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ANTHRAX AS AN OCCUPATIONAL DISEASE.

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In man anthrax is almost exclusively of occupational origin. The newspapers occasionally chronicle the occurrence of the infection in workmen employed in tanneries or as packers, handlers and dressers of imported hides and hair, wool sorters, or as farm laborers. It is certain, however, that but a small percentage of the cases ever come to the knowledge of the general public.

In the Journal of the American Medical Association of December 4, 1915, a news item casually refers to "another death from anthrax," reported from Endicott, N. Y., the city bacteriologist of Binghamton confirming the diagnosis. This victim had been employed in an Endicott tannery, where, it is presumed, he became infected. No comment is made on this fatality, either editorially or by the correspondent sending the communication.

In all such cases specific data ought to be obtainable. Where did the hides come from? Had they been inspected by a State or Federal officer? Had they been subjected to any (and what) process of sterilization? If so, was the disinfection inadequate? Who was at fault in the matter? What penalty attaches to negligence in observing sanitary regulations as to anthrax? Are any prophylactic measures enforced by State or local boards of health for the protection of the workmen exposed to this contagion? These are some of the questions that demand full answer.

In some of the States anthrax is a reportable disease and should be made such by law everywhere. Probably no part of the country is exempt from the disease. The Bulletin of the Maine State Board of Health for January, 1916, reports, "In Maine cases of human anthrax have occasionally occurred among those who have handled hides which have come from places where this disease is prevalent."

At the annual meeting of the Delaware State Medical Society at Wilmington, October 11 and 12, 1915, Dr. John Palmer, jr., reported

that, within the last eight years he had attended over 42 cases of anthrax affecting the cutaneous and cellular tissues. In the subsequent discussion, Dr. Bastian remarked that on account of the many morocco factories in Wilmington anthrax is much more common than in other parts of the country.[1] There is no indication in Dr. Palmer's report that any effort has been made to trace the infection to its source. But when one physician treats upwards of 40 cases of malignant pustule in the ordinary course of his practice within a period of eight years, it is evident that the local prevalence of the disease calls for sanitary intervention.

Many cases of anthrax have been found among workers in hides in New York City and among the workers in skins in Gloversville, N. Y. The sporadic and exceptional occurrence of the infection, however, has obscured its importance as an occupational disease.

The Bulletin of the New York State Industrial Commission for March, 1916, records the fact that since March, 1915, 11 cases of anthrax have been reported in the second inspection district and 11 in the metropolitan district. Of the number in the second district, 7 were tannery employees, 3 were farmers, and 1 a school boy; of the 11 infected, 4 died of anthrax. The metropolitan cases are to be made the subject of a special report and subsequently a general report embracing all the cases in the State will be submitted.

In Massachusetts, where occupational anthrax is subject to compensation under the workmen's compensation law, 6 cases, 2 of which were fatal, were reported during the year ending June 30, 1914. Of these, 3 were in tanneries (1 fatal) and 3 in water transportation (1 fatal).

In the biennial report of the Texas State Board of Health from September 1, 1912, to August 31, 1914, there were reported "14 human cases" of anthrax infection, with 3 deaths. Among animals 11,746 cases were reported, with 9,328 deaths. The epidemic appeared in 26 counties, while in 1913 there were only 17 infected counties. The board of health has sought to enlighten the people as to the danger of infection, and at the same time to check its extension by the distribution of anthrax vaccine. The conclusion announced by the board is that the extensive epidemics of anthrax in west Texas "are largely due to the horsefly, which carries the infection from the sick to the well."

In several European countries anthrax has long been classed as a reportable disease. It is noteworthy that wherever the law requires the infection to be reported there is always an apparent increase in the incidence of the disease in the early years of reporting. In Germany, for example, such a law became operative January 1, 1910.

[1] Jour. Am. Med. Assn., Nov. 6, 1915, pp. 1670, 1671.

During that year, as a result of this enactment, 287 cases of anthrax, with 36 deaths, were discovered in the Empire.

In Great Britain, reports of industrial anthrax have been tabulated since 1900. These are shown in the following table:

CASES OF OCCUPATIONAL ANTHRAX REPORTED IN GREAT BRITAIN, 1900 TO 1914.

Year.	Cases reported.		Year.	Cases reported.	
	Total.	Fatal.		Total.	Fatal.
1900	37	7	1908	47	7
1901	39	10	1909	56	12
1902	38	9	1910	51	4
1903	47	12	1911	64	11
1904	50	10	1912	47	6
1905	59	18	1913	70	7
1906	67	21	1914	54	7
1907	58	11	Total	784	152

In France, returns for the years 1910 to 1912 indicate the total number of occupational-anthrax cases as follows:

1910 ..... 54 (39 males, 15 females).
1911 ..... 42 (35 males, 7 females).
1912 ..... 38 (29 males, 9 females).

According to the records of the Bavarian statistical bureau, between 1890 and 1911, 314 Bavarian workmen contracted the disease. Ninety-four of that number, or 30 per cent, died.

Most of the anthrax-infected material (hides, hair, bristles, wool, etc.) comes from countries that are far behind the times in respect to practical hygiene—Russia, Siberia, China, South America. Hence the proposition made by Chaveau to establish an international sanitary police system for the suppression of anthrax is not feasible, because the lands which constitute the source of this infection are the very countries that are not equipped to cooperate in the crusade.

For a similar reason the compulsory use of a preventive vaccine is impracticable in the regions from which the greater part of the infected raw material is exported. In France, however, the authorities have had recourse to prophylactic vaccination of all herds by officers of the Government. At first some of the cattle owners actively opposed this procedure. But they found that their unvaccinated animals died of anthrax, while a neighbor's vaccinated herd remained healthy, and this demonstration of the immunizing effect of the operation quickly put an end to opposition. It is said that in the three years, 1911 to 1913, 345,000 animals were inoculated with anthrax vaccine in France with complete success.[1]

[1] Zentralblatt für gewerbehygiene, October, 1913, p. 477.

To institute any adequate measures for the disinfection of the hides obtained from infected sources is also difficult. The skins are cured by various methods. In many parts of South America they are merely dried; in South Africa and Morocco they are salted; and in the vicinity of Buenos Aires and Montevideo they are smeared on the flesh side with a paste of saltpeter, soda, or potash, with a little arsenic added as a protection against insects.

It is well known that anthrax spores when dry resist high temperatures; and they are said by Busson to have survived without nourishment for 17 years, retaining their virulence and infectivity unimpaired.[1] On account of this tenacity of life, the infective spores must be killed before the hides which they inhabit can be safely handled. For this destructive purpose, many chemical agents have been tried at various times and in different countries. Thus, Kuehl reported formalin a satisfactory disinfectant for hides.[2] Rambousek recommends a cresol preparation.[2] Holtzman reported success with a 1 per cent permanganate solution.[3] The Seymour-Jones process (formic acid and mercuric chloride) is said to have proved effective. One of the simplest methods of sterilizing hair and bristles is that devised by Dr. Ocabo, of Madrid—immersion in peptonized water at a temperature of 37° C. for 24 hours. In this medium, the spores germinate. Then, by boiling the maceration liquid, the spores are destroyed.[4] Becker reported success in killing the spores in infected hides with sodium sulphide solutions. Finally he experimented with ground mustard and reported that a 0.05 per cent solution "absolutely destroyed the spores in one hour." [5]

A fluid disinfectant called "Cyllin," said to be fifteen times as strong as carbolic acid but not poisonous, has acquired some repute in recent years as a means of destroying the anthrax spores. But Lange's experiments prove that Cyllin is not available as a substitute for steam sterilization of hair infected with anthrax. He finds that the 1 per cent Cyllin solution does not kill the anthrax spores, exposed to its action at house temperature, for 28 days.[6]

Devoto and Massarelli [7] reject as utopian many of the proposals which have been suggested for the suppression of the infection by sterilizing processes. They believe it possible to attain this end, however, by proper sanitation and personal hygiene.

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[1] Mitteil. des Inst. für Gewerbehg., 1911, No. 11, p. 12.
[2] Zentralblatt für Gewerbehygiene, April, 1914, p. 163.
[3] Idem., July, 1914, p. 279.
[4] Estudio del carbunco como enfermedad profesional y medios para evitar el contagio. (Madrid, 1912, p. 24.)
[5] Sozial-Technik, Supplement No. 7, 1911, p. 75.
[6] Zentralblatt für Gewerbehygiene, September, 1915, p. 221.
[7] Il Lavoro, July 15, 1914.

Dr. C. Ponder, the bacteriologist, in "Per la Lotta contro l'Infezione Carbonchiosa," [1] observes that, while anthrax spores may retain their virulence indefinitely in the desiccated blood which adheres to the salted hides when they are packed and imported in a dried condition, no case of anthrax has ever been traced to skins salted and kept wet in transit.

Allusion has been made to the probability that many cases of anthrax occur in the United States which are never reported or recognized as such. Physicians who have but slight acquaintance with occupational diseases must almost inevitably fail to make a correct diagnosis when a case of malignant pustule comes under their observation. Accordingly, anthrax infection may often run its swift course to a fatal termination without identification.

Aside from the immunization of herds (when practicable) and the disinfection of hides, it is necessary also to employ all the resources of sanitation and hygiene to check the prevalence and the spread of the infection. Mechanical means have been extensively utilized in Prussia with this end in view. The use of machines for unfleshing hides and for the removal of wool and sheep pelts frees the workman from exposure to anthrax infection in processes which, when performed by hand, are attended with risk.

Workmen unavoidably subjected to the danger of infection should be instructed to refrain from handling hides, hair, bristles, wool, etc. (since these materials may harbor anthrax spores) whenever there is the slightest scratch or abrasion on their hands, arms, face, or neck, for epidermal lesions are the usual portals of entry for the infection. Any spot where the skin is broken should be painted with iodine.

By means of colored photographs the appearance of the anthrax pustule in its earliest stage of development may be made familiar to the workmen; so that, when a suspicious pimple shows itself anywhere on their bodies, it will be sure to receive immediate attention and treatment.

Within the past 10 years the antianthrax serum of Sclavo has won first place among medicaments in the treatment of anthrax and as a preventive of the disease. Throughout Italy and England it has a high repute among medical men.

[1] Il Lavoro, Oct. 15, 1911, p. 302.

A NEW METHOD OF COMPUTING ACCIDENT RATES.[1]

The purpose of this article is to present for consideration and criticism a method adopted by the United States Bureau of Labor Statistics for showing the severity of industrial accidents in terms of the time lost per full-time worker on account of injuries sustained.

Accident statistics are in a most unsatisfactory state. In the United States, and in Europe, too, for that matter, they consist for the most part of figures giving the number of fatal and of nonfatal accidents by industries. The industry classifications are usually most unsatisfactory. Accident rates per thousand workers are seldom shown in the United States and when shown are almost worthless because no one can know what a "thousand workers" means. Rarely are the causes of accidents given with sufficient detail and explicitness to be of the slightest use in accident prevention or for any other purpose. Only in a very few establishments is the meaning of an accident rate clearly comprehended. In these few establishments accurate records are kept of the number of men employed and the hours worked by each. This makes possible the computation of the total number of man-hours worked by the establishment during the year—that is, the theoretical number of hours required by one man to turn out the year's work or, what amounts to the same thing, the theoretical number of men required to do this work in one hour. The number of hours workmen are exposed to the risk of industrial accidents is the true basis from which to measure accident rates, and not merely the total number of workmen employed. Accident rates heretofore have, with very few exceptions, given merely the crude number of injured per thousand employees, regardless of whether the establishments worked half time or full time—whether the average time worked per employee was 4 hours per day or 10 hours per day throughout the year. Furthermore, rates have been constructed on the assumption that all injuries are equal—that a broken back and a broken cuticle have the same importance in accident records.

