4	17	5	1
Hand trucks, wheelbarrows.....	30	2		1			1
Falling objects.....	66	12		5	5	1	1
From elevations.....	54	11		4	5	1	1
Other.....	12	1		1			
Stepping on or striking against objects.....	136	10	2		3	4	1
Stepping on objects.....	22						
Striking against objects.....	114	10	2		3	4	1
Falls of persons.....	684	78	4	7	18	38	11
From elevations.....	292	32	2	5	6	13	6
On level.....	358	43	2	2	10	24	5
Into excavations.....	24	3			2	1	
Other.....	10						
Explosions, electricity, and hot substances.....	110	9	2		2	2	3
Explosions.....	21	4	2				2
Electricity.....	4	2			1	1	
Hot substances.....	85	3			1	1	1
Vehicles.....	37	5	1		3	1	
Steam and electric railways.....	14	1			1		
Auto and other power.....	19	4	1		2	1	
Other.....	4						
Poisonous and corrosive substances and occupational diseases.....	92	14		4	6	4	
Machinery.....	1,510	590	63	142	305	75	5
Elevators.....	22	7	1	1	2	2	1
Power-transmission apparatus.....	78	26	3	8	12	2	1
Power-working machines.....	1,380	547	59	132	284	69	3
Chemical products.....	5	3			2	1	
Clay and glass.....	32	15		7	8		
Food products.....	96	41	5	16	17	3	
Laundry.....	58	24		2	10	10	2
Leather-working.....	63	20		9	10	1	
Metal-working.....	608	305	40	68	171	26	
Paper.....	109	41	2	9	24	6	
Printing and book-binding.....	63	16	1	6	4	5	
Rubber, celluloid, and composition.....	36	9		3	4	2	
Textile.....	249	52	8	9	22	13	
Wood-working.....	59	21	3	3	12	2	1
Miscellaneous.....	2						
Machines other than power-working.....	3	1			1		
Conveyors.....	25	9		1	6	2	
Prime movers.....	2						
Miscellaneous causes.....	13	2				2	

¹ Excludes 15 fatal cases and 21 cases not reporting complete data.

TABLE II.—Length of healing period, by extent of disability and cause of accident—Continued

A. NUMBER—Continued

Cause of accident	All temporary disability cases	Temporary disability cases having a healing period of—				
		Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes	2,452	543	1,111	694	100	4
Hand tools	97	38	44	12	3	
In hands of injured worker	87	34	41	9	3	
In hands of fellow worker	10	4	3	3		
Handling of objects	427	101	201	108	16	1
Heavy objects	174	32	79	53	9	1
Sharp or rough objects	225	65	107	49	4	
Hand trucks, wheelbarrows	28	4	15	6	3	
Falling objects	54	10	26	14	3	1
From elevations	43	8	21	11	2	1
Other	11	2	5	3	1	
Stepping on or striking against objects	126	33	63	29	1	
Stepping on objects	22	6	12	4		
Striking against objects	104	27	51	25	1	
Falls of persons	606	89	219	241	57	
From elevations	266	35	101	98	26	
On level	315	49	107	130	29	
Into excavations	21	3	9	7	2	
Other	10	2	2	6		
Explosions, electricity, and hot substances	101	15	54	30	2	
Explosions	17	2	10	5		
Electricity	2	1	1	1		
Hot substances	82	12	44	24	2	
Vehicles	32	5	14	10	2	1
Steam and electric railways	13	1	6	4	1	1
Auto and other power	15	3	6	5	1	
Other	4	1	2	1		
Poisonous and corrosive substances and occupational diseases	78	14	40	21	2	1
Machinery	920	236	447	224	13	
Elevators	15	2	5	7	1	
Power-transmission apparatus	52	15	21	15	1	
Power-working machines	833	217	412	195	9	
Chemical products	2	1	1			
Clay and glass	17	6	10	1		
Food products	55	20	22	13		
Laundry	34	9	15	10		
Leather-working	43	13	17	13		
Metal-working	303	72	151	76	4	
Paper	68	15	38	14	1	
Printing and bookbinding	47	12	27	7	1	
Rubber, celluloid, and composition	27	8	12	7		
Textile	197	50	98	48	1	
Wood-working	33	11	19	6	2	
Miscellaneous	2		2			
Machines other than power-working	2			2		
Conveyors	16	2	7	5	2	
Prime movers	2		2			
Miscellaneous causes	11	2	3	5	1	

TABLE II.—Length of healing period, by extent of disability and cause of accident—Continued

B. PER CENT

Cause of accident	All women	All permanent disability cases	Permanent disability cases having a healing period of—				
			Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools.....	3.5	2.1	4.7	1.2	2.1	2.1	-----
In hands of injured worker.....	3.2	2.1	4.7	1.2	2.1	2.1	-----
In hands of fellow worker.....	.3	-----	-----	-----	-----	-----	-----
Handling of objects.....	15.0	7.5	10.6	4.8	7.2	9.1	12.5
Heavy objects.....	6.1	3.0	3.5	1.8	2.7	4.9	4.2
Sharp or rough objects.....	8.0	4.3	7.1	2.4	4.5	4.2	4.2
Hand trucks, wheelbarrows.....	.9	.3	-----	.6	-----	-----	4.2
Falling objects.....	2.0	1.5	-----	3.0	1.3	.7	4.2
From elevations.....	1.7	1.4	-----	2.4	1.3	.7	4.2
Other.....	.4	.1	-----	.6	-----	-----	-----
Stepping on or striking against objects.....	4.2	1.3	2.4	-----	.8	2.8	4.2
Stepping on objects.....	.7	-----	-----	-----	-----	-----	-----
Striking against objects.....	3.5	1.3	2.4	-----	.8	2.8	4.2
Falls of persons.....	21.1	9.8	4.7	4.2	4.8	26.6	45.8
From elevations.....	9.0	4.0	2.4	3.0	1.6	9.1	25.0
On level.....	11.0	5.4	2.4	1.2	2.7	16.8	20.8
Into excavations.....	.7	.4	-----	-----	.5	.7	-----
Other.....	.3	-----	-----	-----	-----	-----	-----
Explosions, electricity, and hot substances.....	3.4	1.1	2.4	-----	.5	1.4	12.5
Explosions.....	.6	.5	2.4	-----	-----	-----	8.5
Electricity.....	.1	.3	-----	-----	.3	.7	-----
Hot substances.....	2.6	.4	-----	-----	.3	.7	4.2
Vehicles.....	1.1	.6	1.2	-----	.8	.7	-----
Steam and electric railways.....	.4	.1	-----	-----	.3	-----	-----
Auto and other power.....	.6	.5	1.2	-----	.5	.7	-----
Other.....	.1	-----	-----	-----	-----	-----	-----
Poisonous and corrosive substances and occupational diseases.....	2.8	1.8	-----	2.4	1.6	2.8	-----
Machinery.....	46.5	74.0	74.1	84.5	80.9	52.4	20.8
Elevators.....	.7	.9	1.2	.6	.5	1.4	4.2
Power-transmission apparatus.....	2.4	3.3	3.5	4.8	3.2	1.4	4.2
Power-working machines.....	42.5	68.6	69.4	78.6	75.3	48.3	12.5
Chemical products.....	.2	.4	-----	-----	.5	.7	-----
Clay and glass.....	1.0	1.9	-----	4.2	2.1	-----	-----
Food products.....	3.0	5.1	5.9	9.5	4.5	2.1	-----
Laundry.....	1.8	3.0	-----	1.2	2.7	7.0	8.3
Leather-working.....	1.9	2.5	-----	5.4	2.7	.7	-----
Metal-working.....	18.7	38.3	47.1	40.5	45.4	18.2	-----
Paper.....	3.4	5.1	2.4	5.4	6.4	4.2	-----
Printing and bookbinding.....	1.9	2.0	1.2	3.6	1.1	3.5	-----
Rubber, celluloid, and composition.....	1.1	1.1	-----	1.8	1.1	1.4	-----
Textile.....	7.7	6.5	9.4	5.4	5.8	9.1	-----
Wood-working.....	1.8	2.6	3.5	1.8	3.2	1.4	4.2
Miscellaneous.....	.1	-----	-----	-----	-----	-----	-----
Machines other than power-working.....	.1	.1	-----	-----	.3	-----	-----
Conveyors.....	.8	1.1	-----	.6	1.6	1.4	-----
Prime movers.....	.1	-----	-----	-----	-----	-----	-----
Miscellaneous causes.....	.4	.3	-----	-----	-----	1.4	-----

TABLE II.—Length of healing period, by extent of disability and cause of accident—Continued

B. PER CENT—Continued

Cause of accident	All temporary disability cases	Temporary disability cases having a healing period of—				
		Under 2 weeks	2 and under 4 weeks	4 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All causes	100.0	100.0	100.0	100.0	100.0	100.0
Hand tools	4.0	7.0	4.0	1.7	3.0	-----
In hands of injured worker	3.5	6.3	3.7	1.3	3.0	-----
In hands of fellow worker .....	.4	.7	.3	.4	-----	-----
Handling of objects	17.4	18.6	18.1	15.6	16.0	25.0
Heavy objects	7.1	5.9	7.1	7.6	9.0	25.0
Sharp or rough objects	9.2	12.0	9.6	7.1	4.0	-----
Hand trucks, wheelbarrows	1.1	.7	1.4	.9	3.0	-----
Falling objects	2.2	1.8	2.3	2.0	3.0	25.0
From elevations	1.8	1.5	1.9	1.6	2.0	25.0
Other .....	.4	.4	.5	.4	1.0	-----
Stepping on or striking against objects	5.1	6.1	5.7	4.2	1.0	-----
Stepping on objects .....	.9	1.1	1.1	.6	-----	-----
Striking against objects	4.2	5.0	4.6	3.6	1.0	-----
Falls of persons	24.7	16.4	19.7	34.7	57.0	-----
From elevations	10.6	6.4	9.1	14.1	26.0	-----
On level	12.8	9.0	9.6	18.7	29.0	-----
Into excavations .....	.9	.6	.8	1.0	2.0	-----
Other .....	.4	.4	.2	.9	-----	-----
Explosions, electricity, and hot substances	4.1	2.8	4.9	4.3	2.0	-----
Explosions .....	.7	.4	.9	.9	-----	-----
Electricity .....	.1	.2	-----	.1	-----	-----
Hot substances	3.3	2.2	4.0	3.5	2.0	-----
Vehicles	1.3	.9	1.3	1.4	2.0	25.0
Steam and electric railways .....	.5	.2	.5	.6	1.0	25.0
Auto and other power .....	.6	.6	.5	.7	1.0	-----
Other .....	.2	.2	.2	.1	-----	-----
Poisonous and corrosive substances and occupational diseases	3.2	2.6	3.6	3.0	2.0	25.0
Machinery	37.5	43.5	40.2	32.3	13.0	-----
Elevators .....	.6	.4	.5	1.0	1.0	-----
Power-transmission apparatus	2.1	2.8	1.9	2.2	1.0	-----
Power-working machines	34.0	40.0	37.1	28.1	9.0	-----
Chemical products .....	.1	.2	.1	-----	-----	-----
Clay and glass .....	.7	1.1	.9	.1	-----	-----
Food products	2.2	3.7	2.0	1.9	-----	-----
Laundry	1.4	1.7	1.4	1.4	-----	-----
Leather-working	1.8	2.4	1.5	1.9	-----	-----
Metal-working	12.4	13.3	13.6	11.0	4.0	-----
Paper	2.8	2.8	3.4	2.0	1.0	-----
Printing and bookbinding	1.9	2.2	2.4	1.0	1.0	-----
Rubber, celluloid, and composition	1.1	1.5	1.1	1.0	-----	-----
Textile	8.0	9.2	8.8	6.9	1.0	-----
Wood-working	1.5	2.0	1.7	.9	2.0	-----
Miscellaneous .....	.1	-----	.2	-----	-----	-----
Machines other than power-working .....	.1	-----	-----	.3	-----	-----
Conveyors .....	.7	.4	.6	.7	2.0	-----
Prime movers .....	.1	-----	.2	-----	-----	-----
Miscellaneous causes .....	.4	.4	-----	.7	1.0	-----

TABLE III.—Length of healing period, by extent

Nature and location of injury	All cases		Permanent disability cases											
			All classes		Length of healing period									
	Number				Per cent		Under 2 weeks		2 and under 4 weeks		4 and under 12 weeks		12 and under 52 weeks		52 weeks and over
			Number	Per cent			Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All cases.....	13,244	100.0	799	100.0	86	100.0	168	100.0	378	100.0	143	100.0	24	100.0
Bruise, contusion, crush.	894	27.6	180	22.5	19	22.1	41	24.4	93	24.6	24	16.8	3	12.5
Burn, scald, crush and burn.	144	4.4	21	2.6	-----	-----	2	1.2	5	1.3	12	8.4	2	8.3
Concussion (other than dismemberment and loss of use).	71	2.2	26	3.3	5	5.8	7	4.2	6	1.6	5	3.5	3	12.5
Cut, laceration, puncture.	1,073	33.1	190	23.8	29	33.7	27	16.1	96	25.4	34	23.8	4	16.6
Amputation (traumatic).	249	7.7	247	30.9	20	33.7	77	45.8	128	33.9	13	9.1	-----	-----
Arm.....	1	-----	1	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----
Fingers, thumb.....	248	-----	246	-----	29	-----	77	-----	128	-----	12	-----	-----	-----
Dislocation.....	47	1.4	8	1.0	-----	-----	1	0.6	5	1.3	2	1.4	-----	-----
Shoulder.....	12	-----	2	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----
Elbow.....	5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wrist.....	3	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hip.....	3	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----
Knee.....	3	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ankle.....	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----
Other.....	14	-----	4	-----	-----	-----	1	-----	2	-----	-----	-----	-----	-----
Fracture.....	291	9.0	74	9.3	2	2.3	4	2.4	28	7.4	31	21.7	9	37.5
Humerus.....	4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ulna, radius, or both.	46	-----	9	-----	-----	-----	-----	-----	3	-----	4	-----	2	-----
Hand.....	11	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Fingers, thumb.....	64	-----	34	-----	2	-----	3	-----	-----	-----	8	-----	1	-----
Tibia, fibula, or both.	14	-----	-----	-----	-----	-----	-----	-----	20	-----	-----	-----	-----	-----
Foot.....	4	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----
Other.....	148	-----	31	-----	-----	-----	1	-----	5	-----	19	-----	6	-----
Sprain, strain.....	380	11.7	38	4.8	2	2.3	5	3.0	11	2.9	17	11.9	3	12.5
Back.....	63	-----	7	-----	-----	-----	1	-----	3	-----	2	-----	1	-----
Hernia.....	11	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Shoulder.....	25	-----	4	-----	-----	-----	-----	-----	1	-----	2	-----	1	-----
Elbow.....	12	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wrist.....	73	-----	6	-----	1	-----	1	-----	1	-----	3	-----	-----	-----
Hip.....	13	-----	2	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----
Knee.....	36	-----	7	-----	-----	-----	-----	-----	-----	-----	5	-----	1	-----
Ankle.....	105	-----	4	-----	-----	-----	1	-----	1	-----	3	-----	-----	-----
Other.....	42	-----	8	-----	1	-----	1	-----	5	-----	1	-----	-----	-----
All other.....	95	2.9	15	1.9	-----	-----	4	2.4	6	1.6	5	3.5	-----	-----

¹Excludes 15 fatal cases and 26 cases not reporting complete data.

of disability and nature and location of injury

Temporary disability cases											
All classes		Length of healing period									
		Under 2 weeks		2 and under 4 weeks		4 and under 12 weeks		12 and under 52 weeks		52 weeks and over	
Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
2,445	100.0	546	100.0	1,107	100.0	689	100.0	99	100.0	4	100.0
714	29.2	182	33.3	325	29.4	186	27.0	19	19.2	2	50.0
123	5.0	20	3.7	68	6.1	33	4.8	2	2.0		
45	1.8			21	1.9	17	2.5	7	7.1		
883	36.1	250	45.8	428	38.7	191	27.7	14	14.1		
2	.1			1	.1	1	.1				
2				1		1					
39	1.6	4	.7	18	1.6	14	2.0	3	3.0		
10				3		5		2			
5		1		4							
2				2							
3				2		1					
2						2					
7		1		2		3		1			
10		2		5		3					
217	8.9	8	1.5	57	5.1	122	17.7	30	30.3		
4						2		2			
37		2		7		23		5			
11		1		5		5					
30		3		15		12					
14		1				7		6			
4						2		2			
117		1		30		71		15			
342	14.0	66	12.1	149	13.5	104	15.1	22	22.2	1	25.0
56		7		26		21		2			
11						8		2		1	
21		5		11		4		1			
12		4		4		4					
67		21		27		15		4			
11				6		4		1			
29		4		14		9		2			
101		20		47		29		5			
34		5		14		10		5			
80	3.3	16	2.9	40	3.6	21	3.0	2	2.0	1	25.0

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TABLE IV.—Degree of disability, according to State classification, in terms of estimated weeks lost in permanent disability cases and of length of healing period in temporary disability cases, by State

State	Total number of women	Fatal cases			Permanent disability cases									
		Number of women	Estimated weeks lost		Number of women	Dismemberment			Impairment			Other		
			Number	Average per case		Number of cases	Estimated weeks lost		Number of cases	Estimated weeks lost		Number of cases	Estimated weeks lost	
							Number	Average per case		Number	Average per case		Number	Average per case
All States.....	3,285	15	15,000	1,000	536	295	26,858	91.0	220	22,237	101.1	21	3,622	172.5
New Jersey.....	1,096	3	3,000	1,000	315	146	13,008	89.1	157	14,224	90.6	12	2,215	184.6
Ohio.....	1,545	6	6,000	1,000	132	107	9,950	93.0	21	3,925	186.9	4	870	217.5
Wisconsin.....	644	6	6,000	1,000	89	42	3,900	92.9	42	4,088	97.3	5	537	107.4

State	Temporary disability cases								
	Number of women	Temporary total					Temporary partial		
		Number of cases	Length of healing period				Number of cases	Length of healing period	
			Under 2 weeks	2 and under 3 weeks	3 weeks and over	Time not reported		2 and under 3 weeks	3 weeks and over
All States.....	2,734	2,709	572	717	1,416	4	25	3	22
New Jersey.....	778	778	90	208	477	3			
Ohio.....	1,407	1,388	316	364	707	1	19	1	18
Wisconsin.....	549	543	166	145	232		6	2	4

TABLE V.—Length of healing period, by degree of disability and age of injured

Degree of disability and age of injured	All women	Length of healing period						
		Under 2 weeks	2 and under 4 weeks	4 and under 6 weeks	6 and under 8 weeks	8 and under 12 weeks	12 and under 52 weeks	52 weeks and over
All cases—Number	13,092	606	1,222	503	276	229	228	28
Per cent distribution	100.0	19.6	39.5	16.3	8.9	7.4	7.4	0.9
Under 20 years—Number	851	202	384	112	58	62	32	1
Per cent distribution	100.0	23.7	45.1	13.2	6.8	7.3	3.8	.1
20 and under 40 years—Number	1,575	308	617	276	144	108	113	9
Per cent distribution	100.0	19.6	39.2	17.5	9.1	6.9	7.2	.6
40 and under 60 years—Number	592	91	203	101	63	51	67	16
Per cent distribution	100.0	15.4	34.3	17.1	10.6	8.6	11.3	2.7
60 years and over—Number	74	5	18	14	11	8	16	2
Per cent distribution	100.0	6.8	24.3	18.9	14.9	10.8	21.6	2.7
Permanent disability cases—Number	746	79	162	135	106	108	132	24
Per cent distribution	100.0	10.6	21.7	18.1	14.2	14.5	17.7	3.2
Major ² —Number	12					1	8	3
Per cent distribution	100.0					8.3	66.7	25.0
Under 20 years	1						1	
20 and under 40 years	5						4	1
40 and under 60 years	4					1	2	1
60 years and over	2						1	1
Less serious ³ —Number	46		1	1	2	6	28	7
Per cent distribution	100.0		2.2	2.2	6.5	13.0	60.9	15.2
Under 20 years	9				1		8	
20 and under 40 years	20				1	5	13	1
40 and under 60 years	15		1		1	1	6	6
60 years and over	2			1			1	
Minor ⁴ —Number	636	66	148	125	100	97	92	8
Per cent distribution	100.0	10.4	23.3	19.7	15.7	15.3	14.5	1.3
Under 20 years	195	18	59	34	30	38	15	1
20 and under 40 years	338	38	76	67	52	48	54	3
40 and under 60 years	88	10	11	22	15	10	17	3
60 years and over	15		2	2	3	1	6	1
No per cent assigned—Number	52	13	13	9	3	4	4	6
Per cent distribution	100.0	25.0	25.0	17.3	5.8	7.7	7.7	11.5
Under 20 years	10	6	3	1				
20 and under 40 years	27	5	6	6	2	3	2	3
40 and under 60 years	14	2	4	2		1	2	3
60 years and over	1				1			
Temporary disability cases—Number	2,346	527	1,060	368	170	121	96	4
Per cent distribution	100.0	22.5	45.2	15.7	7.2	5.2	4.1	.2
Under 20 years	636	178	322	77	27	24	8	
20 and under 40 years	1,185	265	535	203	89	52	40	1
40 and under 60 years	471	79	187	77	47	38	40	3
60 years and over	54	5	16	11	7	7	8	

¹ Excludes 15 fatal cases and 178 cases not reporting complete data.² 50 per cent and more of permanent total incapacity.³ 25 per cent and under 50 per cent of permanent total incapacity.⁴ Under 25 per cent of permanent total incapacity.