To correct these defects in our industrial accident statistics, the United States Bureau of Labor Statistics in its studies of accidents in the machine-building industry and in the iron and steel industry has first ascertained from the time records the number of man-hours

[1] The system of assigning time losses for the computation of accident severity rates, here described, was first worked out by the U. S. Bureau of Labor Statistics in the early part of 1914, and was applied in the preparation of the group of charts exhibited at the Panama-Pacific International Exposition. As first used, the time allowances as fixed by the Wisconsin workmen's compensation act for specific injuries were employed. At the third annual safety congress of the National Safety Council, held in Chicago, Oct. 13–15, 1914 (Proceedings, pp. 133, 134), Mr. Dudley R. Kennedy, of the Youngstown Sheet & Tube Co., made suggestions along the same line, and, early in 1915, submitted to the National Safety Council a plan somewhat similar to the one described in this article. Mr. E. H. Downey, when chief statistician of the Wisconsin Industrial Commission, suggested, in January, 1915, a system of weighting for severity of injury, and this system was later applied to the accident statistics of Wisconsin in a bulletin issued Aug. 1, 1915.

worked per annum in the establishments studied. The number of man-hours worked per annum is not an easily comprehensible or convenient base upon which to calculate accident rates. For convenience and greater clearness man-hours are converted into full-time workers. The full-time worker, as defined by the joint committee of the International Congress on Social Insurance and the International Institute of Statistics, is one who works 10 hours per day for 300 days per annum, or 3,000 hours per annum. The full-time worker may seem at first thought to be a mere statistical abstraction. It is true that the full-time worker, like the average man, is a unit of measure, not a living, breathing man, but for the purpose of accident statistics a standardized workman to serve as a unit of measure is absolutely essential. Furthermore, the statistical full-time workman who is assumed to work 10 hours a day for 300 days in the year conforms very closely in most industries to the actual workman who enjoys good health and works every day the establishment is running. Anyhow, accident rates should be stated in reference to a definite base number. The statement that the accident rate for 1915 in a given establishment was 72 per thousand employees is utterly indefinite and meaningless because (1) the number of employees varies from day to day, (2) the working-day varies in different plants all the way from 14 hours to 8 hours or less, (3) some plants operate 365 days in the year, others as low as 160 days, (4) the hours worked per day vary from season to season, and (5) both the hours per day and the days per year vary from year to year with fluctuations in industry. The only accurate method of calculating accident rates, then, is to ascertain the man-hours worked in a year and to convert man-hours into full-time workers by dividing by 3,000 hours. An accident rate of 117 per thousand full-time workers shows accurately the frequency of accidents in relation to the hours workers are exposed to the hazard of accident.

By the method outlined above an accurate measure of the risk of accident occurrence or frequency is given. The rates so obtained may be called accident-frequency rates. The true measure of hazard in an industry, however, is not given by the mere number of accidents of all kinds per thousand full-time workers. To measure the true industrial hazard, a yardstick is needed which will show the economic losses resulting from injuries. The accident-frequency rates may be the same in two plants in the same industry, and the hazards may be entirely different because one plant has very few severe accidents, while the other has a large proportion of serious accidents. To put all industries and all plants on a common basis a system of computing accident rates must be devised which will

take into account the difference in economic significance between the accident which bruises the workman's thumb and the accident which smashes his head.

Several methods of weighting accidents according to their importance suggest themselves at once. We may attempt to estimate the time loss, the wage loss, or the compensation paid. Of these the time loss is the most satisfactory. A day consists of 24 hours, and 7 days make a week the world over. Compensation awarded varies from State to State and wages vary from town to town and even from shop to shop in the same town. The days lost because of industrial injuries are then the best possible measure of the true hazards of industry—the burden imposed upon the community by industrial accidents. For temporary disabilities the time losses are matters of record. In the case of death and permanent disabilities the time losses must be estimated as accurately as possible. After study of all available information a table of time losses has been tentatively determined upon by the Bureau of Labor Statistics for injuries resulting in death, permanent total disability, and permanent partial disability.

FATALITIES.

In case of an injury causing death the time loss to the family and society is the expectancy of productive working life of the deceased workman. It is not possible to learn the age of all workmen killed in industrial accidents. The only alternative is to estimate the average age of workmen accidentally killed or totally disabled, by averaging the ages of killed and totally disabled workmen whose ages are known. Mr. E. H. Downey, special deputy in the insurance department of Pennsylvania, when statistician for the Industrial Commission of Wisconsin, calculated from information furnished to him that the average age of workmen killed and totally disabled in the industries of Wisconsin was about 30 years. Age statistics of victims of industrial accidents are meager. The ages of workmen killed and disabled in the iron and steel industry corroborates Mr. Downey's estimate, and other sources indicate that the average age of victims of fatal accidents is approximately 30 years. Even if later and more accurate statistics prove this estimate to be erroneous, it is better to accept it until it is proved to be incorrect, rather than to reject it. A quite imperfect method of calculating accident rates so as to show approximately the magnitude, seriousness, severity, or economic burden resulting therefrom is vastly preferable to a simple enumeration of accidents with no attempt to show the difference in consequences between major and minor injuries.

According to the American life tables, the life expectancy at age 30 is 35 years. This is for the population as a whole and is no doubt an underestimate. Workingmen exposed to all the hazards of illness

and accident in industry have a shorter expectancy of life than the average for the whole population. The expected productive life of workers is even shorter than their life expectancy. Exact data are lacking, but in the light of all obtainable information it seems fair to estimate the working time lost on the average by relatives and the community for each workman killed by accident as 30 years, or 9,000 working-days, counting 300 working-days to the year. This is admittedly an estimate, and it may be too high or too low, but to count a fatality as 9,000 times more serious than an accident resulting in a disability of one day is assuredly more reasonable and more nearly in accordance with the facts than to count these two accidents as of equal importance in our accident statistics. A mathematically accurate measure of accidental death in terms of days lost is obviously impossible. It is also unimportant. The main thing is to get the best possible approximation and to apply it to existing accident statistics for the purpose of comparing the accident records of one year with another. Absolute accuracy is a matter of indifference; differentiation between fatal, serious, and minor accidents is absolutely essential. Almost any system of haphazard weighting of accidents is preferable to no weighting. Once a system of weighting is agreed upon, comparisons can be made of accident records, plant by plant, industry by industry, and year by year. For these comparisons it is the relative not the absolute time loss that is needful.

PERMANENT TOTAL DISABILITIES.

If the loss of working time to bereaved families and to the community were the sole thing to be shown in accident statistics, the same time loss should be fixed for permanent total disabilities as for fatalities. Permanent total disability is, however, a greater burden to relatives and the community than death. In recognition of this obvious fact the time loss for permanent total disability has been fixed at 35 years or 10,500 working-days. The relative importance or burdensomeness of permanent total disabilities as compared with fatalities is thus established rather arbitrarily. After further experience it may be advisable to change the relative weights. The system of weighting used does recognize, however "unscientifically," the undeniable fact that complete permanent incapacity of a worker is a greater burden than his death; and some recognition, even if unscientific, is better than ignoring the obvious facts. Until some better system of weighting is proposed the Bureau of Labor Statistics will use the time losses given above.

PERMANENT PARTIAL DISABILITIES.

A proper weighting for permanent partial disabilities in terms of days lost is even more difficult than for death and permanent total disabilities. Probably the nearest approach to the ideal method

would be to calculate the per cent loss in earning power resulting from each specific permanent disability and multiply this per cent by 10,500 days, the time loss for permanent total disability, to get the time loss for the given disability. Needless to say such a calculation is impossible. An examination of the various compensation acts in existence, however, gives us a clue worth following in our quest for some method for estimating the severity of permanent partial disabilities in terms of days lost. All compensation acts agree in fixing the loss of an arm as the most serious injury less than total disability. Most compensation acts seem illiberal in granting compensation for permanent partial disabilities. The New York act is the most liberal and therefore more nearly adequate. It was taken as the basis for working out the time losses to be fixed for each specific disability. The New York act grants compensation for 312 weeks, or 1,872 working-days, for loss of an arm. This is only about 18 per cent of the time loss we have fixed for permanent total disability which seems clearly an underestimation of the seriousness of the loss of an arm relative to permanent total disability. Increasing the New York scale by 50 per cent gives 468 weeks, or 2,808 working-days, for loss of arm, which is about 31 per cent of the time loss fixed for death and 27 per cent of the time loss for permanent total disability. Twenty-seven per cent seems to represent fairly the degree of disability resulting from the loss of an arm relative to permanent total disability; therefore the New York scale for permanent partial disabilities was increased throughout by 50 per cent and adopted tentatively as the scale to be used by the Bureau of Labor Statistics in computing accident rates in terms of time lost. This accounts for the fact that the numbers giving the estimated days lost are expressed in units and not rounded off at tens or hundreds.

There is a surprising unanimity among the various compensation acts in the relation of compensation granted for loss of arm to that granted for other dismemberments. The scale of awards of almost any State would have given approximately the same relative importance to minor dismemberments compared to loss of arm. In the table below are given time losses for only such permanent disabilities as are included in the accident reports collected by the Bureau of Labor Statistics. Other disabilities can be rated according to the New York scale or any other scale as more complete reports are returned.

TEMPORARY DISABILITIES.

All disabilities from which recovery is complete are rated according to the actual number of workdays of incapacitation.

The following table brings together the time losses, in days, fixed for death and permanent disabilities:

TABLE OF TIME LOSSES FIXED FOR DEATH AND PERMANENT DISABILITIES.

	Time losses in days.	Per cent of loss of arm.
Death	9,000	.....
Permanent total disability	10,500	.....
Loss of members:		
Arm	2,808	100
Leg	2,592	92
Hand	2,196	78
Foot	1,845	66
Eye	1,152	41
Thumb	540	19
One joint of thumb	270	10
First finger	414	15
Second finger	270	10
Third finger	225	8
Fourth finger	135	5
Great toe	342	12
One joint of great toe	171	6

This schedule supplies a series of constants by which death and permanent injuries may be weighted in terms of a common unit—time lost in days—which is also the same unit as that used for measuring temporary disabilities. Multiplying the number of deaths and permanent disabilities by the time loss determined for each and adding the products to the days lost through temporary disabilities, we obtain a figure which represents the total days lost from injuries. Dividing this number representing total days lost by the number of full-time workers gives us as a quotient the average number of days lost per full-time worker. This last figure may be called the accident severity rate, since it shows the burdensomeness or seriousness of the accidents analyzed.

The whole process of working out the accident severity rate may be illustrated as follows: Plant A operated 4,200,000 man-hours in 1915, requiring 1,400 full-time (300-day, 10-hour-per-day) workers. During the year, 324 accidents occurred, resulting in 1 death and the loss of the following members: 2 arms, 1 foot, 5 thumbs, 25 first fingers, while the 290 temporary disabilities showed a time loss of 2,790 days. Applying the time losses in the above table to these data, the following results are obtained:

	Time loss (in days).	
	Per case.	Total.
1 death	9,000	9,000
2 arms	2,808	5,616
1 foot	1,845	1,845
5 thumbs	540	2,700
25 first fingers	414	10,350
290 temporary disabilities	.....	2,790
Total	.....	32,301

The total number of days lost, 32,301, divided by the number of full-time workers, 1,400, gives an average of 23 days per full-time worker. This is what is here called the accident severity rate, expressed in terms of days. The accident frequency rate for the same group would be 231 per 1,000 300-day workers.

The preceding paragraphs have explained very briefly the meaning of accident severity rates and the method by which they are obtained. The significance of such rates in their practical application is indicated in the two following illustrations:

In the table below comparison is made of the accident experience for a year of the iron and steel industry, as represented by a large plant, and of the machine-building industry, as represented by a group of plants. Frequency rates and severity rates are shown in parallel columns.

ACCIDENT RATES IN STEEL MANUFACTURE AND IN MACHINE BUILDING.

Industry.	Number of 300-day workers.	Accident frequency rates (per 1,000 300-day workers).				Accident severity rates (days lost per 300-day worker).			
		Death.	Permanent injury.	Temporary disability.	Total.	Death.	Permanent injury.	Temporary disability.	Total.
Iron and steel (1913).....	7,562	1.9	4.6	108.0	114.5	16.6	2.2	2.4	21.2
Machine building (1912)...	115,703	.3	3.6	114.1	118.0	2.9	1.6	1.1	5.6

Examination of the columns giving total frequency rates and total severity rates, shows that, on the basis of frequency, the machine-building plants were more hazardous than the steel plant—the respective rates being 118 as against 114.5 per thousand full-time workers. On the basis of severity, however, the steel industry was almost four times as hazardous as machine building—the days lost per full-time worker being 21.2 and 5.6, respectively. It is clear that as between these diametrically opposite showings of the relative hazards of the two industries, the severity rates offer a decidedly more accurate measure of true hazard. In machine building there is opportunity for many minor injuries, but the danger of serious injury is much less than in the steel industry. The severity rate brings out this fact.

The second illustration shows how, over a period of years, within the same establishment, accident severity rates may run counter to accident frequency rates. The next table gives data of this character. It shows the accident experience of a large steel plant over a period of four years. The plant is one in which the most serious attention has been devoted to the prevention of accidents.

ACCIDENT EXPERIENCE OF A LARGE STEEL PLANT, 1910 TO 1913.

	Number of 300-day workers.	Accident frequency rates (per 1,000 300-day workers).				Accident severity rates (days lost per 300-day worker).			
		Death.	Permanent injury.	Temporary disability.	Total.	Death.	Permanent injury.	Temporary disability.	Total.
1910	7,642	1.7	4.3	127.5	133.5	15.3	2.4	2.2	19.9
1911	5,774	1.6	3.6	106.6	111.8	14.1	2.1	2.4	18.6
1912	7,396	.7	6.5	146.3	153.5	6.0	5.5	2.8	14.3
1913	7,562	1.9	4.6	108.0	114.5	16.7	2.2	2.4	21.3

Limiting attention to the columns showing total rates, it will be noted that in 1910 the frequency rate was 133.5 per 1,000 300-day workers and the severity rate was 19.9 days lost per 300-day worker. The next year, 1911, shows a decrease in both frequency and severity. In 1912, however, there was a marked increase in frequency—from 111.8 to 153.5—but the severity rate dropped from 18.6 to 14.3. In other words accidents had very greatly increased in frequency, but they were less serious in their total results. In 1913 this experience was reversed. A marked reduction occurred in accident frequency—from 153.5 to 114.5—while the severity rate jumped from 14.3 to 21.3. In other words, the year 1913, instead of being a "good" year, as it might be assumed to be under the system of frequency rates was a very bad year, the worst of the four years covered by the table.

A further comparison of accident frequency rates with severity rates is made in the three following charts. The first chart represents graphically the data presented in the last table but extending back to 1905. No attempt should be made to compare the length of the lines in the two sections of the chart for the quantities represented are totally incommensurable.

The second chart gives the combined accident experience of a great steel plant for the years 1905 to 1913, by departments, showing night and day accidents separately. The value of severity rates is strikingly manifested in showing the greater severity of night accidents over day accidents and the greater severity rates for blast furnaces as compared with other departments and the greater severity rates for yards at nighttime. This chart deserves thorough study.

The third chart gives accident rates for 1912 in the machine-building industry by departments and should be compared with the two charts showing accident rates in the steel industry. The severity rates in different departments are most instructive and valuable.

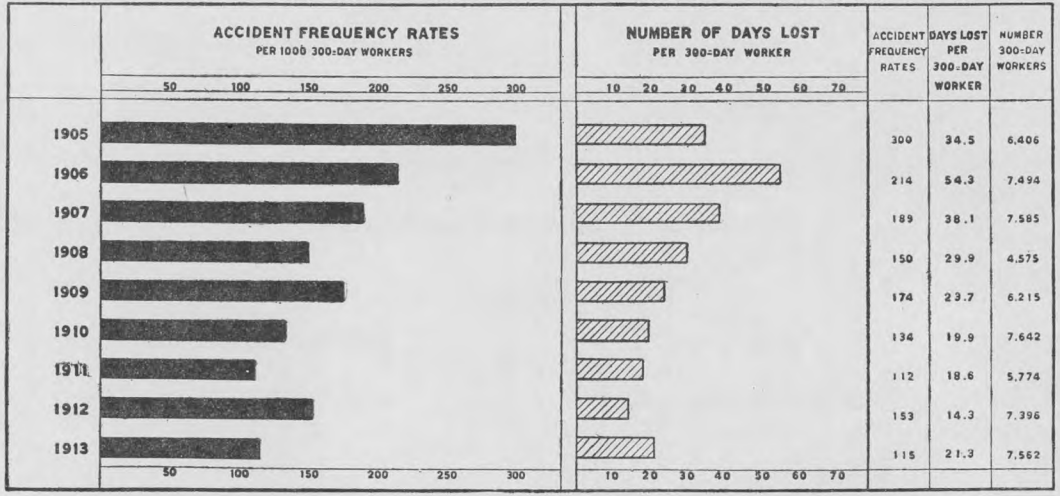
These illustrations bring up two points which it seems desirable to emphasize. The first concerns the use of terms. Severity rates derived in the manner explained are expressed for convenience in terms of workdays lost. For instance, the steel plant referred to

FREQUENCY AND SEVERITY OF ACCIDENTS

IN THE IRON AND STEEL INDUSTRY.

EXPERIENCE OF A LARGE PLANT 1905-1913.

SHOWING THE VARIATION IN ACCIDENT RATES OVER A PERIOD OF YEARS, AND CONTRASTING ACCIDENT FREQUENCY AND ACCIDENT SEVERITY (SEVERITY BEING MEASURED IN TERMS OF DAYS LOST. SEE TEXT.)



	ACCIDENT FREQUENCY RATES	DAYS LOST PER 300-DAY WORKER	NUMBER 300-DAY WORKERS
1905	300	34.5	6,406
1906	214	54.3	7,494
1907	189	38.1	7,585
1908	150	29.9	4,575
1909	174	23.7	6,215
1910	134	19.9	7,642
1911	112	18.6	5,774
1912	153	14.3	7,396
1913	115	21.3	7,562

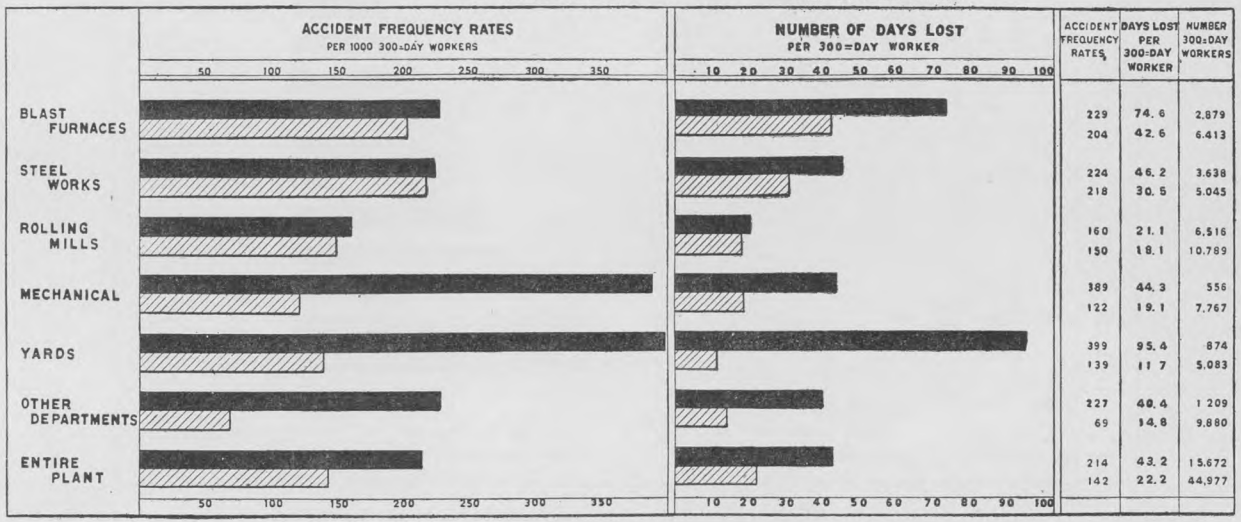
CHART I

NIGHT AND DAY ACCIDENT RATES

EXPERIENCE OF A LARGE STEEL PLANT.

PART 2 BY DEPARTMENTS. (COMBINED DATA FOR 1905 TO 1913)

SHOWING MARKED EXCESS OF NIGHT ACCIDENTS OVER DAY ACCIDENTS, AS REGARDS BOTH FREQUENCY AND SEVERITY



	ACCIDENT FREQUENCY RATES	DAYS LOST PER 300-DAY WORKER	NUMBER 300-DAY WORKERS
BLAST FURNACES	229	74.6	2,879
	204	42.6	6,413
STEEL WORKS	224	46.2	3,638
	218	30.5	5,045
ROLLING MILLS	160	21.1	6,516
	150	18.1	10,789
MECHANICAL	389	44.3	556
	122	19.1	7,767
YARDS	399	95.4	874
	139	11.7	5,083
OTHER DEPARTMENTS	227	40.4	1,209
	69	14.8	9,880
ENTIRE PLANT	214	43.2	15,672
	142	22.2	44,977

CHART 2

FREQUENCY AND SEVERITY OF ACCIDENTS

IN THE MACHINE BUILDING INDUSTRY. 1912.

COMBINED DATA FOR 194 PLANTS

SHOWING THE VARIATION IN ACCIDENT RATES IN THE IMPORTANT DEPARTMENTS, AND CONTRASTING ACCIDENT FREQUENCY AND ACCIDENT SEVERITY (SEVERITY BEING MEASURED IN TERMS OF DAYS LOST).

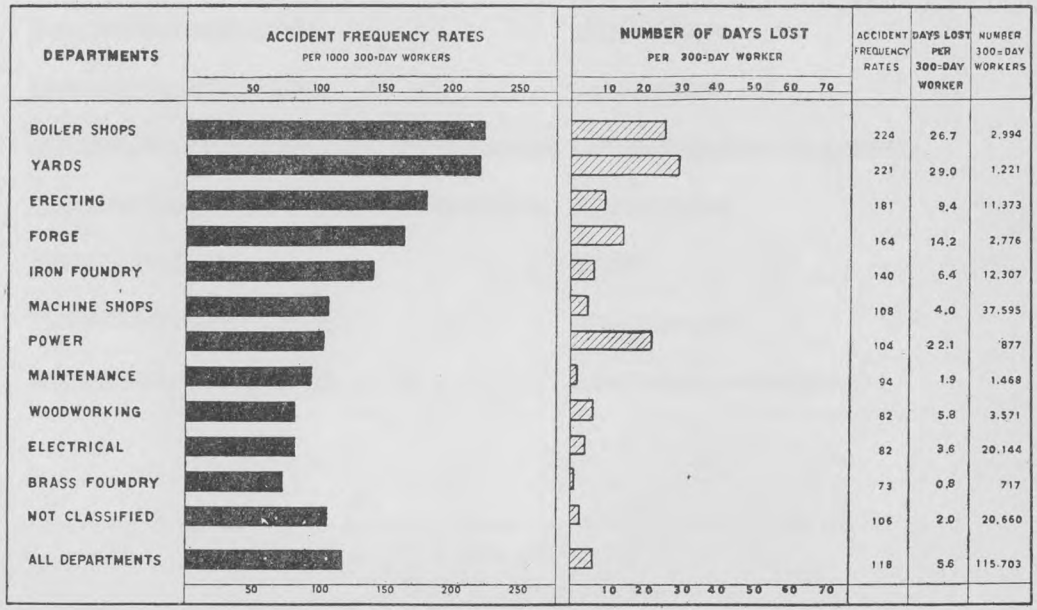


CHART 3

above is spoken of as having a severity rate, in 1913, of 21.3 days lost per 300-day worker. The term "days lost" as thus used is to some extent a statistical abstraction, but it is close enoughto concrete fact to permit of its use in its ordinary sense without any considerable degree of error, provided that the weighting scale employed is a reasonable one. In any case, however, the real significance of severity rates is in their use not as positive amounts but as relative amounts, as indicating the relation between groups. Thus, to recur to the example of the steel plant mentioned, the important fact is that the severity rate for 1913 shows an increase over that for 1911 in the relation of 21.3 to 14.3.

This leads to the second point which it is desired to emphasize. The fact that the real significance of severity rates is in the measurement of relative hazards renders comparatively unimportant the character of the weighting scale used. Thus by changing the weights in the scale offered above the resulting severity rates may be considerably altered in their positive amounts, but unless the changes are of a very radical character the relations between the rates for different groups will remain substantially the same. In other words, it is desirable to have the scale used as accurate as possible but the fact that a completely accurate scale can not be devised does not impair the value of accident severity rating.

In conclusion, it may be noted that severity rates have a very important advantage over frequency rates in that the errors in accident reporting are minimized. Accident reports are probably never absolutely complete, and, as a rule, the completeness of reporting is in direct proportion to the seriousness of injury. The more serious the injury the greater the likelihood of its being reported. Frequently the reporting of minor injuries is extremely incomplete. Note, for example, the experience of the Federal Government shops as described in the April number of the REVIEW, the estimate being there made that in such shops probably as many as three-fifths of the disabilities of less than two weeks are not reported. Inasmuch as the accuracy of frequency rates depends upon the completeness of accident reports, and as all accidents have the same weight, a failure to report any considerable number of minor accidents renders the rates obtained of very little value. Such is not the case with severity rates. Here the disabilities are weighted according to their importance and a large group of minor disabilities has comparatively little effect upon the derived severity rate. Thus, from the material available concerning the iron and steel industry, it is estimated that the total exclusion of all disabilities of less than two weeks will rarely diminish the total severity rate for that industry as much as 1 per cent, whereas such an exclusion would diminish frequency rates as much as 60 per cent. In the machine-building industry the corresponding percentages are 7 and 70, according to data collected by the Bureau of Labor Statistics.