TABLE VI.—Extent of disability, by location of injury

Location of injury	All women	Fatal cases	Permanent disability cases							Temporary disability cases		
			All classes	Dis-memberment	Ankylosis	Impairment	Dis-figurement	Central nervous system	Other	All classes	Tempor-ary total	Tempor-ary partial
All injuries—Number.....	3,285	15	803	404	55	277	13	31	23	2,467	2,457	10
Per cent distribution of groups.....	100.0	0.5	24.4							75.1		
Head—Number.....	136	1	37				13	1	23	98	97	1
Per cent distribution of groups.....	100.0	.7	27.2							72.1		
Eye.....	59		20					1	19	39	38	1
Both eyes.....	2									2	2	
Internal ear.....	1									1	1	
External ear.....	4									4	4	
Skull.....	10									10	10	
Scalp.....	27	1	11				11			15	15	
Eyelids.....	1									1	1	
Nose.....	4									4	4	
Cheek.....	1									1	1	
Jaw.....	1									1	1	
Teeth.....	5		4						4	1	1	
Lips and chin.....	2									2	2	
Neck.....	4									4	4	
Head not otherwise classified.....	15		2				2			13	13	
Trunk—Number.....	412	13	49			19		30		350	349	1
Per cent distribution of groups.....	100.0	3.2	11.9							84.9		
Central nervous system.....	76		30					30		46	46	
Back.....	120		10			10				110	110	
Ribs.....	35									35	35	
Thorax (external).....	16									16	16	
Thorax (internal).....	9	3								6	6	
Abdomen (external).....	13					1				13	13	
Abdomen (internal).....	12	1	1							10	10	
Groin.....	2									2	2	
Genitals.....	16		6			6				10	10	
Hernia.....	11									11	11	
Trunk not otherwise classified.....	102	9	2			2				91	90	1

Upper extremities—Number	2, 243	1	675	403	55	217		1, 567	1, 562	5
Per cent distribution of groups	100.0	(1)	30.1					69.9		
Scapula	2							2	2	
Clavicle	7							7	7	
Shoulder joint	47		10			10		37	37	
Upper arm	18							18	17	1
Elbow joint	33		4	2		2		29	29	
Forearm	70							70	69	1
Wrist joint	148		34	4	3	27		114	112	2
Wrist and arm	31		9		1	8		22	22	
Arm not otherwise classified	50							50	50	
Palm	216							216	215	1
Thumb	275	1	62	31	5	26		212	212	
Index finger	573		245	151	18	76		328	328	
Middle finger	280		129	92	9	28		151	151	
Ring finger	96		38	24	1	13		58	58	
Little finger	67		18	11	2	5		49	49	
Thumb and index finger	14		3	2	1			11	11	
Thumb and middle finger	5		2	2				3	3	
Thumb, index, and middle fingers	1							1	1	
Thumb, index, middle, and ring fingers	3							3	3	
Thumb, index, middle, ring, and little fingers	3		2		1	1		1	1	
Index and middle fingers	63		34	30	2	2		29	29	
Index, middle, and ring fingers	17		10	9		1		7	7	
Index, middle, ring, and little fingers	28		22	8	9	5		6	6	
Middle and ring fingers	50		29	21		8		21	21	
Middle, ring, and little fingers	16		10	7	1	2		6	6	
Ring and little fingers	14		7	4	1	2		7	7	
Fingers not otherwise classified	116		7	5	1	1		109	109	
Lower extremities—Number	494		42	1		41		452	449	3
Per cent distribution of groups	100.0		8.5					91.5		
Hip joint	27		8			8		19	18	1
Upper leg	16							16	16	
Knee joint	91		14			14		77	76	1
Lower leg	56		1			1		55	55	
Ankle joint	137		16			16		121	120	1
Leg not otherwise classified	33		1			1		32	32	
Foot	90		1			1		89	89	
Greater toe	25							25	25	
Lesser toe	12		1	1				11	11	
Two or more toes	7							7	7	

¹ Less than 0.05 per cent.

TABLE VII.—Medical aid furnished in cases of accident, by extent of disability and by State

Extent of disability	All States						New Jersey					
	Number of women	Cases having medical aid				No medical aid furnished	Number of women	Cases having medical aid				No medical aid furnished
		Number reporting amount	Amount furnished		Number not reporting amount			Number reporting amount	Amount furnished		Number not reporting amount	
Total	Average per case		Total	Average per case								
All cases.....	3,285	2,395	\$85,039	\$35.51	820	70	1,096	447	\$14,958	\$33.46	627	22
Fatal cases.....	15	9	3,961	440.11	3	3	3	1	200	200.00	-----	2
Permanent disability cases.....	803	590	39,059	66.20	205	8	332	157	7,669	48.85	171	4
Dismemberment.....	404	291	11,828	40.65	109	4	157	69	2,058	29.83	86	2
Ankylosis.....	55	37	2,914	78.76	18	-----	25	8	314	39.25	17	-----
Impairment.....	277	209	19,219	91.96	66	2	132	72	5,085	70.63	59	1
Disfigurement.....	13	6	300	50.00	7	-----	6	-----	-----	-----	6	-----
Central nervous system.....	31	29	3,219	111.00	1	1	4	4	106	26.50	-----	-----
All other.....	23	18	1,579	87.72	4	1	8	4	106	26.50	3	1
Temporary disability cases.....	2,467	1,796	42,019	23.40	612	59	761	289	7,089	24.53	456	16

TABLE VII.—Medical aid furnished in cases of accident, by extent of disability and by State—Continued

Extent of disability	Ohio						Wisconsin					
	Number of women	Cases having medical aid				No medical aid furnished	Number of women	Cases having medical aid				No medical aid furnished
		Number reporting amount	Amount furnished		Number not reporting amount			Number reporting amount	Amount furnished		Number not reporting amount	
			Total	Average per case					Total	Average per case		
All cases.....	1,545	1,388	\$47,462	\$34.19	126	31	644	560	\$22,619	\$40.39	67	17
Fatal cases.....	6	6	3,701	616.83	-----	-----	6	2	60	30.00	3	1
Permanent disability cases.....	372	345	20,867	60.48	23	4	99	88	10,523	119.58	11	-----
Dismemberment.....	200	183	6,828	37.31	15	2	47	39	2,942	75.44	8	-----
Ankylosis.....	26	25	2,392	95.68	1	-----	4	4	208	52.00	-----	-----
Impairment.....	107	101	8,408	83.25	5	1	38	36	5,726	159.06	2	-----
Disfigurement.....	3	3	74	24.67	-----	-----	4	3	226	75.33	1	-----
Central nervous system.....	26	24	2,131	88.79	1	1	1	1	982	982.00	-----	-----
All other.....	10	9	1,034	114.89	1	-----	5	5	439	87.80	-----	-----
Temporary disability cases.....	1,167	1,037	22,894	22.08	103	27	539	470	12,036	25.61	53	16

TABLE VIII.—Extent of disability in cases in which X ray may assist diagnosis, by nature and location of injury (Ohio)

Nature and location of injury	Number of women having injuries in which X ray may assist diagnosis	Cases having an X-ray examination of injury																			
		All cases	Fatal cases			Permanent disability cases												Temporary disability cases			
			Total	X ray only at time of injury	X ray only after treatment	All classes	X ray only at time of injury				X ray only after treatment			X ray before and after treatment			All classes	X ray only at time of injury	X ray only after treatment	X ray before and after treatment	
							Dis-mem-ber-ment	Im-pair-ment	Anky-losis	Other	Dis-mem-ber-ment	Im-pair-ment	Other	Dis-mem-ber-ment	Im-pair-ment	Other					
All cases.....	847	146	2	1	1	43	4	4	1	3	4	17	2	6	2	101	83	11	7		
Bruise, contusion, crush, crush and burn.....	447	33				12	2			1	3	5		1		21	18	3			
Concussion (other than dismemberment and loss of use).....	51	12				5				1			2		2	7	3	3	1		
Dislocation.....	25	7				1					1					6	6				
Shoulder.....	5	1														1	1				
Elbow.....	1																				
Wrist.....	3	1														1	1				
Hip.....	2																				
Ankle.....	3																				
Other.....	11	5				1					1					4	4				
Fracture.....	138	63	1		1	18	2	3	1		1	7		4		44	37	3	4		
Humerus.....	3	1														1	1				
Ulna, radius, or both.....	31	23				6		1	1			3		1		17	14		3		
Hand.....	8	4														4	4				
Finger, fingers, or thumb.....	34	9				6	2	1			1	1		1		3	3				
Tibia, fibula, or both.....	3	3														3	2	1			
Other.....	59	23	1		1	6		1			3			2		16	13	2	1		
Sprain, strain.....	186	31	1	1		7		1		1		4		1		23	19	2	2		
Back.....	33	2				1						1				1	1				
Shoulder.....	19	3				1								1		2	2				
Elbow.....	6	2														2	2				
Wrist.....	31	6														6	4	1	1		
Hip.....	7	2														2	1	1			
Knee.....	16	6				3		1				2				3	2		1		
Ankle.....	46	6														6	6				
Other.....	28	4	1	1		2				1		1				1	1				

TABLE IX.—Rate of compensation per week in relation to wage on which compensation was based, by extent of disability

Extent of disability	All women	Full wage during entire disability period	Full wage during part of disability period	Rate in excess of legal requirement but less than full wage	Rate set by law	Inapplicable ¹
All injuries.....	3,260	33	10	48	3,169	25
Fatal cases.....	9				9	6
Permanent disability cases.....	789	4	5	5	775	14
Dismemberment.....	399	1		3	395	5
Ankylosis.....	54				54	1
Impairment.....	274	2	3	1	268	3
Disfigurement.....	13				13	
Central nervous system.....	27	1			26	4
Other.....	22		2	1	19	1
Temporary disability cases.....	2,462	29	5	43	2,385	5

¹ Lump-sum cases, 16; fatal cases with no dependents, 5; death instantaneous, compensation rate not reported, 4.