A STUDY OF WELFARE WORK.

The Bureau of Labor Statistics has begun the collection of material for a bulletin to be called "A Handbook on Welfare Work"; a schedule has been outlined; a preliminary inquiry form prepared and sent to 1,250 establishments in the United States reported as engaged in some form of industrial betterment. These forms were mailed June 9 and 10, and, as indicative of the interest manifested in this work, by the 16th of the month over 300 replies had been received.

The bureau has done some work along this line in the past—notably the article by Victor H. Olmsted on "Industrial betterments," in Bulletin No. 31; then in Bulletin No. 54 considerable space was given to housing of employees by American employers. In Bulletin No. 123 was published a survey of welfare work in the United States by Elizabeth L. Otey. The bulletin was brief, and as the editions of this and all other bulletins dealing with the subject have long ago been exhausted the bureau has taken up the subject in a far more thorough and exhaustive manner than ever before. It is intended to make the handbook the authoritative reference work on this important subject.

The definition which the bureau puts upon the term "welfare work" bespeaks the broad scope proposed for the survey. It has defined welfare work as:

> Anything over and above wages which an employer does for the employee's comfort or improvement, whether social or intellectual, which is not required by law or by the necessity of the industry.

With this comprehensive definition of the term in view a list of the best known forms or types of welfare work was drawn up and sent to all firms known to be interested in welfare work, with the following letter:

> The Bureau of Labor Statistics of the United States Department of Labor is collecting material for a handbook on welfare work. The purpose is to show what is being done for the benefit of various classes of employees in the industrial and commercial establishments of the United States.
>
> The lines of welfare work that have proven most practical and generally satisfactory in the experience of a large number of employers will receive special attention in the report. Photographs, building plans, and a full statement of construction costs will be shown for the most typical club and bath houses, lunch or dining room accommodations, etc. In a brief preliminary investigation in New York City the bureau met with gratifying cooperation from employers, several of whom have already submitted comprehensive statements accompanied by photographs and blue prints.
>
> I inclose a list of the kinds of welfare work or industrial betterment most commonly met with and shall appreciate your courtesy if you will check off, according to directions, those which are being carried on by your establishment or any of its branches or departments. A franked envelope which requires no postage is inclosed for your reply. An early response is earnestly requested.
>
> I am, very truly, yours,
>
> ——— ———,
> *Commissioner of Labor Statistics.*

U. S. DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington.

Name of firm..... Industry.....
Address.....

Place a cross (x) before each branch of welfare work conducted by you. Place a second cross before those already checked which are more important or more satisfactory than the others. Place a third cross before those considered of most importance or working most satisfactorily.

.....Rest rooms.
.....Recreation rooms.
.....Emergency or first-aid rooms
.....Shower or other baths.
.....Wash rooms.
.....Cloakrooms.
.....Lockers.
.....Lunch rooms or restaurants.
.....Clubrooms.
.....Clubhouses.
.....Gymnasiums.
.....Swimming pools.
.....Libraries or reading rooms.
.....Social gatherings.
.....Entertainments.
.....Motion pictures.
.....Outings.
.....Lectures.
.....Music.
.....Baseball or other recreation grounds.
.....Roof gardens.
.....Company hospitals.
.....Beds in general hospitals.
.....Houses rented to employees.
.....Houses sold to employees.
.....Lodging houses for employees.
.....Work among employees' families.
.....Benefit associations.
.....Pension funds.
.....Group insurance.
.....Classes on employer's time (exclude apprentice work).
.....Other classes at employer's expense.
.....Saving system.
.....Cooperative buying.
.....Vacation with pay.
.....Sick leave with pay.
.....Physical examination on entrance.
.....Periodic examination after employment.
.....Other forms of welfare work (specify).

The plan of the study will be to get first as complete returns as possible from every establishment with activities coming within the definition of welfare work. From this list will be selected those having the most satisfactory form or type for each recognized branch of the work, and an intensive study made of these.

For instance, suppose of the twelve or fifteen hundred establishments doing some form of welfare work 300 have free bathing facilities. This fact will be stated, together with the total number of employees availing themselves of the use of such bathrooms, with the percentage these are of the whole number of employees; but in addition to such general and statistical information, a fair number of the better types and plans of bathrooms will be selected and described in detail, with photographs, plans, and cost of construction, so that any employer intending to construct a bathhouse can, from this handbook, select the most suitable plan and proceed to construct his bathhouse without further delay. This same course will be followed with regard to clubrooms, clubhouses, lunch rooms, roof gar-

dens, hospitals, houses for rent or sale to employees, and all forms of welfare work where photographs, with costs accompanying each set of plans, are practicable.

In that class of work where descriptions of working methods must be given, such as benefit associations, pension funds, work among employees' families, cooperative buying, and the like, full details of plans, methods, and costs will be given for a few selected from the most successful and satisfactory, while not ignoring the statistical side of the entire class. A classification of welfare work by industries will be made in an effort to show what types and standards of work seem best adapted to certain industries, such as mining, textiles, etc. A complete list of firms doing any sort of welfare work will be given, together with the kinds of work each is doing.

It is significant that group insurance is being covered in this investigation as a branch of welfare work, and will, it is believed, be fully described for the first time in a Government report. While called a "handbook," the report will be in fact encyclopedic in the sense of a complete, ready reference book, or text book.

The field work will consist in making intensive studies of the establishments selected as presenting the more satisfactory examples of the various forms of activities covered by the investigation. Owing to the fact that large employers of female labor are among the prominent promoters of welfare work, the Bureau of Labor Statistics has put three agents from the Woman's Division of the bureau on the investigation, who are now working in New England. Two male agents of the bureau will follow in the field soon. The schedule now in tentative use in the field, and which has proven so satisfactory that it is likely to become the permanent form, will serve to complete the reader's view of the bureau's method, and is therefore here reproduced.

U. S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
Washington

INDUSTRIAL BETTERMENT AND SOCIAL IMPROVEMENT, 1916

1. Industry..... 2. City and State.....
3. Name of establishment.....
4. Address.....
5. Number of employees: *a* Male..... *b* Female.....
6. Date of establishment.....

NOTE.—If space allowed for answers is insufficient use separate sheets, numbering your answers to correspond with the questions.

7. Rest and recreation rooms. (Describe, and give number of employees using. Photographs and blue prints are desired where practicable. State whether rest periods are allowed.)

.....
.....

8. Emergency or first-aid rooms. (Describe, and give number of employees, male and female, treated in a typical month. Photographs and blue prints are desired where practicable.)

.....

.....

9. Bath and wash rooms. (Describe, and give number of employees using. Photographs and blue prints are desired where practicable. State soap and towel service used. Is bathing allowed on employer's time?)

.....

.....

10. Cloak and locker rooms. (Describe, and give number of employees using. State type of locker used.)

.....

.....

11. Lunch rooms or restaurants. (Describe, and give number of employees using. Photographs and blue prints are desired where practicable. Submit sample bills of fare.)

.....

.....

12. Club rooms or houses. (Describe, and give number of employees using, hours open, and dues or fees. Photographs and blue prints are desired where practicable.)

.....

.....

13. Libraries or reading rooms. (Describe, and give number of employees using, hours open, and dues or fees.)

.....

.....

14. Social gatherings, outings, music, and lectures. (Describe entertaining or instructive gatherings, in doors or out, and give number of employees participating, and dues or fees. If own auditorium, describe and supply photographs and blue prints if practicable.)

.....

.....

15. Gymnasium or recreation grounds. (Include here bowling alleys, swimming pools, etc., unless reported under club house or elsewhere. Describe, and give number of employees using, and dues or fees. Photographs and blue prints are desired where practicable.)

.....

.....

16. Hospital arrangements. (State whether employer has own hospital or beds in general hospital. If former, describe, and give number of employees treated and dues or fees. Photographs and blue prints are desired where practicable.)

.....

.....

17. Housing of employees. (Describe company houses, whether rented or sold, and give construction costs and rentals. Also describe lodging houses, if any. Photographs and blue prints are desired where practicable.)

.....

.....

18. Work among families of employees. (Describe classes, kindergartens, playgrounds, work of doctor, clinic, or visiting nurse, amusements, insurance, or anything else done for families, and give number of families reached. Photographs and blue prints of playground, amusement hall, etc., are desired where practicable.)

.....

.....

19. Trade or other education. (Describe all except apprentice classes and such continuation work as is required by law. Include English for foreigners. Give number of employees participating.)

.....

.....

20. Benefit associations. (Submit copy of constitution and by-laws. State what part of fund is contributed by employer, and give number of employees included and number receiving benefits last year.)

.....

.....

21. Pension fund. (Submit copy of plan and give number of employees included and number receiving pensions last year, and amount.)

.....

.....

22. Group insurance:

(*a*) Sickness. (Give number included and number receiving benefits last year, and amount.)

.....

.....

(*b*) Accident. (Give number included and number receiving benefits last year, and amount.)

.....

.....

(*c*) Death. (Give number included and number of benefits paid last year, and amount.)

.....

.....

23. Encouragement of thrift. (Describe savings and loan funds, building funds, cooperative buying, legal aid, and advice as to expenditures, and give number of employees taking advantage of.) [1]

.....

.....

24. What vacation is allowed—

(*a*) With pay?.....

(*b*) Without pay?.....

25. What sick leave is allowed—

(*a*) With pay?.....

(*b*) Without pay?.....

[1] General subject of profit sharing and stock ownership has been covered by a recent investigation and need not be entered here.

26. Periodic physical examination of employees. (Submit blank form used.)
(*a*) How often, and in what departments?

.....

.....

(*b*) Describe what is done to restore employees to health, and any other results of periodical physical examinations.

.....

.....

27. Describe methods of relief in monotonous and fatiguing occupations. (Name occupations, and give number of employees in each, by sex.)

.....

.....

28. Describe system of drinking-water supply. (Give type of cup used, if any.)

.....

.....

29. Date of organization of welfare work at this plant?.....

30. How do present conditions compare with those before welfare work started as regards—
(*a*) Time lost, by sickness or other cause?.....
(*b*) Stability of labor force?.....
(*c*) Output per employee?.....

31. Is the welfare work administered by—
(*a*) Employer alone?.....
(*b*) Employer and employees jointly?.....
(*c*) Outside agencies cooperating (such as Y. M. or Y. W. C. A., social settlements, board of education, etc.).....

32. Is welfare secretary employed?.....

33. What per cent is cost of welfare work of total pay roll?.....
(*a*) Amount of pay roll last year?.....
(*b*) Cost of welfare work last year?.....
or
(*c*) Per cent welfare work forms of total pay roll?.....

34. Please describe any activities not specified in the foregoing and make any comments or suggestions which may be of value in the study. Copies of all literature bearing on the schedule, including publications got out by employer or employees, are requested.

.....

.....

CONCILIATION WORK OF THE DEPARTMENT OF LABOR, MAY 16 TO JUNE 15, 1916.

The organic act of the Department gives the Secretary of Labor authority to mediate in labor disputes through the appointment, in his discretion, of commissioners of conciliation. During the month, May 16 to June 15, 1916, the Secretary exercised his good offices in 21 labor disputes, the companies involved, the number of employees

affected, and the results secured, so far as information is available, being as follows:

NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR THROUGH ITS COMMISSIONERS OF CONCILIATION, MAY 16 TO JUNE 15, 1916.

Name.	Workmen affected—		Result.
	Directly.	Indirectly.	
Brewery workmen, Wilmington, Del.—strike	.....	.....	Pending.
Western Union Telegraph Co., Boston, Mass.—controversy between company and clerks.	.....	.....	Do.
Railway express drivers, Chicago, Ill.—lockout	2,000	(1)	Do.
Cigar makers, B. Plotkin, New Haven, Conn.—strike	.....	.....	Adjusted.
Farrell Foundry & Machine Plant, Ansonia, Conn.—strike	75	.....	Pending.
Davison Chemical Co., Curtis Bay, Md.—strike	700	.....	Do.
Maine Central R. R. Co., Portland, Me.—controversy between company and clerks.	362	.....	Adjusted.
Mechanics engaged in construction of county courthouse, El Paso, Tex.—strike.	25	150	Pending.
Mechanical department of the Norfolk Navy Yard, Norfolk, Va.—controversy.	.....	.....	Do.
New York Shipbuilding Plant, Camden, N. J.—strike	1,000	.....	Do.
Boston & Maine R. R. Co., Boston, Mass.—controversy between company and shopmen.	3,941	.....	Adjusted.
Vanberg Silver Co., Rochester, N. Y.—strike	60	.....	Pending.
Wm. R. Thropp & Sons Co., Trenton, N. J.—strike	.....	.....	Do.
Leolastic Co., Bayonne, N. J.—strike	300	.....	Do.
Maybrook Central New England Ry., Walden, N. Y.—strike	60	.....	Do.
American Refractories Co., Rockdale, Ill.—strike	.....	.....	Unable to adjust.
Washington Terminal Co., Washington, D. C.—strike	.....	.....	Adjusted.
Apperson Automobile Works, Kokomo, Ind.—controversy	.....	.....	Unable to adjust.
California Shipbuilding Co., Long Beach, Cal.—controversy	.....	.....	Do.
Western Maryland R. R. Co., Baltimore, Md.—controversy	.....	.....	Adjusted.
New York, New Haven & Hartford R. R. Co.—controversy between company and clerks.	.....	.....	Do.