TABLE X.—Ratio of compensation to wage loss, by degree of disability and by State

A. NEW JERSEY

Degree of disability ¹	Number of women	Estimated weeks lost			Weekly wage (arithmetical average)	Estimated amount of earnings lost (5×2)	Amount of compensation paid	Ratio of compensation to wage loss (7÷6)	Average compensation paid per case (7÷1)
		Total	Extent of disability in terms of estimated weeks lost	Healing period					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
All cases.....	² 1,083	39,410½	32,997½	6,413	\$14.93	\$588,396.27	\$130,824	³ 22.23	³ \$120.80
Fatal cases.....	3	3,021	3,000	21	13.33	40,269.93	648	1.61	216.00
Permanent disability cases.....	321	32,984½	29,997½	2,987	14.74	486,189.07	102,784	21.14	320.20
Under 33¼ per cent.....	311	27,910	25,164	2,746	14.69	409,997.90	84,787	20.68	272.63
33¼ and under 50 per cent.....	4	1,574½	1,483½	91	16.00	25,189.33	5,859	23.26	1,464.75
50 and under 66⅔ per cent.....	5	2,700	2,600	100	16.70	45,090.00	8,650	19.18	1,730.00
66⅔ and under 100 per cent.....	1	800	750	50	15.00	12,000.00	3,488	29.07	3,488.00
Temporary disability cases.....	759	3,405	-----	3,405	15.01	51,381.45	27,392	53.31	36.09
Under 2 weeks.....	86	86	-----	86	14.64	1,259.04	311	24.70	3.62
2 and under 3 weeks.....	206	412	-----	412	15.34	6,320.08	2,350	37.18	11.41
3 and under 4 weeks.....	131	393	-----	393	14.72	5,784.96	2,811	48.59	21.46
4 weeks and over.....	336	2,514	-----	2,514	15.01	37,735.14	21,920	58.09	65.24

B. OHIO

All cases.....	⁴ 1,503	47,582	39,260	8,322	\$14.74	\$701,358.68	\$128,086	³ 18.26	³ \$85.22
Fatal cases.....	6	6,339	6,000	339	15.08	95,592.12	12,759	13.35	2,126.50
Permanent disability cases.....	331	37,178	33,260	3,918	14.43	536,478.54	80,466	⁵ 15.00	243.10
Under 33¼ per cent.....	322	32,344	28,960	3,384	14.43	466,723.92	70,307	15.06	218.34
33¼ and under 50 per cent.....	3	1,353	1,175	178	19.83	26,829.99	3,784	14.10	1,261.33
50 and under 66⅔ per cent.....	6	3,481	3,125	356	12.00	41,772.00	6,375	15.26	1,062.50
Temporary disability cases.....	1,166	4,065	-----	4,065	14.82	60,243.30	34,861	57.87	29.90
Under 2 weeks.....	299	299	-----	299	14.85	4,440.15	1,752	39.46	5.86
2 and under 3 weeks.....	330	660	-----	660	14.83	9,787.80	4,858	49.63	14.72
3 and under 4 weeks.....	219	657	-----	657	14.89	9,782.73	5,341	54.60	24.39
4 weeks and over.....	318	2,449	-----	2,449	14.75	36,122.75	22,910	63.42	72.04

C. WISCONSIN

All cases.....	639	17,682	14,875	2,807	\$14.65	\$259,041.30	\$56,937	7 21.98	7 \$89.10
Fatal cases.....	6	6,000	6,000		19.08	114,480.00	7,717	6.74	1,286.17
Permanent disability cases.....	94	9,805	8,875	930	15.87	155,605.35	31,201	20.05	331.93
Under 33 $\frac{1}{2}$ per cent.....	92	8,766	7,900	866	15.86	139,028.76	24,616	17.71	267.57
33 $\frac{1}{2}$ and under 50 per cent.....	1	407	375	32	12.00	4,884.00	1,888	38.66	1,888.00
50 and under 66 $\frac{2}{3}$ per cent.....	1	632	600	32	21.00	13,272.00	4,697	35.39	4,697.00
Temporary disability cases.....	539	1,877		1,877	14.38	26,991.26	18,019	66.76	33.43
Under 2 weeks.....	162	162		162	14.15	2,292.30	919	40.09	5.67
2 and under 3 weeks.....	142	284		284	14.31	4,064.04	2,031	49.97	14.30
3 and under 4 weeks.....	86	258		258	14.85	3,831.30	2,137	55.78	24.85
4 weeks and over.....	149	1,173		1,173	14.44	16,938.12	12,932	76.35	86.79

¹ In terms of per cent of permanent total incapacity in permanent disability cases and of time lost in temporary disability cases.

² Excludes 13 cases not reporting complete data.

³ The provision for a maximum weekly compensation rate obviously operates to reduce the ratio of compensation to wage loss below the two-thirds of weekly wage otherwise prescribed.

⁴ Excludes 42 cases not reporting complete data.

⁵ Legal rather than administrative provisions account for the lower ratio in Ohio. See p. 76.

⁶ Excludes 5 cases not reporting complete data.

⁷ The provision for a maximum weekly compensation rate obviously operates to reduce the ratio of compensation to wage loss below the two-thirds of weekly wage otherwise prescribed. The penalty clause in the Wisconsin law which increases the award if an accident occurs because an employer has violated a safety order operates to raise the per cent in column 8 and the average compensation in column 9.

TABLE XI.—*Nature of injury and extent of disability in cases complicated by infection, as compared to all cases*

Nature of injury	All women	Extent of disability in cases complicated by infection							
		Total of cases	Fatal cases	Permanent disability cases					Temporary disability cases
				All classes	Dis-mem-ber-ment	Anky-losis	Impair-ment	Other	
All cases.....	1 3, 263	676	3	148	67	21	55	5	525
Bruise, contusion.....	455	61	-----	9	1	-----	6	2	52
Burn, scald.....	125	21	-----	1	-----	1	-----	-----	20
Crush and burn.....	27	7	-----	6	4	1	1	-----	1
Crush.....	442	62	-----	26	18	3	5	-----	36
Concussion (other than dis-mem-berment and loss of use).....	72	2	-----	-----	-----	-----	-----	-----	2
Cut, laceration.....	834	249	1	41	9	8	22	2	207
Puncture.....	241	152	1	22	5	7	10	-----	129
Amputation.....	250	22	-----	22	22	-----	-----	-----	-----
Fracture.....	292	20	-----	12	7	1	4	-----	8
Sprain, strain.....	381	11	-----	2	-----	-----	2	-----	9
Occupational disease.....	93	68	-----	7	1	-----	5	1	61
Other.....	51	1	1	-----	-----	-----	-----	-----	-----

¹ Excludes 22 cases not reporting nature of injury.

TABLE XII.—*Nature of injury, by cause of accident*

Cause of accident	All cases		Cases in which nature of injury was—							
			Bruise, contusion		Burn, scald		Crush and burn		Crush	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes	3,253	100.0	452	100.0	125	100.0	27	100.0	441	100.0
Hand tools	114	3.5	12	2.7	1	.8			5	1.1
In hands of injured worker	104		8		1				5	
In hands of fellow worker	10		4							
Handling of objects	489	15.0	60	13.3	1	.8	1	3.7	48	10.9
Heavy objects	199		37		1		1		43	
Sharp or rough objects	260		7						1	
Hand trucks, wheelbarrows	30		16						4	
Falling objects	66	2.0	25	5.5					9	2.0
From elevations	54		17						9	
Other	12		8							
Stepping on or striking against objects	136	4.2	48	10.6					1	.2
Stepping on objects	22									
Striking against objects	114		48						1	
Falls of persons	677	20.8	170	37.6	1	.8			2	.5
From elevations	288		84							
On level	364		80						2	
Into excavations	25		6		1					
Explosions, electricity, and hot substances	117	3.6			107	85.6				
Explosions	26				20					
Electricity	4				1					
Hot substances	87				86					
Vehicles	37	1.1	17	3.8						
Steam and electric railways	14		7							
Auto and other power	19		8							
Other	4		2							
Poisonous and corrosive substances and occupational diseases	93	2.9								
Machinery	1,510	46.4	119	26.3	15	12.0	26	96.3	376	85.3
Elevators	25		7						5	
Power-transmission apparatus	78		5		3		1		19	
Power-working machines	1,377	42.3	102	22.6	10	8.0	25	92.6	345	78.2
Chemical products	5								1	
Clay and glass	32		1						11	
Food products	96		9				2		17	
Laundry	58		6		9		21		10	
Leather-working	63		3						12	
Metal-working	608		31		1				175	
Paper	109		8				1		40	
Printing and bookbinding	63		3				1		25	
Rubber, celluloid, and composition	35		3						11	
Textile	247		29						36	
Woodworking	59		9						7	
Miscellaneous	2									
Machines other than power-working	3									
Conveyors	25		5		2				7	
Prime movers	2									
Miscellaneous causes	14	.4	1	.2						

¹ Excludes 32 cases not reporting complete data.

TABLE XII.—*Nature of injury, by cause of accident—Continued*

Cause of accident	Cases in which nature of injury was—									
	Concussion (other than dismember- ment and loss of use)		Cut, lacera- tion		Puncture		Amputa- tion		Dislocation	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
All causes	72	100.0	832	100.0	241	100.0	249	100.0	47	100.0
Hand tools	1	1.4	62	7.5	21	8.7	6	2.4		
In hands of injured worker			57		21		6			
In hands of fellow worker	1		5							
Handling of objects	4	5.6	175	21.0	91	37.8	5	2.0	6	12.8
Heavy objects	3		12		1		2		5	
Sharp or rough objects			159		90		3			
Hand trucks, wheelbarrows	1		4						1	
Falling objects	11	15.3	9	1.1	1	.4				
From elevations	11		9		1					
Other										
Stepping on or striking against objects	2	2.8	43	5.2	34	14.1				
Stepping on objects					22					
Striking against objects	2		43		12					
Falls of persons	33	45.8	26	3.1	2	.8			30	63.8
From elevations	19		10		2				12	
On level	12		13						17	
Into excavations	2		3						1	
Explosions, electricity, and hot sub- stances	3	4.2	4	.5	1	.4				
Explosions	2		2							
Electricity	1		2							
Hot substances					1					
Vehicles	1	1.4	3	.4					3	6.4
Steam and electric railways	1		3							
Auto and other power									1	
Other									2	
Poisonous and corrosive substances and occupational diseases										
Machinery	16	22.2	504	60.6	91	37.8	238	95.6	8	17.0
Elevators	6		2							
Power-transmission apparatus	1		32				4		1	
Power-working machines	7	9.7	466	56.0	89	36.9	230	92.4	7	14.9
Chemical products			2				2			
Clay and glass			12		1		7			
Food products			44		1		19			
Laundry			7		1		1		1	
Leather-working			29		3		14			
Metal-working	3		196		20		140		2	
Paper			33		3		18			
Printing and bookbinding			16		6		1		1	
Rubber, celluloid, and com- position			16				3			
Textile	4		87		51		15		3	
Woodworking			22		3		10			
Miscellaneous			2							
Machines other than power-work- ing			1							
Conveyors	2		3		2		4			
Prime movers										
Miscellaneous causes	1	1.4	6	.7						

TABLE XII.—*Nature of injury, by cause of accident—Continued*

Cause of accident	Cases in which nature of injury was—							
	Fracture		Sprain, strain		Occupational disease		Other	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes.....	291	100.0	379	100.0	93	100.0	4	100.0
Hand tools.....	1	.3	5	1.3				
In hands of injured worker.....	1		5					
In hands of fellow worker.....								
Handling of objects.....	15	5.2	83	21.9				
Heavy objects.....	14		80					
Sharp or rough objects.....								
Hand trucks, wheelbarrows.....	1		3					
Falling objects.....	6	2.1	5	1.3				
From elevations.....	4		3					
Other.....	2		2					
Stepping on or striking against objects.....	7	2.4	1	.3				
Stepping on objects.....								
Striking against objects.....	7		1					
Falls of persons.....	179	61.5	234	61.7				
From elevations.....	64		95					
On level.....	111		131					
Into excavations.....	4		8					
Explosions, electricity, and hot substances.....	1	.3	1	.3				
Explosions.....	1		1					
Electricity.....								
Hot substances.....								
Vehicles.....	5	1.7	8	2.1				
Steam and electric railways.....	1		2					
Auto and other power.....	4		6					
Other.....								
Poisonous and corrosive substances and occupational diseases.....					93	100.0		
Machinery.....	75	25.8	40	10.6			2	50.0
Elevators.....	2		3					
Power-transmission apparatus.....	4		8					
Power-working machines.....	67	23.0	27	7.1			2	50.0
Chemical products.....								
Clay and glass.....								
Food products.....	4							
Laundry.....			2					
Leather-working.....	1		1					
Metal-working.....	30		8				2	
Paper.....	4		2					
Printing and bookbinding.....	8		2					
Rubber, celluloid, and composition.....	1		1					
Textile.....	13		9					
Woodworking.....	6		2					
Miscellaneous.....								
Machines other than power-working.....	2							
Conveyors.....								
Prime movers.....			2					
Miscellaneous causes.....	2	.7	2	.5			2	50.0

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State

A. NEW JERSEY

Industry and occupation	Number of women employed ¹	Women injured		Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases				
		Number	Rate per 1,000 employed		All classes	Dis-mem-berment	Anky-losis	Im-pair-ment	Dis-figure-ment	Central nervous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost	Time lost not reported
All industries ²	259,337	3,103	4.21	3	331	157	25	131	6	4	8	759	86	206	465	2
Manufacturing.....	91,668	830	9.05	1	293	154	23	104	6		6	536	69	162	304	1
Automobiles.....	255	5	19.61		1			1				4		3	1	
Laborers.....	24															
Semiskilled.....	231	5	21.65		1			1				4				
Buttons (composition).....	617	18	29.17		6	2	1	3				12		4	8	
Laborers.....	16															
Semiskilled.....	601	18	29.95		6	2	1	3				12				
Chemicals and allied products.....	2,223	42	18.89		23	16		6			1	19	2	6	11	
General—laborers.....	279	2	7.17		1			1				1				
Semiskilled.....	1,755	36	20.51		20	15		5				16				
Petroleum—laborers.....	47															
Semiskilled.....	142	4	28.17		2	1					1	2				
Clay, glass, and stone products.....	1,925	16	8.31		2			1	1			14	4	5	5	
Laborers.....	384															
Semiskilled.....	1,541	16	10.38		2			1	1			14				
Clothing (including dressmaking).....	16,190	82	5.06		11	3	3	5				71	11	17	43	
General—laborers.....	401															
Semiskilled.....	13,891	80	5.76		11	3	3	5				69				
Dressmaking.....	1,898	2	1.05									2				
Electrical supplies.....	4,631	62	13.39		27	17		7	1		2	35	4	12	19	
Laborers.....	242	2	8.26									2				
Semiskilled.....	4,389	60	13.67		27	17		7	1		2	33				

Food and kindred products.....	8,353	85	10.18	24	8	6	8	1	1	61	12	13	36
Food products—laborers.....	196	3	15.31							3			
Semiskilled.....	2,101	44	20.94	12	5	3	2	1	1	32			
Tobacco and cigars—laborers.....	190	1	5.26							1			
Semiskilled.....	5,841	37	6.33	12	3	3	6			25			
Liquors and beverages—laborers.....	4												
Semiskilled.....	21												
Iron and steel.....	3,567	68	19.06	36	17	3	15	1		32	3	12	17
Laborers.....	309	3	9.71	2	2					1			
Semiskilled.....	3,258	65	19.95	34	15	3	15	1		31			
Laundry work, cleaning, and dyeing.....	1,606	19	11.83	9	4	2	3			10	3	1	6
Leather products.....	1,903	13	6.83	6	4		2			7			7
Harness and saddlery—semi-skilled.....	10												
Shoes—laborers.....	41												
Semiskilled.....	941	1	1.06							1			
Tanning—laborers.....	29												
Semiskilled.....	264	10	37.88	4	4					6			
Belts, cases, etc.—laborers.....	18												
Semiskilled.....	600	2	3.33	2			2						
Metal goods.....	2,031	69	33.97	30	18	2	8	1	1	39	4	12	23
Laborers.....	115												
Semiskilled.....	1,916	69	36.01	30	18	2	8	1	1	39			
Paper boxes.....	794	20	25.19	11	8	1	2			9	1	4	4
Laborers.....	15												
Semiskilled.....	779	20	25.67	11	8	1	2			9			
Paper and pulp.....	350	5	14.29	1	2	1	1			2		2	
Laborers.....	37												
Semiskilled.....	313	5	15.97	1	2	1	1			2			
Printing and publishing.....	1,018	7	6.88	2		1	1			5		1	4
Laborers.....	51												
Semiskilled.....	967	7	7.24	2		1	1			5			

¹ U. S. Census of Occupations, 1920, and Carl Hookstadt's "Reclassification of the United States 1920 Occupation Census, by industry," Monthly Labor Review, July, 1923.

² Total for industries for which compensated accidents were reported.

³ Excludes 3 cases for which industry was not reported.

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State—Continued

A. NEW JERSEY—Continued

Industry and occupation	Number of women employed	Women injured		Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases						
		Number	Rate per 1,000 employed		All classes	Dis-mem-berment	Anky-losis	Im-pair-ment	Dis-figure-ment	Central nervous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost	Time lost not reported		
Manufacturing—Continued.																		
Rubber.....	1,750	18	10.29		3	1		2						15	1	6	8	
Laborers.....	224																	
Semiskilled.....	1,526	18	11.80		3	1		2						15				
Straw—semiskilled.....	165	1	6.06											1				
Textiles.....	37,906	183	4.83		34	14	2	17	1					149	17	46	86	
Laborers.....	1,857	9	4.85											9				
Semiskilled.....	36,049	174	4.83		34	14	2	17	1					140				
Wood products.....	745	6	8.05		1	1								5	1	2	2	
Lumber and furniture—laborers.....	20																	
Semiskilled.....	443	3	6.77											3				
Brooms and brushes—laborers.....	22																	
Semiskilled.....	178	2	11.24		1	1								1				
Trunks—laborers.....	15																	
Semiskilled.....	67	1	14.93											1				
Miscellaneous.....	5,639	111	19.68		65	40	2	22						46	6	15	24	1
Laborers.....	387	2	5.17		2	1		1										
Semiskilled.....	5,252	109	20.75		63	39	2	21						46				
Clerical, professional, etc.....	146,475	204	1.39	2	31	3		22			2	2		171	15	30	125	1
Office employees.....	63,800	31	.49		6									25				
Agents, canvassers, collectors.....	368	2	5.43					4			1	1		2				

Care and custody of buildings.....	2,154	23	10.68	1	3	1		2			19			
Charwomen.....	810	12	14.81		3	1		2			9			
Elevator tenders.....	136	3	22.06								3			
Janitors.....	1,208	8	6.62	1							7			
Professional service.....	28,206	9	.32		2		1	1			7			
Domestic and personal service.....	51,947	139	+2.68	1	20	2	1	15		1	118			
Transportation.....	5,549	19	3.42		1					1	18		8	10
Street railway conductors and laborers.....	97	13	134.04		1					1	12			
Telephone operators.....	5,452	6	1.10								6			
Agriculture—garden, greenhouse, orchard, and nursery laborers.....	377	3	7.96		1			1			2			2
Trade.....	15,268	37	2.42		5			4		1	32	2	6	24
Stock clerks.....	4,455	4	.90								4			
Laborers.....	280	1	3.57								1			
Salespersons.....	10,069	32	3.18		5			4		1	27			
Other.....	464													

* Exclusive of house servants, not covered by the law in the other States studied, the rate is 1.32.