[1] Practically all the business in Chicago.

The following cases, noted as pending in the statement of May 15, published in the June issue of the REVIEW, have since been adjusted:

J. B. Stetson Co., Philadelphia—strike.
Building Material Teamsters, Cleveland—controversy.

CONCILIATION WORK OF THE DEPARTMENT OF LABOR, MARCH 4, 1913, TO JUNE 6, 1916.

The conciliation work of the Department from its organization to June 6, 1916, is briefly summarized in the following pages. The data in regard to number of employees involved in the disputes handled are incomplete, but they show a total of 234 controversies handled in which nearly 250,000 employees were directly involved and in addition more than 300,000 employees indirectly affected. These figures do not include 15 cases in which the numbers of employees affected were not reported and a very large number of cases in which the numbers indirectly affected were unknown.

NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR THROUGH ITS COMMISSIONERS OF CONCILIATION, MAR. 4, 1913, TO JUNE 6, 1916.

Period.	Workmen affected.		Amicable adjustments.	Unable to adjust.	Pending.	Total.
	Directly.	Indirectly.				
Mar. 4, 1913, to June 30, 1914	67,912	57,751	28	5	.....	33
July 1, 1914, to June 30, 1915	46,153	92,082	26	10	[1] 4	[2] 36
July 1, 1915, to June 6, 1916	129,372	151,319	95	18	52	165
Total	243,437	301,152	149	33	[2] 52	234

[1] These 4 cases were adjusted during the fiscal year 1915–16 and are included in the 95 amicable adjustments of that year.
[2] Not including 4 cases adjusted during the fiscal year 1915–16.

MEDIATION AND CONCILIATION WORK.

Mar. 4, 1913, to June 30, 1914, close of second fiscal year.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
New York, New Haven & Hartford R. R. clerks	.....	.....	Adjusted.
New York, New Haven & Hartford R. R. (reopened)	1,800	15,000	Do.
Erie Forge Co	.....	.....	Do.
Reading R. R. workers	900	1,200	Do.
Reading Hardware Co	180	580	Unable to adjust.
Baltimore & Ohio R. R. machinists	2,000	16,000	Adjusted.
Western Maryland R. R. shopmen	250	.....	Do.
Chicago & Alton R. R. shopmen	485	.....	Do.
Indianapolis car workers	900	.....	Do.
Indianapolis teamsters	3,200	.....	Do.
Pere Marquette R. R. shopmen	1,500	.....	Unable to adjust.
Colorado coal strike	10,000	.....	Strike declared off.
Calumet copper strike	.....	.....	Unable to adjust.
Louisville & Nashville R. R. shopmen	180	.....	Adjusted.
Sawmill workers, Raymond, Wash	150	1,500	Do.
Garment workers, Philadelphia	3,400	.....	Do.
Longshoremen, Port Arthur, Tex	290	.....	Do.
Big Four R. R. shopmen	700	2,000	Strike averted.
Lake Erie & Western R. R. shopmen	400	1,500	Do.
Michigan Central R. R. shopmen	550	2,000	Adjusted.
Universal Bottle-Washing Machine Co., Detroit	189	.....	Do.
Coal miners' strike, West Virginia	15,000	.....	Do.
Coal & Coke Ry. shopmen	181	.....	Do.
Licensed tug men on Great Lakes	38	8,608	Do.
Westinghouse Electric Co	13,000	.....	Do.
Fulton Bag & Cotton Co	450	1,650	Unable to adjust.
Machinists of Trenton, N. J	435	6,813	Adjusted.
Cement workers, Mitchell, Ind	676	.....	Do.
Tidewater boatmen, New York	3,000	.....	Strike averted.
Keystone Steel & Wire Co	50	100	Adjusted.
Postal telegraphers	8	300	Strike averted.
Pere Marquette R. R. clerks	.....	.....	Unable to adjust.
Illinois Central R. R. shopmen	8,000	500	Adjusted.
Pennsylvania R. R. shopmen	.....	.....	Do.
Total	67,912	57,751	

July 1, 1914, to June 30, 1915, close of third fiscal year.

Coppersmiths, Fore River Shipbuilding Yards—strike	50	.....	Unable to adjust.
Fulton Bag & Cotton Co (reopened)	450	1,650	Do.
Reading Hardware Co. (reopened)	180	580	Do.
Cement workers, Mitchell, Ind. (reopened)	676	.....	Adjusted.
Southern Ry. clerks	675	12,000	Do.
Eastern Ohio coal strike	18,000	.....	Do.
Machinists, Lansford, Pa	51	10,000	Do.
Car builders, Pennsylvania Lines west of Pittsburgh, Richmond, Ind.—controversy.	40	.....	Unable to adjust.

MEDIATION AND CONCILIATION WORK—Continued.

July 1, 1914, to June 30, 1915, close of third fiscal year—Concluded,

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Machinists, Hartford, Conn.—controversy	50	323	Adjusted.
Building trades men, Buffalo, N. Y.	4,000	.....	Do.
Central locomotive Co.—lockout	60	250	Do.
Boiler makers, Oklahoma and Texas—strike	1,000	.....	Do.
Iron, steel, and tin workers, Canton and Massillon, Ohio—strike.	475	310	Do.
Seaboard Air Line Ry. Co.—controversy, interpretation of contract.	.....	.....	Settled by solicitor.
Full-fashioned knitters, Reading, Pa.—strike	65	.....	Unable to adjust.
Typographical dispute, New Orleans, La.	186	114	Do.
Derby Silver Co., Derby, Conn.—lockout	250	5,000	Adjusted.
Longshoremen, Pacific coast—strike	7,794	20,000	Strike averted.
Coal miners, Hazelton, Pa.—strike	200	.....	Adjusted.
Western Union controversy, St. Louis, Mo.	40	.....	Do.
Coopers, Paragould, Ark.—strike	138	.....	Do.
Lenoir City, Tenn., and other points in South—textile strike.	300	350	Unable to adjust.
Wilkes-Barre Street Ry. Co.	345	255	Adjusted.
Indianapolis Terminal Co.—controversy	1,000	.....	Do.
Paper mills, Hamilton, Ohio, and other points—strike	.....	.....	Strike averted.
International Paper Co., New York and New England points—threatened strike.	5,023	.....	Pending.
De Grasse Paper Co., Pyrites, N. Y.	.....	.....	Strike averted.
Remington-Martin Paper & Power Co., Watertown, N. Y.	500	.....	Unable to adjust.
St. Regis Paper Co., Deferiet, N. Y.	430	.....	Do.
Taggart Paper Co., Felts Mills, N. Y.	.....	.....	Adjusted.
Clerks, New York, New Haven & Hartford R. R. Co.—threatened strike.	1,800	.....	Do.
Textile workers and Dobson's Mills, Germantown, Pa.—controversy.	150	500	Do.
Bessemer Iron Works, Grove City, Pa.—strike	.....	.....	Unable to adjust.
Necktie cutters, New York City—strike	300	.....	Adjusted.
Overbrook Carpet Mills, Philadelphia	200	.....	Do.
C. H. Masland & Sons, Philadelphia—strike	300	750	Do.
Machinists and boiler makers, La France Fire Engine Co., Elmira, N. Y.	300	.....	Pending.
Clerks and Chicago & Eastern Illinois R. R.—controversy	400	.....	Adjusted.
Shopmen, Kansas City Terminal Ry. Co.—strike	225	38,000–40,000	Pending.
"Boarders," John Blood Textile Mills, Philadelphia—strike	500	.....	Do.
	46,153	92,082	

June 30, 1915, to June 1, 1916, first 11 months of fourth fiscal year.

International Paper Co., New York and New England—strike	(1)	(1)	Adjusted.
Machinists and boiler makers, American La France Fire Engine Co.—strike.	(1)	(1)	Do.
Shopmen, Kansas City Terminal Ry. Co.—strike	(1)	(1)	Do.
"Boarders," John Blood Textile Mills—strike	(1)	(1)	Do.
Plumbers, Salem, Mass.—strike	147	2,000	Do.
Metal polishers, Colts Fire Arms Co., Hartford, Conn.—strike	40	1,200	Unable to adjust.
Capewell Horse Nail Co., Hartford, Conn.—strike	54	319	Do.
Street railway employees, Providence, R. I.—strike	5,000	.....	(2)
Hardwick & Magee and dyers and mercerizers, Philadelphia—controversy.	73	1,100	Adjusted.
Pattern makers, Lake Torpedo Boat Co., Bridgeport, Conn.—strike.	11	180	Do.
Machinists, Becker Milling Machine Co., Boston, Mass.—strike	300	200	Unable to adjust.
Standard Oil Co., Tide Water Oil Co., Bergen Point Chemical Co., Bayonne, N. J.—strike.	8,500	1,500	Adjusted.
Pattern makers and Fore River Ship & Engine Co., Quincy, Mass.—controversy.	.....	.....	Pending.
Keystone Spinning Mills, Philadelphia—strike	200	.....	Adjusted.
Spinks Textile Mills, Philadelphia—strike	90	100	Do.
John Bromley & Son Dye Works, Philadelphia—strike	79	1,375	Do.
O'Keefe Bros. Dye Works, Philadelphia—controversy	20	20,000	Strike averted.
General Process Dye Works, Philadelphia—strike	250	.....	Adjusted.
Buffalo Dye Works, Philadelphia—strike	37	63	Do.
International Silver Plate Co., Meriden, Conn.—controversy	2,600	3,500	Unable to adjust.
Boiler makers, Baltimore & Ohio R. R., Newark, Ohio—strike	50	.....	Adjusted.
Iron molders, Rice, Barton, Fales Foundry Co., Worcester, Mass.—strike.	60	.....	(3)

[1] Included in previous fiscal year. [2] Strike declared off before arrival of commissioners.
[3] 60 molders went on strike; places filled; plant running full time and orders being filled promptly.

MEDIATION AND CONCILIATION WORK—Continued.

June 30, 1915, to June 1, 1916, first 11 months of fourth fiscal year—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Columbia Railway, Gas & Electric Co., Columbia, S. C.—controversy.	89	.....	Adjusted.
American Graphophone Co., Bridgeport, Conn.—strike	2,130	.....	Do.
Brown & Sharpe Co., Providence, R. I.—strike	5,000	800	Unable to adjust.
Wireless operators, San Francisco—strike	20	107	Pending.
Coal & Coke Ry. Co. and shopmen—reopened controversy	181	.....	Adjusted.
Textile workers, Penn Mills, Norristown, Pa.—controversy	1,000	7,000	Do.
Machinists and boiler makers, Lehigh & New England R. R., Pen Argyl, Pa.—strike.	71	100	Do.
Pattern makers, job shops, Pittsburgh—strike	40	.....	Unable to adjust.
Machinists, Cincinnati, Ohio—strike	3,050	5,000	Pending.
Arizona Copper Mines—controversy and strike	4,500	300	Adjusted.
Machinists, Hendy Machine Co., Torrington, Conn.—strike	934	.....	Do.
Machinists, Hendy Machine Co., Torrington, Conn. (reopened)	.....	.....	Pending.
Washington Steel & Ordnance Co., Geisboro Point, D. C.—strike.	200	1,400	Adjusted.
Pattern makers, Builders Iron Co., Providence, R. I.—strike	161	630	Unable to adjust.
Pattern makers, Potter & Johnston, Pawtucket, R. I.—strike	800	925	Do.
Michigan Central R. R. and clerks, Detroit, Mich.—controversy.	800	5,500	Adjusted.
Pennsylvania R. R. freight handlers, Jersey City, N. J.—strike	1,000	700	Do.
Eagle Lock Co., Terryville, Conn.—strike	1,200	.....	Do.
Lace makers, Zion City, Ill.—strike	78	.....	Unable to adjust.
Freight handlers, Boston & Albany, Boston & Maine, and New Haven R. R., Boston—strike.	1,500	.....	Adjusted.
Essex Rubber Co., Trenton, N. J.—strike	112	350	Do.
Nashua Manufacturing Co., Nashua, N. H.—strike	3,500	.....	Pending.
Jackson Mills, Nashua, N. H.—strike	.....	.....	Do.
Judson Cotton Mills, Greenville, S. C.—strike	654	.....	Do.
Brogon Mills, Anderson, S. C.—strike	575	1,500	Adjusted.
Modern Tool, Die & Machine Co., Columbus, Ohio—strike	42	.....	Do.
Dunlap Manufacturing Co., Columbus, Ohio—strike	94	.....	Unable to adjust.
Machinists, The Recording & Computing Co., Dayton, Ohio—strike.	300	2,000	Do.
Joseph R. Foster Mill, Philadelphia—controversy	175	225	Pending.
Saxonia Mills, Philadelphia—strike	260	225	Adjusted.
Cleveland-Canton Spring Co., Canton, Ohio—strike	63	200	Do.
Cooper Spring Co., Cleveland, Ohio—strike	32	80	Do.
Perfection Spring Co., Cleveland, Ohio—strike	90	1,750	Do.
Studebaker Co., South Bend, Ind.—strike	100	4,500	Do.
Herman Gross Co., Hartford, Conn.—strike	15	.....	Do.
New Haven Clock Co., New Haven, Conn.—strike	40	.....	Do.
Ladies' Garment Workers and shirtwaist manufacturers, Philadelphia—controversy and strike.	5,000	.....	Do.
Metal polishers, Meriden, Conn.—strike	3,000	.....	Pending.
Bradford Mills, Philadelphia—strike	175	900	Adjusted.
Brewery workers, Washington, D. C.—strike	240	.....	Do.
Clerks, The Big Four R. R. Co., Cincinnati, Ohio—strike	58	680	Unable to adjust.
Allied shopmen and Cincinnati, Hamilton & Dayton R. R.—controversy.	1,200	.....	Pending.
Musical instrument manufacturers and metal polishers, Elkhart, Ind.—controversy.	456	751	Unable to adjust.
Baltimore & Ohio R. R. and machinists, Baltimore, Md.—controversy.	1,514	.....	Adjusted.
New York, New Haven & Hartford R. R. Co. and mechanical force, New Haven, Conn.—controversy.	4,000	.....	Do.
Machinists, Edwards Valve Co., East Chicago, Ind.—strike	600	.....	Do.
Germantown Dye Works, Philadelphia—strike	100	.....	Pending.
Allegheny Dye Works, Philadelphia—strike	.....	.....	Do.
Continental Dye Works, Philadelphia—strike	50	.....	Do.
Wm. Kedward Dyeing Co., Philadelphia—strike	16	.....	Do.
Nicetown Dye Works, Philadelphia—strike	12	.....	Do.
Globe Dye Works, Philadelphia—strike	100	.....	Do.
Philadelphia Dye Works, Philadelphia—strike	60	.....	Do.
Karl Schlatter Dye Works, Philadelphia—strike	150	.....	Do.
Frankford Dyeing & Bleaching Works, Philadelphia—strike	22	.....	Do.
Firth & Foster Co., Philadelphia—strike	.....	.....	Do.
Machinists, Stewart Hartshorn Co., Harrison, N. J.—strike	30	1,200	[1]
Machinists and the contract shops, Norfolk, Va.—controversy	65	300	Adjusted.
Alaskan R. R.—controversy	.....	.....	Do.
Motormen and conductors, Capital Traction Co. and Washington Ry. & Electric Co., Washington, D. C.—strike.	1,500	.....	Do.
New York, Ontario & Western R. R., Middletown, N. Y.—strike	550	1,800	Do.
General Processing Co., Philadelphia—strike	250	.....	Do.

[1] Shop closed and company insists strike is closed incident.

MEDIATION AND CONCILIATION WORK—Continued.

June 30, 1915, to June 1, 1916, first 11 months of fourth fiscal year—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Jacob Berges & Co., Philadelphia—strike	25	.....	Adjusted.
Orinoco Dye Works, Philadelphia—strike	45	600	Do.
Ford Silk Hosiery, Philadelphia—strike	6	.....	Do.
Greer's Dye Works, Philadelphia—strike	260	.....	Do.
Philadelphia Tapestry Works, Philadelphia—strike	34	450	Do.
Quaker Dye & Bleach Works, Philadelphia—strike	100	.....	Do.
Stead & Miller's Dye Works, Philadelphia—strike	528	.....	Do.
Wallace Wilson's Dye Works, Philadelphia—strike	16	450	Do.
Chrsto's Silk Hosiery, Philadelphia—strike	16	.....	Do.
George Liffart, spinner and dyer, Philadelphia—strike	10	.....	Do.
Berkshire Mills, Frankford, Philadelphia—strike	9	300	Do.
States (typographical), New Orleans, La.—controversy	.....	.....	Pending.
Times-Union (typographical), Jacksonville, Fla.—controversy	.....	.....	Do.
The Doubleday, Page Printing Co., New York City—controversy. New York Post, New York City—controversy	150-200	21,135	Do.
Haynes Automobile Co., Kokomo, Ind.—lockout	25	1,075	Adjusted.
Grand Central Terminal Co., New York—controversy	.....	.....	Unable to adjust.
Texas & Pacific Ry. Co.—controversy	700	8,000	Pending.
Pullman car cleaners, Chicago—strike	600	.....	Adjusted.
Blacksmiths, Anderson Drop Forge Co., Detroit, Mich.—strike	12	250	Unable to adjust.
Hancock Knitting Mills, Philadelphia—strike	1	1,000	Adjusted.
Boiler makers, Cramp Shipbuilding Co., Philadelphia—strike	1,100	.....	Do.
Chicago & Alton R. R. Co. and maintenance of way employees, Chicago—controversy.	1,085	315	Do.
J. B. Stetson Co., Philadelphia—strike	.....	.....	Do.
Building material teamsters, Cleveland, Ohio—controversy	742	30,000	Do.
American Refractories Co., Rockdale, Ill.—controversy	300	.....	Unable to adjust.
Machinists, Syracuse, N. Y.—strike	2,500	700	Pending.
Machinists, Millers Falls Tool Co., Millers Falls, Mass.—strike	200	50	Adjusted.
Washington Terminal Co., Washington, D. C.—controversy	425	.....	Do.
Apperson Automobile Works, Kokomo, Ind.—lockout	83	417	Unable to adjust.
Building trades, Joliet, Ill.—strike	820	2,000	Pending.
Westinghouse employees, East Pittsburgh—strike	36,000	.....	Adjusted.
New York Boat Owners' Association and marine engineers, New York—controversy.	1,000	7,000	Do.
California Shipbuilding Co., Long Beach, Cal.—controversy and strike.	332	367	Unable to adjust.
Western Maryland R. R. Co., Baltimore, Md.—controversy	451	600	Adjusted.
Pittsburgh street railway employees, Pittsburgh, Pa.—strike	3,000	.....	Do.
Railway workers, Pittsburgh & Lake Erie R. R., Pittsburgh, Pa.—strike.	4,000	6,000	Do.
Allen Dyeing Co., Philadelphia—strike	30	.....	Pending.
W. H. Burns Co., Philadelphia—strike	20	.....	Do.
Electric Dye Works, Philadelphia—strike	12	.....	Do.
Fairhill Bleachery, Philadelphia—strike	12	.....	Adjusted.
Victor Dye Works, Philadelphia—strike	18	.....	Pending.
Ontario Dyeing Co., Philadelphia—strike	75	.....	Do.
Charlotte Dye Works, Philadelphia—strike	12	.....	Do.
Brehm & Stehle, Philadelphia—strike	100	.....	Do.
Rainbow Dye Works, Philadelphia—strike	24	.....	Do.
Red Star Dye Works, Philadelphia—strike	18	.....	Do.
Fairhill Dye Works, Philadelphia—strike	14	.....	Do.
Hulton Dyeing & Finishing Co., Philadelphia—strike	150	.....	Do.
Oxford Dye Works, Philadelphia—strike	8	.....	Do.
Kensington Dye Works, Philadelphia—strike	60	.....	Do.
Angola Dyeing Co., Philadelphia—strike	20	.....	Adjusted.
Thos. Weinmann & Sons, Philadelphia—strike	12	.....	Pending.
American Dye Works, Philadelphia—strike	8	.....	Do.
Vienna Dye Works, Philadelphia—strike	45	.....	Do.
L. B. Luithlen Co., Philadelphia—strike	30	.....	Do.
Thomas Dawson & Co., Philadelphia—strike	12	.....	Adjusted.
Park Carpet Mills, Philadelphia—strike	608	.....	Do.
Robert Meyer, Philadelphia—strike	59	.....	Do.
Federal Dyeing Co., Philadelphia—strike	260	.....	Do.
Caledonia Dye Works, Philadelphia—strike	15	.....	Do.
John A. Roebling, Trenton, N. J.—strike	90	.....	Do.
Mercer Auto Co., Trenton, N. J.—strike	80	.....	Do.
J. R. Thorp, Trenton, N. J.—strike	100	.....	Do.
W. R. Thorp, Trenton, N. J.—strike	40	.....	Do.
J. L. Mott & Co., Trenton, N. J.—strike	12	.....	Do.
H. Shal, Trenton, N. J.—strike	5	.....	Do.
De Laval Co., Trenton, N. J.—strike	108	.....	Pending.
Niles Tool Co., Hamilton, Ohio—strike	620	.....	Adjusted.
Houver-Owen-Reutschler, Hamilton, Ohio—strike	200	.....	Do.
Black & Clausen, Hamilton, Ohio—strike	100	.....	Do.
Hamilton Machine Tool Co., Hamilton, Ohio—strike	200	.....	Do.

MEDIATION AND CONCILIATION WORK—Concluded.

June 30, 1915, to June 1, 1916, first 11 months of fourth fiscal year—Concluded.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Kissis Machine Co., Hamilton, Ohio—strike	55	.....	Adjusted.
New York, New Haven & Hartford R. R. Co., New Haven, Conn.—controversy.	2,250	.....	Do.
Brewery workmen, Wilmington, Del.—strike	.....	.....	Pending.
Western Union Telegraph Co., Boston, Mass.—controversy	.....	.....	Do.
Railway express drivers, Chicago—lockout	2,000	(1)	Do.
Cigar makers, B. Plotkin—strike	.....	.....	Adjusted.
Farrell Foundry & Machine Plant, Ansonia, Conn.—strike	75	.....	Pending.
Davison Chemical Co., Curtis Bay, Baltimore, Md.—strike	700	.....	Do.
Maine Central R. R. Co., Portland, Me.—controversy	.....	.....	Adjusted.
Mechanics engaged in the construction of the county courthouse, El Paso, Tex.—strike.	25	150	Pending.
Mechanical department of the Norfolk Navy Yard, Norfolk, Va.—controversy.	.....	.....	Do.
New York Shipbuilding Plant, Camden, N. J.—strike	1,000	.....	Do.
Boston & Maine R. R., Boston—controversy	.....	.....	Adjusted.
	129,372	151,319	

[1] Practically all business in Chicago.

Below are given brief statements concerning a few of the more important labor disputes handled by the commissioners of conciliation of the Department of Labor since July 1, 1915:

In re Strike of 10,000 employees at the plants of the Standard Oil Co., the Tide Water Oil Co., and the Bergen Point Chemical Co., all located at Bayonne, N. J. Mr. John A. Moffitt and Mr. James A. Smyth, commissioners of conciliation.

On July 21, 1915, Sheriff Eugene Kinkead, of Hudson County, N. J., telephoned the Secretary, and requested that the Department exercise its good offices in an effort to effect a settlement of a strike of 10,000 employees at the plants of the oil companies at Bayonne, N. J. Mr. John A. Moffitt, of Orange, N. J., and Mr. James A. Smyth, of Renovo, Pa., were detailed to proceed to Bayonne for the purpose of acting as commissioners of conciliation, and were instructed to endeavor to effect an adjustment of the differences existing between the oil companies and their employees.

The commissioners arrived at Bayonne on the morning of July 23, and immediately held conferences with the company officials and the striking employees.