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State—Continued

B. OHIO

Industry and occupation	Number of women employed ¹		Rate per 1,000 employed	Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases			
	Number	Women injured			All classes	Dis-mem-ber-ment	Anky-losis	Impair-ment	Dis-fig-ure-ment	Central nervous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost
All industries ²	348,057	1,535	4.41	6	372	200	26	107	3	26	10	1,157	297	327	533
Manufacturing.....	77,082	1,220	15.83	3	314	190	22	76	3	16	7	903	242	254	407
Agricultural implements.....	24	2	83.33									2			
Laborers.....	7														
Semiskilled.....	17	2	117.65									2			2
Automobiles.....	2,367	66	27.88		18	12	2	4				48	12	17	19
Laborers.....	274	1	3.65												
Semiskilled.....	2,093	65	31.06		18	12	2	4				1			
Chemicals and allied products.....	1,684	39	23.16		14	8		3		3		25	6	6	13
General—laborers.....	320	3	9.38		2			2				1			
Semiskilled.....	1,347	36	26.73		12	8		1		3		24			
Petroleum—laborers.....	6														
Semiskilled.....	11														
Clay, glass, and stone products.....	5,200	81	15.58		22	10	1	9		1	1	59	14	19	26
Laborers.....	1,063														
Semiskilled.....	4,137	81	19.58		22	10	1	9		1	1	59			
Clothing (including dressmaking).....	15,206	80	5.26		14	4	2	4		3	1	66	20	23	23
General—laborers.....	390	2	5.13									2			
Semiskilled.....	11,545	70	6.06		13	4	2	4		2	1	57			
Dressmaking.....	3,271	8	2.45		1					1		7			

Electrical supplies.....	3,375	69	20.44		15	9	2	2		1	1	54	18	6	39
Laborers.....	318	1	3.14									1			
Semiskilled.....	3,057	68	22.24		15	9	2	2		1	1	53			
Food and kindred products.....	12,823	139	10.84	1	34	15	2	14		3		104	28	23	53
Food products—laborers.....	503	7	13.92		1	1						6			
Semiskilled.....	3,728	103	27.63		27	12	1	11		3		76			
Tobacco and cigars—laborers.....	748														
Semiskilled.....	7,779	26	3.34	1	5	2	1	2				20			
Liquors and beverages—laborers.....	19														
Semiskilled.....	46	3	65.22		1			1				2			
Iron and steel.....	5,488	173	31.52		55	42	4	6	1		2	118	32	31	55
Laborers.....	1,161	2	1.72		1			1				1			
Semiskilled.....	4,327	171	39.52		54	42	4	5	1		2	117			
Laundry work, cleaning, and dyeing.....	3,944	47	11.92	1	12	2	3	3		3	1	34	7	5	22
Leather products.....	5,091	44	8.64		9	5	1	3				35	11	10	14
Harness and saddlery—laborers.....	93														
Semiskilled.....	87	5	57.47		2	1		1				3			
Shoes—laborers.....	223	1	4.48									1			
Semiskilled.....	4,499	35	7.78		7	4	1	2				28			
Tanning—laborers.....	6														
Semiskilled.....	46														
Belts, cases, etc.—laborers.....	13														
Semiskilled.....	124	3	24.19									3			
Metal goods.....	2,333	126	54.01		42	35	1	6				84	16	29	39
Laborers.....	429														
Semiskilled.....	1,904	126	66.18		42	35	1	6				84			
Paper boxes.....	512	40	78.13		9	7		2				31	7	7	17
Laborers.....	39														
Semiskilled.....	473	40	84.57		9	7		2				31			
Paper and pulp.....	1,196	18	15.05		4	1		3				14	4	5	5
Laborers.....	178														
Semiskilled.....	1,018	18	17.68		4	1		3				14			

1 U. S. Census of Occupations, 1920, and Carl Hookstadt's "Reclassification of the United States 1920 Occupation Census, by industry," Monthly Labor Review, July, 1923.
 2 Total for industries for which compensated accidents were reported.
 3 In addition, 10 matrons or janitors in the telephone industry suffered injuries averaging 30 days' disability, rate per 1,000 employed not ascertainable.

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State—Continued

B. OHIO—Continued

Industry and occupation	Number of women employed	Women injured		Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases			
		Number	Rate per 1,000 employed		All classes	Dis-mem-ber-ment	Anky-losis	Im-pair-ment	Dis-fig-ure-ment	Central nervous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost
Manufacturing—Continued.															
Printing and publishing.....	3,188	70	21.96		19	7	1	8	2	1		51	10	20	21
Laborers.....	261	2	7.66									2			
Semiskilled.....	2,927	68	23.23		19	7	1	8	2	1		49			
Rubber.....	5,156	62	12.02		9	8	1					53	24	15	14
Laborers.....	1,745	3	1.72									3			
Semiskilled.....	3,411	59	17.30		9	8	1					50			
Textiles.....	5,538	90	16.25		15	8	1	5		1		75	20	25	30
Laborers.....	402	1	2.49									1			
Semiskilled.....	5,136	89	17.33		15	8	1	5		1		74			
Wagons and carriages.....	157	2	12.74		1	1						1			1
Laborers.....	26														
Semiskilled.....	131	2	15.27		1	1						1			
Wood products.....	1,678	16	9.54		5	3		1			1	11	4	2	5
Lumber and furniture—laborers.....	285														
Semiskilled.....	1,161	14	12.06		5	3		1			1	9			
Brooms and brushes—laborers.....	28														
Semiskilled.....	149	2	13.42									2			
Trunks—laborers.....	8														
Semiskilled.....	47														

Miscellaneous.....	2,122	56	26.39	1	17	13	1	3				38	9	11	18
Laborers.....	275														
Semiskilled.....	1,847	56	30.32	1	17	13	1	3				38			
Clerical, professional, etc.....	222,299	182	.82	2	34	8	1	18		5	2	146	31	44	71
Office employees.....	85,937	39	.45		6	1		3		1	1	33			
Agents, canvassers, collectors.....	1,160	2	1.72									2			
Care and custody of buildings.....	3,647	23	6.31	1	7			5		1	1	15			
Charwomen.....	1,577	16	10.15	1	3			3				12			
Elevator tenders, operators.....	502	6	11.95	1	4			2		1	1	2			
Janitors.....	1,568	1	.64									1			
Professional service.....	51,454	12	.23									12			
Domestic and personal service.....	80,101	106	1.32	1	21	7	1	10		3		84			
Transportation.....	11,654	33	3.69		2			2				31	7	10	14
Street railway conductors and laborers.....	41	5	121.95									5			
Telephone operators.....	11,613	28	2.41		2			2				26			
Public utilities—gas works.....	10	1	100.0									1			1
Trade.....	37,012	99	2.67	1	22	2	3	11		5	1	76	17	19	40
Stock clerks.....	11,816	10	.85		4	1		1		1	1	6			
Laborers.....	479														
Salespersons.....	24,058	79	3.28	1	16	1	3	9		3		62			
Other.....	659	10	15.17		2			1		1		8			

* In addition, 10 matrons or janitors in the telephone industry suffered injuries averaging 30 days' disability, rate per 1,000 employed not ascertainable.

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State—Continued

C. WISCONSIN

Industry and occupation	Number of women employed ¹		Rate per 1,000 employed	Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases			
	Number	Women injured			All classes	Dis-mem-ber-ment	Anky-losis	Impair-ment	Dis-figure-ment	Central nervous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost
All industries ²	152,454	644	4.22	6	99	47	4	38	4	1	5	539	162	142	235
Manufacturing.....	34,749	490	14.10	5	85	43	3	30	3	1	5	400	130	111	159
Agricultural implements.....	102	3	29.41		1			1				2	1		1
Laborers.....	16							1							
Semiskilled.....	86	3	34.88		1							2			
Automobiles.....	591	11	18.61		2			1			1	9	4	3	2
Laborers.....	125														
Semiskilled.....	466	11	23.61		2			1			1	9			
Chemicals and allied products.....	359	5	13.93									5	4		1
General—laborers.....	64	1	15.63									1			
Semiskilled.....	294	4	13.61									4			
Petroleum—semiskilled.....	1														
Clothing (including dressmaking).....	6,750	27	4.00		4			2		1	1	23	12	5	6
General—laborers.....	266														
Semiskilled.....	4,961	27	5.44		4			2		1	1	23			
Dressmaking.....	1,523														
Electrical supplies.....	989	29	29.32		9	4		4			1	20	5	5	10
Laborers.....	128														
Semiskilled.....	861	29	33.68		9	4		4			1	20			

Food and kindred products.....	4,918	75	15.25	8	5	1	2			67	18	20	29
Food products—laborers.....	792												
Semiskilled.....	2,649	69	26.05	6		1	1			63			
Tobacco and cigars—laborers.....	327												
Semiskilled.....	1,084	3	2.77	1			1			2			
Liquors and beverages—laborers.....	13	1	76.92							1			
Semiskilled.....	53	2	37.74	1	1					1			
Iron and steel.....	1,208	39	32.28	11	6		3	2		28	10	7	11
Laborers.....	315	2	6.35							2			
Semiskilled.....	893	37	41.43	11	6		3	2		26			
Laundry work, cleaning, and dyeing.....	1,274	21	16.48	4			3		1	17	2	6	9
Leather products.....	3,613	51	14.12	10	8	1	1			41	12	10	19
Harness and saddlery—laborers.....	3												
Semiskilled.....	28	2	71.43							2			
Shoes—laborers.....	411												
Semiskilled.....	2,628	33	12.56	9	8		1			24			
Tanning—laborers.....	114												
Semiskilled.....	253	13	51.38	1		1				12			
Belts, cases, etc.—laborers.....	35												
Semiskilled.....	141	3	21.28							3			
Metal goods.....	931	19	20.41	5	5	4		1		9	4	3	2
Laborers.....	277												
Semiskilled.....	654	19	29.05	5	5	4		1		9			
Paper boxes.....	487	33	67.76	4	2		2			29	8	11	10
Laborers.....	61												
Semiskilled.....	426	33	77.46	4	2		2			29			
Paper and pulp.....	1,204	18	14.95	3	1		1		1	15	5	8	2
Laborers.....	320												
Semiskilled.....	884	18	20.36	3	1		1		1	15			
Printing and publishing.....	1,151	25	21.72	5	2		2	1		20	4	4	12
Laborers.....	184	1	5.43							1			
Semiskilled.....	967	24	24.82	5	2		2	1		19			

¹ U. S. Census of Occupations, 1920, and Carl Hookstadt's "Reclassification of the United States 1920 Occupation Census, by industry," Monthly Labor Review, July, 1923.

² Total for industries for which compensated accidents were reported.

TABLE XIII.—Frequency of accidents and extent of disability, by industry and occupation and by State—Continued

C. WISCONSIN—Continued

Industry and occupation	Number of women employed	Women injured		Number of fatal cases	Number of permanent disability cases							Number of temporary disability cases			
		Number	Rate per 1,000 employed		All classes	Dis-mem-ber-ment	Anky-losis	Impair-ment	Dis-fig-ure-ment	Central nerv-ous system	Other	All classes	Under 2 weeks lost	2 and under 3 weeks lost	3 weeks and over lost
Manufacturing—Continued.															
Rubber.....	782	11	14.07									11	1	7	3
Laborers.....	195											11			
Semiskilled.....	587	11	18.74									3		1	2
Straw.....	117	3	25.64									3			
Laborers.....	2											3			
Semiskilled.....	115	3	26.09									3			
Textiles.....	6,996	50	7.15		7	2		5				43	15	9	19
Laborers.....	635	1	1.57									1			
Semiskilled.....	6,361	49	7.70		7	2		5				42			
Wood products.....	2,174	61	28.06		11	9	1	1				50	22	12	16
Lumber and furniture—laborers.....	823														
Semiskilled.....	1,140	55	48.25		11	9	1	1				44			
Brooms and brushes—laborers.....	6														
Semiskilled.....	34														
Trunks—laborers.....	43														
Semiskilled.....	128	6	46.88									6			
Miscellaneous.....	1,103	9	8.16		1			1				8	3		5
Laborers.....	296														
Semiskilled.....	807	9	11.15		1			1				8			

Clerical, professional, etc.....	98,581	109	1.11	1	10	4		5	1		98	19	23	56
Office employees.....	29,441	20	.68		4			3	1		16			
Agents, canvassers, collectors.....	298	1	3.36								1			
Care and custody of buildings.....	1,336	9	6.74	1							8			
Charwomen.....	913	9	9.86	1							8			
Elevator tenders.....	104													
Janitors.....	319													
Professional service.....	28,538	13	.46		1			1			12			
Domestic and personal service.....	38,968	66	1.69		5	4		1			61			
Transportation.....	4,344	15	3.45								15	9	1	5
Street railway conductors and laborers.....	18	4	222.22								4			
Telephone operators.....	4,326	11	2.54								11			
Agriculture—garden, greenhouse, orchard, and nursery laborers.....	159	1	6.29								1		1	
Trade.....	14,621	29	1.98		4		1	3			25	4	6	15
Stock clerks.....	4,876	2	.41								2			
Laborers.....	217													
Salespersons.....	9,202	26	2.83		4		1	3			22			
Other.....	326	1	3.07								1			

TABLE XIV.—*Estimated severity of disability in terms of total days lost, by industry and by State (cases of permanent disability)*

A. NEW JERSEY

Industry	Number of women employed ¹	Estimated days lost ²	Estimated days lost due to—		
			Death	Permanent disability	Rate (per 1,000 hours' exposure) ³
All industries ⁴	253, 720	197, 534	18, 000	179, 534	0. 26
Manufacturing	91, 503	155, 438	6, 000	149, 438	. 57
Automobiles	255	300	-----	300	. 39
Buttons (composition)	617	2, 250	-----	2, 250	1. 22
Chemicals and allied products	2, 223	11, 502	-----	11, 502	1. 72
Clay, glass, and stone products	1, 925	180	-----	180	. 03
Clothing (including dressmaking)	16, 190	5, 100	-----	5, 100	. 11
Electrical supplies	4, 631	14, 520	-----	14, 520	1. 05
Food and kindred products	8, 353	12, 450	-----	12, 450	. 50
Iron and steel	3, 567	13, 200	-----	13, 200	1. 23
Laundry work, cleaning, and dyeing	1, 606	13, 578	-----	13, 578	2. 82
Leather products	1, 903	4, 050	-----	4, 050	. 71
Metal goods	2, 031	9, 960	-----	9, 960	1. 63
Paper boxes	794	6, 600	-----	6, 600	2. 77
Paper and pulp	350	7, 500	6, 000	1, 500	7. 14
Printing and publishing	1, 018	420	-----	420	. 14
Rubber	1, 750	1, 278	-----	1, 278	. 24
Textiles	37, 906	17, 150	-----	17, 150	. 15
Wood products	745	300	-----	300	. 13
Miscellaneous	5, 639	35, 120	-----	35, 120	2. 08
Clerical, professional, etc	146, 475	36, 006	12, 000	24, 006	. 08
Transportation—street railway conductors and laborers	97	1, 950	-----	1, 950	6. 70
Agriculture—garden, greenhouse, orchard, and nursery laborers	377	960	-----	960	. 85
Trade	15, 268	3, 180	-----	3, 180	. 07

(Footnotes on p. 310)

TABLE XIV.—Estimated severity of disability in terms of total days lost, by industry and by State (cases of permanent disability)—Continued

B. OHIO

Industry	Number of women employed ¹	Estimated days lost ²	Estimated days lost due to—		
			Death	Permanent disability	Rate (per 1,000 hours' exposure) ³
All industries ⁴	347,982	235,560	36,000	199,560	0.23
Manufacturing.....	77,058	179,274	18,000	161,274	.78
Automobiles.....	2,367	10,500	.....	10,500	1.48
Chemicals and allied products.....	1,684	3,750	.....	3,750	.74
Clay, glass, and stone products.....	5,200	8,778	.....	8,778	.56
Clothing (including dressmaking).....	15,206	6,300	.....	6,300	.14
Electrical supplies.....	3,375	7,170	.....	7,170	.71
Food and kindred products.....	12,823	21,456	6,000	15,456	.56
Iron and steel.....	5,488	23,460	.....	23,460	1.42
Laundry work, cleaning, and dyeing.....	3,944	19,950	6,000	13,950	1.69
Leather products.....	5,091	4,950	.....	4,950	.32
Metal goods.....	2,333	22,800	.....	22,800	3.26
Paper boxes.....	512	3,960	.....	3,960	2.58
Paper and pulp.....	1,196	4,500	.....	4,500	1.25
Printing and publishing.....	3,188	8,100	.....	8,100	.85
Rubber.....	5,156	3,450	.....	3,450	.22
Textiles.....	5,538	11,100	.....	11,100	.67
Wagons and carriages.....	157	300	.....	300	.64
Wood products.....	1,678	2,400	.....	2,400	.48
Miscellaneous.....	2,122	16,350	6,000	10,350	2.57
Clerical, professional, etc.....	222,299	34,470	12,000	22,470	.05
Transportation—telephone operators.....	11,613	750	.....	750	.02
Trade.....	37,012	21,066	6,000	15,066	.19

(Footnotes on p. 310)

TABLE XIV.—*Estimated severity of disability in terms of total days lost, by industry and by State (cases of permanent disability)*—Continued

C. WISCONSIN

Industry	Number of women employed ¹	Estimated days lost ²	Estimated days lost due to—		
			Death	Permanent disability	Rate (per 1,000 hours' exposure) ³
All industries ⁴	146,693	89,250	36,000	53,250	0.20
Manufacturing.....	33,491	75,030	30,000	45,030	.75
Agricultural implements.....	102	600	-----	600	1.96
Automobiles.....	591	480	-----	480	.27
Clothing (including dressmaking).....	6,750	1,440	-----	1,440	.07
Electrical supplies.....	989	4,950	-----	4,950	1.67
Food and kindred products.....	4,918	2,850	-----	2,850	.19
Iron and steel.....	1,208	7,200	-----	7,200	1.99
Laundry work, cleaning, and dyeing.....	1,274	3,600	-----	3,600	.94
Leather products.....	3,613	3,750	-----	3,750	.35
Metal goods.....	931	32,700	30,000	2,700	11.71
Paper boxes.....	487	3,600	-----	3,600	2.46
Paper and pulp.....	1,204	762	-----	762	.21
Printing and publishing.....	1,151	1,620	-----	1,620	.47
Textiles.....	6,996	4,578	-----	4,578	.22
Wood products.....	2,174	5,700	-----	5,700	.87
Miscellaneous.....	1,103	1,200	-----	1,200	.36
Clerical, professional, etc.....	98,581	11,070	6,000	5,070	.04
Trade.....	14,621	3,150	-----	3,150	.07

¹ U. S. Census of Occupations, 1920, and Carl Hookstadt's "Reclassification of the United States 1920 Occupation Census, by industry," Monthly Labor Review, July, 1923.

² For scale of time losses, see p. 35.

³ Number of employees multiplied by 3,000 (hours assumed to have been worked during the year by the establishments) gives number of employee-hours of exposure to risk. This figure divided into estimated number of days lost gives the severity rate, expressed in terms of days lost per 1,000 hours' exposure.

⁴ Total for industries for which compensated accidents were reported.

TABLE XV.—Length of healing period, by extent of disability and by industry

Industry	Women employed		Women injured	
	Number	Per cent	Number	Per cent
All industries.....	760,324	100.0	13,253	100.0
Manufacturing.....	203,652	26.8	2,528	77.7
Agricultural implements.....	127	(?)	5	.2
Automobiles.....	3,213	.4	82	2.5
Buttons (composition).....	737	.1	18	.6
Chemicals and allied products.....	4,266	10.6	86	2.6
Clay, glass, and stone products.....	7,136	.9	97	5.8
Clothing (including dressmaking).....	38,146	5.0	188	3.0
Electrical supplies.....	8,995	1.2	160	4.9
Food and kindred products.....	26,094	3.4	298	9.2
Iron and steel.....	10,263	1.3	280	8.6
Laundry work, cleaning, and dyeing.....	6,824	.9	86	2.6
Leather products.....	10,607	1.4	108	3.3
Metal goods.....	5,295	.7	209	6.4
Paper boxes.....	1,793	.2	93	2.9
Paper and pulp.....	2,750	.4	40	1.2
Printing and publishing.....	5,357	.7	102	3.1
Rubber.....	7,688	1.0	81	2.8
Straw.....	4,286	(?)	4	.1
Textiles.....	50,440	6.6	323	9.9
Wagons and carriages.....	174	(?)	2	.1
Wood products.....	4,597	.6	83	2.6
Miscellaneous.....	8,864	1.2	173	5.3
Transportation.....	21,547	2.8	67	2.1
Street railway conductors and laborers.....	156	(?)	22	.7
Telephone operators.....	21,391	2.8	45	1.4
Agriculture—garden, greenhouse, orchard, and nursery laborers.....	846	.1	4	.1
Clerical, professional, etc.....	467,355	61.5	489	15.0
Public utilities—gas works.....	23	(?)	1	(?)
Trade.....	66,901	8.8	164	5.0

¹ Excludes 15 fatal cases and 17 cases not reporting complete data.

² Less than 0.05 per cent.