The superintendents of the oil plants stated to the commissioners that order and peace in the community should first be restored, and when this was accomplished, the companies were willing to take back all of their former employees excepting those who had been guilty of actual violence, and to consider any demands made by them that would permit of consideration. This statement of the superintendents was submitted to the men, who finally agreed to accept it, and by unanimous vote decided to return to work on July 28, thereby bringing to a close what threatened to be one of the greatest

industrial conflicts of modern times. Immediately upon returning to work a notice was posted in the office of the Tide Water Oil Co., as follows:

Fifteen per cent increase in wages for all those receiving less than $2 per day; 10 per cent to those receiving between $2 and $3 per day; 5 per cent for all those receiving over $3 per day.

The Standard Oil Co. posted the following notice:

Ten per cent increase in wages to all those receiving less than $2.50 per day; 25 cents per day for those receiving higher wages. These increases to include employees of the Bergen Point Chemical Co.

The commissioners subsequently reported to the Department that the Standard Oil Co., the Tide Water Oil Co., and the Bergen Point Chemical Co. had granted the eight-hour day to their employees, the same having become effective on September 15, 1915, with no reduction in wages, and that 25,000 men profited by this grant. They also reported that by this order the above-mentioned companies conceded to their employees all the demands contained in the modified propositions presented to them on July 24, 1915.

In re Strike of copper miners in the Clifton-Morenci-Metcalf district of Arizona. Approximately 5,000 men involved. Mr. Jos. S. Myers and Mr. Hywel Davies, commissioners of conciliation.

On October 2, 1915, at the request of Gov. George W. P. Hunt, of Arizona, and other interested parties, the Secretary detailed Mr. Joseph S. Myers, of El Paso, Tex., to act as a commissioner of conciliation, and subsequently assigned Mr. Hywel Davies, of Lexington, Ky., to assist Mr. Myers in effecting a settlement of this important labor dispute.

After numerous conferences between the employers and employees a final settlement was reached on March 16, 1916. The terms upon which the settlement was effected are as follows:

A minimum wage will be fixed on the highest basis of any mining camp in the State, regardless of race.

A general advance of not less than 20 per cent to Mexicans and Spaniards.

The wages of skilled workmen will compare more favorably with the best in the State than ever before.

Reemployment of old employees without discrimination, excepting 10 men, guilty of criminal acts, and even this number may be reduced.

Duncan camp refugees returned without friction, and to receive no favors more than those rendered to resident strikers.

Guaranties that foremen guilty of exploitation of their working forces to their individual profit, or permitting it to be done for the benefit of anyone, will be promptly discharged.

The job to fix the wage, regardless of race.

Committees representing employees recognized. The managers will hold monthly conferences with their respective committees to insure that personal touch which will enable them to know the nature and cause of every complaint.

In other words, the latchstring is now on the outside of the manager's office door instead of the inside, as claimed was the case in the past.

While the Western Federation of Miners has been eliminated, no objection is made to a local organization among the men.

The results indicate that about 90 per cent of the employees are members of this local organization, which is represented by a committee of five from each of the three companies. This committee acts individually on home affairs amd collectively on matters affecting the whole Clifton-Morenci-Metcalf district.

The psychological effects of the strike are shown in the elimination of race prejudices and the development of the solidarity of brotherhood among the workmen, which bears fruit in unity of purpose and willingness to suffer and sacrifice for their common good.

In re Controversy and strike between the Kansas City Terminal Co. and its shopmen. Mr. William Blackman, commissioner of conciliation.

Under date of June 1, 1915, Mr. A. O. Wharton, president of the railway employees department, telegraphed the Secretary from Kansas City, Mo., requesting that the Department send a representative to Kansas City for the purpose of effecting a settlement between the Kansas City Terminal Ry. and its shopmen located at that place.

On June 4 the Secretary detailed Mr. William Blackman, of Seattle, Wash., to proceed to Kansas City for the purpose of acting as a commissioner of conciliation and bringing about. if possible, an amicable adjustment of the controversy.

The Kansas City Terminal Ry., of Kansas City, Mo., takes care of 12 railroads running into the city. Nine of the 12 roads have agreements as to hours of labor and working conditions with their shop employees. Prior to June 8 the shopmen employed by the Kansas City Terminal Ry., through a committee, presented a set of rules which would govern the Terminal along the same lines as the nine roads above referred to. This agreement was rejected by the president of the Terminal Ry., and the result was that 34 shopmen, including the committee, were discharged.

On June 8 Mr. Blackman began negotiations with the president of the Terminal Railway in an endeavor to bring about an adjustment of the trouble. Failing in such adjustment, the discharged men, through their organizations, called a strike on July 29. On July 30 the commissioner appeared before the board of directors, who are the general managers of the roads involved, and laid the case before them in detail, with the result that negotiations were again taken up with Mr. H. H. Adams, president of the Terminal Railway. On August 7 an agreement was reached whereby all of the discharged men and the strikers returned to work August 10, and within 60 days negotiations between the company and representatives of the employees were completed, and a set of shop rules, conditions of employment, hours of service, wages, rates, etc., were mutually agreed upon.

If this strike had spread from the Terminal Ry., it would have affected between 38,000 and 40,000 men, and in the event of a

general strike there is no doubt that the business public would have suffered on account of not being able to receive their freight shipments promptly.

This is one of the most important cases handled by the Department of Labor, on account of its far-reaching effect upon the railroads involved and the general public.

In re Controversy between the New York, New Haven & Hartford Railroad Co. and its clerks, New Haven, Conn. Mr. Rowland B. Mahany, commissioner of conciliation.

On May 12, 1916, Mr. C. L. Bardo, general manager of the New York, New Haven & Hartford Railroad, requested the Department to use its good offices in an endeavor to bring about an amicable settlement. Mr. Rowland B. Mahany was detailed to proceed to New Haven for the purpose of acting as commissioner of conciliation.

On December 29, 1915, the 2,250 clerks employed in the transportation department of the road filed, through a committee, requests for improved working conditions and increases in pay of approximately 10 per cent, with a further request that the management fix a date to meet the committee and discuss the questions involved. Because of other matters intervening no such meeting was held until March 7, 1916, at which time the company's officials asked for 30 days more time in which to collect data and compile it. This was agreeable to the clerks' committee and acceded to by it.

The next conference, which was the beginning of the real negotiations, was held on April 5, but nothing was accomplished except to arrange for further discussions at a later date. Other meetings were held on April 14 and 15. At these meetings an offer of 5 per cent increase in all positions was made, but all changes asked for in working conditions were refused. The committee rejected this offer and sent for the grand president of their brotherhood, Mr. James J. Forrester.

Mr. Forrester arrived in New Haven on April 22 and on the 24th had a conference with General Manager C. L. Bardo. No further concessions could be obtained, and on April 26 Mr. Forrester authorized the taking of a strike vote. This ballot was completed on May 5 and counted on May 8, resulting as follows:

	Votes.
Against accepting the general manager's offer and in favor of a strike	1,732
In favor of accepting the general manager's offer and against a strike	213
Irregular and blank ballots	15
Total voting	1,960
Not voting	251
	2,211

Percentage in favor of strike, 90 plus.

On May 11 another conference was held at which Mr. Forrester advised the general manager of the result of the vote and notified him that unless the company was willing to make further concessions a strike would be called within a few days. Mr. Bardo declined to add anything to his previous offer, but suggested that the United States Department of Labor be asked to intervene, at the same time advising Mr. Forrester and the committee that he, Mr. Bardo, would at once telegraph the Secretary of Labor for a conciliator.

At Mr. Bardo's request, Mr. Forrester agreed that no strike would be called until after the arrival of the commissioner. The same day telegrams were received advising that Mr. Rowland B. Mahany was assigned to act as conciliator. Mr. Mahany arrived in New Haven on April 13, and from that time until the settlement negotiations were conducted by and through him.

Mr. Forrester, having agreed to hold the strike order in abeyance only until after the arrival of the commissioner, on the evening of May 13 issued an order for a strike to take place at 2 p. m., Wednesday, May 17, a copy of which he served on the general manager. Commissioner Mahany held meetings with both sides jointly and separately, almost hourly, and at about 6 p. m on Tuesday, May 16, succeeded in arranging a settlement, thus averting a strike that would surely have taken place on the following day and would have had a most disastrous effect on the general business of the entire community, as well as seriously interfering with business and industries remote from the seat of the trouble. At 8 p. m. on the same date, by arrangement of the commissioner, a meeting between the officials of the company and the clerks' committee accompanied by Grand President Forrester, and with Mr. Mahany in attendance, was held to work out details. This work was accomplished and a complete settlement reached at 11.30 p. m. to the relief and satisfaction of all parties. This settlement carried with it increases in pay, as per below:

On all positions paying $2 per day or less, 20 cents per day.
From $2 to $2.50 per day, 6 per cent with a minimum of 15 cents per day.
Above $2.50 per day, 5 per cent with a minimum of 15 cents per day.

Taken as a whole the increases secured amount to $147,775 per year, or an average increase of 6 to 8 per cent.

It was agreed that the above increases should date back and become effective as of April 14, thus giving the affected employees five weeks' back pay, which amounted to approximately $15,000 or an average of about $5 each.

Other concessions obtained: It was also agreed that the Saturday half holiday be extended to cover the entire year instead of only the months of May, June, July, August, and September as previously enjoyed.

FEDERAL EMPLOYMENT WORK OF THE DEPARTMENT OF LABOR.

During May, 1916, the Division of Information of the Bureau of Immigration of the Department of Labor placed 11,453 persons in employment as compared with 7,653 during April, 1916. As there were 17,614 applications for work, 65 per cent were placed in May as compared with 57 per cent in April. The operations of the different offices throughout the country, by months, since May, 1915, when fuller reports began to be made, are contained in the statement following:

OPERATIONS OF THE DIVISION OF INFORMATION, BUREAU OF IMMIGRATION, DURING THE MONTHS OF MAY, 1915, TO MAY, 1916.

Month.	Number of applications for help.	Number of persons applied for.	Number of applicants for places.	Number referred to employment.	Number actually employed.	Per cent of applicants placed.
1915.						
May	638	3,826	12,132	3,752	3,495	28.81
June	1,249	3,601	14,530	5,131	4,646	31.98
July	1,160	8,665	18,061	6,360	6,035	33.41
August	1,279	7,931	17,827	7,321	6,757	37.90
September	1,201	4,551	13,334	5,671	5,405	40.54
October	1,104	5,423	12,215	5,460	5,006	40.98
November	847	4,650	11,908	4,459	4,146	34.82
December	698	3,588	11,902	2,622	2,170	18.23
1916.						
January	933	5,063	15,015	4,300	3,419	22.78
February	1,423	6,413	14,257	5,036	4,185	29.35
March	3,443	10,209	19,484	8,113	7,030	36.08
April	3,805	12,104	13,498	8,843	7,653	56.70
May	4,918	21,326	17,614	12,938	11,453	65.02

The following statement of the employment work of the 18 different head offices covering the whole country gives details for the months of April and May, 1916:

SUMMARY OF ACTIVITIES FOR THE MONTHS OF APRIL AND MAY, 1916.

Zone.	Opportunities received.				Applications for employment.					
	Applications for help.		Persons applied for.		Applications received.		Referred to employment.		Number actually employed.	
	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.
1. Boston, Mass.	4	7	15	1,542	48	75	14	10	11	10
Portland, Me.										
Total.	4	7	15	1,542	48	75	14	10	11	10
2. New York, N. Y.	278	280	999	1,439	668	1,375	487	804	424	768
Buffalo, N. Y.	94	82	1,009	1,050	527	629	515	662	307	462
Total.	372	362	2,008	2,489	1,195	2,004	1,002	1,466	731	1,230
3. Philadelphia, Pa.	133	116	600	958	329	349	266	294	194	229
Pittsburgh, Pa.	21	20	522	418	291	280	128	110	40	89
Total.	154	136	1,122	1,376	620	629	394	404	234	318
4. Baltimore, Md.	16	14	18	44	94	97	87	153	87	153
5. Norfolk, Va.	22	14	50	26	69	100	124	83	79	62

SUMMARY OF ACTIVITIES FOR THE MONTHS OF APRIL AND MAY, 1916—Concluded.