TABLE XV.—Length of healing period, by extent of disability and by industry—Continued

Industry	Permanent disability cases											
	All classes		Cases having a healing period of—									
			Under 2 weeks		2 and under 4 weeks		4 and under 12 weeks		12 and under 52 weeks		52 weeks and over	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All industries.....	1 800	100.0	87	100.0	168	100.0	379	100.0	142	100.0	24	100.0
Manufacturing.....	690	86.3	76	87.4	154	91.7	341	90.0	108	76.1	11	45.8
Agricultural imple- ments.....	1	.1	1	1.1								
Automobiles.....	21	2.6			6	3.6	9	2.4	5	3.5	1	4.2
Buttons (composition) Chemicals and allied products.....	6	.8			1	.6	3	.8	2	1.4		
Clay, glass, and stone products.....	37	4.6	8	9.2	8	4.8	14	3.7	4	2.8	3	12.5
Clay, glass, and stone products.....	24	3.0			8	4.8	14	3.7	2	1.4		
Clothing (including dressmaking).....	28	3.5	2	2.3	4	2.4	13	3.4	7	4.9	2	8.3
Electrical supplies.....	51	6.4	6	6.9	4	2.4	30	7.9	10	7.0	1	4.2
Food and kindred products.....	66	8.3	6	6.9	17	10.1	30	7.9	12	8.5	1	4.2
Iron and steel.....	102	12.8	13	14.9	34	20.2	47	12.4	7	4.9	1	4.2
Laundry work, clean- ing, and dyeing.....	25	3.1			4	2.4	10	2.6	10	7.0	1	4.2
Leather products.....	25	3.1	1	1.1	9	5.4	12	3.2	3	2.1		
Metal goods.....	77	9.6	11	12.6	13	7.7	48	12.7	5	3.5		
Paper boxes.....	24	3.0			6	3.6	14	3.7	4	2.8		
Paper and pulp.....	9	1.1	1	1.1	2	1.2	5	1.3	1	.7		
Printing and publish- ing.....	26	3.3	2	2.3	7	4.2	10	2.6	7	4.9		
Rubber.....	12	1.5	2	2.3	2	1.2	5	1.3	3	2.1		
Straw.....												
Textiles.....	56	7.0	13	14.9	8	4.8	20	5.3	15	10.6		
Wagons and carriages.....	1	.1									1	4.2
Wood products.....	17	2.1	2	2.3	5	3.0	9	2.4	1	.7		
Miscellaneous.....	82	10.3	8	9.2	16	9.5	48	12.7	10	7.0		
Transportation.....	3	.4					2	.5	1	.7		
Street-railway conduc- tors and laborers.....	1	.1					1	.3				
Telephone operators.....	2	.3					1	.3	1	.7		
Agriculture—garden, greenhouse, orchard, and nursery laborers.....	1	.1							1	.7		
Clerical, professional, etc....	75	9.4	10	11.5	11	6.5	27	7.1	19	13.4	8	33.3
Public utilities—gas works.....												
Trade.....	31	3.9	1	1.1	3	1.8	9	2.4	13	9.2	5	20.8

¹ Excludes 3 cases not reporting complete data.

TABLE XV.—Length of healing period, by extent of disability and by industry—Continued

Industry	Temporary disability cases											
	All classes		Cases having a healing period of—									
			Under 2 weeks		2 and under 4 weeks		4 and under 12 weeks		12 and under 52 weeks		52 weeks and over	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All industries.....	12,453	100.0	545	100.0	1,109	100.0	696	100.0	99	100.0	4	100.0
Manufacturing.....	1,838	74.9	441	80.9	861	77.6	486	69.8	48	48.5	2	50.0
Agricultural imple- ments.....	4	.2	1	.2	1	.1	1	.1	1	1.0		
Automobiles.....	61	2.5	16	2.9	31	2.8	13	1.9	1	1.0		
Buttons (composition). Chemicals and allied products.....	12	.5			5	.5	7	1.0				
Clay, glass, and stone products.....	49	2.0	12	2.2	20	1.8	15	2.2	2	2.0		
Clothing (including dressmaking).....	73	3.0	18	3.3	37	3.3	16	2.3	1	1.0	1	25.0
Electrical supplies.....	160	6.5	43	7.9	72	6.5	41	5.9	4	4.0		
Food and kindred products.....	109	4.4	27	5.0	47	4.2	35	5.0				
Iron and steel.....	232	9.5	58	10.6	97	8.7	68	9.8	9	9.1		
Laundry work, clean- ing, and dyeing.....	178	7.3	45	8.3	86	7.8	41	5.9	6	6.1		
Leather products.....	61	2.5	12	2.2	23	2.1	25	3.6	1	1.0		
Metal goods.....	83	3.4	23	4.2	40	3.6	19	2.7	1	1.0		
Paper boxes.....	132	5.4	24	4.4	75	6.8	32	4.6	1	1.0		
Paper and pulp.....	69	2.8	16	2.9	31	2.8	20	2.9	2	2.0		
Printing and publish- ing.....	31	1.3	9	1.7	16	1.4	5	.7	1	1.0		
Rubber.....	76	3.1	14	2.6	44	4.0	17	2.4	1	1.0		
Straw.....	79	3.2	26	4.8	38	3.4	12	1.7	3	3.0		
Textiles.....	4	.2			4	.4						
Wagons and carriages.....	267	10.9	52	9.5	123	11.1	84	12.1	8	8.1		
Wood products.....	1	(²)			1	.1						
Miscellaneous.....	66	2.7	27	5.0	25	2.3	9	1.3	4	4.0	1	25.0
	91	3.7	18	3.3	45	4.1	26	3.7	2	2.0		
Transportation.....	64	2.6	16	2.9	26	2.3	19	2.7	2	2.0	1	25.0
Street-railway conduc- tors and laborers.....	21	.9	3	.6	6	.5	11	1.6			1	25.0
Telephone operators.....	43	1.8	13	2.4	20	1.8	8	1.1	2	2.0		
Agriculture—garden, greenhouse, orchard, and nursery laborers.....	8	.1			1	.1	1	.1	1	1.0		
Clerical, professional, etc....	414	16.9	65	11.9	163	14.7	142	20.4	44	44.4		
Public utilities—gas works.....	1	(²)					1	.1				
Trade.....	133	5.4	23	4.2	58	5.2	47	6.8	4	4.0	1	25.0

¹ Excludes 14 cases not reporting complete data.² Less than 0.05 per cent.

TABLE XVI.—*Compensation paid in cases of accident, by extent of disability and by State*

Extent of disability	All States			New Jersey		
	Number of women	Compensation paid		Number of women	Compensation paid	
		Total	Average per case		Total	Average per case
All cases.....	3, 285	\$329, 490	\$100. 30	1, 096	\$131, 429	\$119. 92
Fatal cases.....	15	21, 124	1, 408. 27	3	648	216. 00
Permanent disability cases.....	803	228, 088	284. 04	332	103, 383	311. 39
Dismemberment.....	404	92, 093	227. 95	157	43, 047	274. 18
Ankylosis.....	55	27, 172	494. 04	25	11, 105	444. 20
Impairment.....	277	79, 897	288. 44	132	38, 284	290. 03
Disfigurement.....	13	965	74. 23	6	92	15. 33
Central nervous system.....	31	16, 034	517. 23	4	6, 292	1, 573. 00
All other.....	23	11, 927	518. 57	8	4, 563	570. 38
Temporary disability cases.....	2, 467	80, 278	32. 54	761	27, 398	36. 00

Extent of disability	Ohio			Wisconsin		
	Number of women	Compensation paid		Number of women	Compensation paid	
		Total	Average per case		Total	Average per case
All cases.....	1, 545	\$138, 320	\$89. 53	644	\$59, 741	\$92. 77
Fatal cases.....	6	12, 759	2, 126. 50	6	7, 717	1, 286. 17
Permanent disability cases.....	372	90, 700	243. 82	99	34, 005	343. 48
Dismemberment.....	200	35, 436	177. 18	47	13, 610	289. 57
Ankylosis.....	26	14, 797	569. 12	4	1, 270	317. 50
Impairment.....	107	28, 157	263. 15	38	13, 456	354. 11
Disfigurement.....	3	36	12. 00	4	837	209. 25
Central nervous system.....	26	7, 775	299. 04	1	1, 967	1, 967. 00
All other.....	10	4, 499	449. 90	5	2, 865	573. 00
Temporary disability cases.....	1, 167	34, 861	29. 87	539	18, 019	33. 43

SCHEDULE II—Continued

VI. INDUSTRIAL HISTORY

1. Industry	2. Occupation	3. How secured	4. Training	5. Length of time in job	6. Wage	7. Reason for leaving
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8. Returned to work too soon ----- Result ----- 9. Refusals because of accident—number ----- nature of jobs ----- Agent ----- Date -----

PUBLICATIONS OF THE WOMEN'S BUREAU

[Any of these bulletins still available will be sent free of charge upon request]

- 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 Industries 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. 1920.
- 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.
- No. 15. Some Effects of Legislation Limiting Hours of Work for Women. 26 pp. 1921.
- *No. 16. See Bulletin 40.
- No. 17. Women's Wages in Kansas. 104 pp. 1921.
- No. 18. Health Problems of Women in Industry. 11 pp. 1921.
- No. 19. Iowa Women in Industry. 73 pp. 1922.
- *No. 20. Negro Women in Industry. 65 pp. 1922.
- No. 21. Women in Rhode Island Industries. 73 pp. 1922.
- *No. 22. Women in Georgia Industries. 89 pp. 1922.
- No. 23. The Family Status of Breadwinning Women. 43 pp. 1922.
- No. 24. Women in Maryland Industries. 96 pp. 1922.
- No. 25. Women in the Candy Industry in Chicago and St. Louis. 72 pp. 1923.
- No. 26. Women in Arkansas Industries. 86 pp. 1923.
- No. 27. The Occupational Progress of Women. 37 pp. 1922.
- No. 28. Women's Contribution in the Field of Invention. 51 pp. 1923.
- No. 29. Women in Kentucky Industries. 114 pp. 1923.
- No. 30. The Share of Wage-Earning Women in Family Support. 170 pp. 1923.
- No. 31. What Industry Means to Women Workers. 10 pp. 1923.
- No. 32. Women in South Carolina Industries. 128 pp. 1923.
- No. 33. Proceedings of the Women's Industrial Conference. 190 pp. 1923.
- No. 34. Women in Alabama Industries. 86 pp. 1924.
- No. 35. Women in Missouri Industries. 127 pp. 1924.
- No. 36. Radio Talks on Women in Industry. 34 pp. 1924.
- No. 37. Women in New Jersey Industries. 99 pp. 1924.
- No. 38. Married Women in Industry. 8 pp. 1924.
- No. 39. Domestic Workers and Their Employment Relations. 87 pp. 1924.
- No. 40. State Laws Affecting Working Women. 53 pp. 1924. (Revision of Bulletin 16.)
- No. 41. Family Status of Breadwinning Women in Four Selected Cities. 145 pp. 1925.
- No. 42. List of References on Minimum Wage for Women in the United States and Canada. 42 pp. 1925.
- No. 43. Standard and Scheduled Hours of Work for Women in Industry. 68 pp. 1925.
- No. 44. Women in Ohio Industries. 137 pp. 1925.
- No. 45. Home Environment and Employment Opportunities of Women in Coal-Mine Workers' Families. 61 pp. 1925.
- No. 46. Facts About Working Women—A Graphic Presentation Based on Census Statistics. 64 pp. 1925.
- No. 47. Women in the Fruit-Growing and Canning Industries in the State of Washington. 223 pp. 1926.

* Out of print.