Zone.	Opportunities received.				Applications for employment.					
	Applications for help.		Persons applied for.		Applications received.		Referred to employment.		Number actually employed.	
	April.	May.	April.	May.	April.	May.	April.	May.	April.	May.
6. Jacksonville, Fla.	.....	.....	.....	.....	93	1,008	62	71	13	64
Charleston, S. C.	.....	3	.....	4	38	307	15	8	15	8
Miami, Fla.	11	6	21	32	56	96	9	34	9	29
Mobile, Ala.	.....	2	.....	4	14	14	.....	.....	.....	.....
Savannah, Ga.	4	3	22	66	55	439	22	66	17	63
Total.	15	14	43	106	256	1,864	108	179	54	164
7. New Orleans, La.	3	13	3	15	196	133	12	18	1	8
Gulfport, Miss.	1	3	6	4	38	59	7	.....	.....	.....
Memphis, Tenn.	.....	5	.....	17	.....	63	.....	3	.....	1
Total.	4	21	9	36	234	255	19	21	1	9
8. Galveston, Tex.	1	4	2	11	59	61	21	23	3	7
Amarillo, Tex.	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Brownsville, Tex.	.....	.....	.....	.....	1	1	1	1	.....	.....
El Paso, Tex.	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Eagle Pass, Tex.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Albuquerque, N. Mex.	.....	.....	.....	.....	5	4	.....	.....	.....	.....
Houston, Tex.	.....	2	.....	2	35	29	1	1	1	1
Laredo, Tex.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Angelo, Tex.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.	1	6	2	13	100	97	23	25	4	8
9. Cleveland, Ohio.	26	23	34	443	96	100	62	79	25	15
10. Chicago, Ill.	128	203	2,086	1,370	2,138	1,769	1,134	1,036	1,118	1,005
Detroit, Mich.	160	262	824	1,306	402	830	396	814	396	732
Indianapolis, Ind.	103	76	498	241	590	267	522	271	522	264
Saulte Ste. Marie, Mich.	15	15	78	289	47	114	43	106	43	103
Total.	406	556	3,486	3,206	3,177	2,980	2,095	2,227	2,079	2,104
11. Minneapolis, Minn.	68	31	76	34	64	53	51	19	51	19
12. St. Louis, Mo.	26	27	158	2,676	179	131	110	65	89	61
Kansas City, Mo.	190	422	309	1,024	698	900	315	781	185	520
Total.	216	449	467	3,700	877	1,031	425	846	274	581
13. Denver, Colo.	11	6	29	17	21	29	18	15	7	8
Salt Lake City, Utah.	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
Total.	11	6	29	17	23	29	18	15	7	8
14. Helena, Mont.	6	2	6	2	3	6	2	2	2	.....
Moscow, Idaho.	3	1	3	1	4	4	5	4	3	.....
Total.	9	3	9	3	7	10	7	6	5	.....
15. Seattle, Wash.	65	106	132	297	808	810	129	269	123	256
Aberdeen, Wash.	22	15	65	60	245	220	65	60	64	60
Bellingham, Wash.	41	31	96	140	129	104	86	103	78	95
Everett, Wash.	5	8	14	33	48	27	20	11	14	11
Kennewick, Wash.	.....	125	.....	900	.....	850	.....	825	.....	825
North Yakima, Wash.	331	322	504	484	957	848	481	470	470	447
Spokane, Wash.	75	71	145	138	225	145	132	115	132	115
Takoma, Wash.	205	517	479	1,239	620	844	479	1,085	471	1,069
Walla Walla, Wash.	167	113	228	179	218	305	177	176	176	170
Total.	911	1,308	1,663	3,470	3,250	4,153	1,569	3,114	1,528	3,048
16. Portland, Oreg.	982	1,330	1,900	3,128	1,115	1,708	1,584	2,644	1,484	2,404
17. San Francisco, Cal.	277	286	475	665	1,113	1,315	426	481	308	331
18. Los Angeles, Cal.	.....	.....	.....	.....	343	134	.....	.....	.....	.....
Bakersfield, Cal.	1	2	6	17	8	16	5	16	5	16
San Diego, Cal.	310	350	692	1,011	809	963	830	1,150	686	973
Tucson, Ariz.	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Total.	311	352	698	1,028	1,160	1,114	835	1,166	691	989
Grand total.	3,805	4,918	12,104	21,326	13,498	17,614	8,843	12,938	7,653	11,453

WORK OF STATE AND MUNICIPAL EMPLOYMENT BUREAUS.

In the following table data are presented relative to the operations of free public employment offices. Information is furnished for State employment bureaus in 14 States, municipal employment bureaus in 8 States, State-city employment bureaus in 2 States, a city-private employment bureau in 1 State, and a Federal-municipal employment bureau in 1 State. Figures are given for both May, 1915, and May, 1916, in cases where reports have been received for both periods. Certain bureaus reported for May, 1916, only, and in these cases such data are the data presented. A report for April, 1915, and April, 1916, for one bureau received too late for insertion in last month's issue, will also be found in this issue.

OPERATIONS OF FREE PUBLIC EMPLOYMENT OFFICES, APRIL AND MAY, 1915 AND 1916.

State and city.	Number of—					
	Applications from employers.	Persons asked for by employers.	Persons applying for work.		Persons referred to positions.	Positions filled.
			New registrations.	Renewals.		
California (municipal):						
Berkeley—						
May, 1915	151	159	100	455	159	159
May, 1916	168	183	101	304	183	183
Sacramento—						
May, 1915	150	255	60	(1)	(1)	255
May, 1916	205	349	86	(1)	(1)	349
California (State-city):						
Los Angeles [2]—						
April, 1915	(1)	(1)	1,991	(1)	(1)	2,570
April, 1916	(1)	4,229	1,732	(1)	4,379	3,784
May, 1915	(1)	(1)	1,704	(1)	(1)	1,800
May, 1916	(1)	5,107	2,962	(1)	5,085	4,531
California (State):						
Oakland—						
May, 1916	584	795	653	94	849	625
Sacramento—						
May, 1916	312	662	626	58	577	518
San Francisco—						
May, 1916	1,145	2,452	2,278	485	2,159	1,718
Colorado (State):						
Colorado Springs—						
May, 1915	(1)	579	(1)	(1)	(1)	570
May, 1916	(1)	724	869	(1)	668	(1)
Denver, No. 1—						
May, 1915	(1)	234	(1)	(1)	(1)	202
May, 1916	(1)	292	351	(1)	236	(1)
Denver, No. 2—						
May, 1915	(1)	258	(1)	(1)	(1)	231
May, 1916	(1)	339	437	(1)	284	(1)
Pueblo—						
May, 1915	(1)	125	(1)	(1)	(1)	125
May, 1916	(1)	539	475	(1)	433	(1)
Connecticut (State):						
Bridgeport—						
May, 1915	406	(1)	(1)	(1)	(1)	355
May, 1916	767	(1)	(1)	(1)	(1)	642
Hartford—						
May, 1915	257	(1)	(1)	(1)	(1)	235
May, 1916	967	(1)	(1)	(1)	(1)	725
New Haven—						
May, 1915	263	(1)	(1)	(1)	(1)	205
May, 1916	924	(1)	(1)	(1)	(1)	722
Norwich—						
May, 1915	40	(1)	(1)	(1)	(1)	35
May, 1916	274	(1)	(1)	(1)	(1)	261

[1] Not reported.

[2] Includes Los Angeles district, 8 counties.

OPERATIONS OF FREE PUBLIC EMPLOYMENT OFFICES, APRIL AND MAY, 1915 AND 1916—Continued.

State and city.	Number of—					
	Applications from employers.	Persons asked for by employers.	Persons applying for work.		Persons referred to positions.	Positions filled.
			New registrations.	Renewals.		
Connecticut (State)—Concluded.						
Waterbury—						
May, 1915	172	(1)	(1)	(1)	(1)	133
May, 1916	202	(1)	(1)	(1)	(1)	138
Illinois (municipal):						
Chicago—						
May, 1916	[2] 51	930	450	(1)	930	428
Illinois (State):						
Chicago—						
May, 1915	2,785	(1)	[3] 3,906	(1)	(1)	2,016
May, 1916	8,168	(1)	[3] 11,238	(1)	(1)	7,383
East St. Louis—						
May, 1915	524	(1)	[3] 826	(1)	(1)	522
May, 1916	1,500	(1)	[3] 1,864	(1)	(1)	1,235
Peoria—						
May, 1915	781	(1)	[3] 929	(1)	(1)	751
May, 1916	1,663	(1)	[3] 1,119	(1)	(1)	1,117
Springfield—						
May, 1915	270	(1)	[3] 452	(1)	(1)	270
May, 1916	814	(1)	[3] 699	(1)	(1)	606
Rock Island-Moline—						
May, 1915	368	(1)	[3] 535	(1)	(1)	346
May, 1916	738	(1)	[3] 750	(1)	(1)	611
Rockford—						
May, 1915	436	(1)	[3] 575	(1)	(1)	431
May, 1916	1,082	(1)	[3] 857	(1)	(1)	800
Indiana (State):						
Fort Wayne—						
May, 1915	177	235	203	50	253	227
May, 1916	422	774	476	119	595	502
South Bend—						
May, 1915	143	244	332	77	220	193
May, 1916	312	1,032	491	108	573	527
Terre Haute—						
May, 1915	(1)	370	(1)	(1)	382	346
May, 1916	(1)	582	(1)	(1)	523	460
Kansas (State):						
Topeka—						
May, 1915	33	46	60	7	40	28
May, 1916	101	120	132	9	135	111
Kentucky (city—private):						
Louisville—						
May, 1915	(1)	129	393	767	104	65
May, 1916	(1)	479	381	717	329	177
Kentucky (State):						
Louisville—						
May, 1915	53	53	[3] 262	[4]	53	53
May, 1916	204	204	[3] 413	[4]	204	204
Massachusetts (State):						
Boston—						
May, 1915	1,412	1,585	[5] 1,007	(1)	[6] 2,749	1,289
May, 1916	2,999	3,455	[5] 1,758	(1)	[6] 4,818	2,184
Fall River—						
May, 1915	115	118	[5] 19	(1)	[6] 118	108
May, 1916	211	237	[5] 36	(1)	[6] 200	179
Springfield—						
May, 1915	527	573	[5] 224	(1)	[6] 741	462
May, 1916	1,248	1,537	[5] 594	(1)	[6] 1,781	1,128
Worcester—						
May, 1915	607	719	[5] 619	(1)	[6] 983	501
May, 1916	1,219	1,580	[5] 694	(1)	[6] 1,612	823
Michigan (State):						
Battle Creek—						
May, 1916	143	428	(1)	(1)	(1)	198
Bay City—						
May, 1916	207	207	(1)	(1)	(1)	90
Detroit—						
May, 1916	1,120	7,311	(1)	(1)	(1)	6,520

[1] Not reported.
[2] Number of requisitions.
[3] Number applying for work.
[4] Every applicant must register each month.
[5] Number who were registered.
[6] Number of offers of positions.

OPERATIONS OF FREE PUBLIC EMPLOYMENT OFFICES, APRIL AND MAY, 1915 AND 1916—Continued.

State and city.	Number of—					
	Applications from employers.	Persons asked for by employers.	Persons applying for work.		Persons referred to positions.	Positions filled.
			New registrations.	Renewals.		
Michigan (State)—Concluded.						
Flint—						
May, 1916	413	1,030	(1)	(1)	(1)	835
Grand Rapids—						
May, 1916	504	1,247	(1)	(1)	(1)	1,160
Jackson—						
May, 1916	419	975	(1)	(1)	(1)	942
Kalamazoo—						
May, 1916	433	550	(1)	(1)	(1)	430
Lansing—						
May, 1916	82	396	(1)	(1)	(1)	194
Muskegon—						
May, 1916	80	277	(1)	(1)	(1)	225
Saginaw—						
May, 1916	148	926	(1)	(1)	(1)	868
Montana (municipal):						
Butte—						
May, 1915	231	(1)	283	(1)	(1)	203
May, 1916	466	(1)	510	(1)	(1)	390
New Jersey (municipal):						
Newark—						
May, 1915	(1)	832	(1)	(1)	1,114	629
May, 1916	(1)	1,690	647	2,653	2,041	1,384
New York (municipal):						
New York City—						
May, 1915	288	358	1,678	.....	709	287
May, 1916	2,562	2,985	2,228	.....	3,843	2,373
New York (State):						
Albany—						
May, 1916	607	812	539	261	755	404
Brooklyn—						
May, 1916	1,581	2,585	2,002	502	2,663	1,580
Buffalo—						
May, 1916	973	1,215	474	223	1,148	758
Rochester—						
May, 1916	1,373	2,073	819	274	1,587	806
Syracuse—						
May, 1916	1,087	1,299	640	131	1,193	931
Ohio (State-city):						
Akron—						
May, 1915	(1)	616	948	1,871	677	495
May, 1916	(1)	2,174	708	1,435	1,670	1,394
Cincinnati—						
May, 1915	(1)	858	1,888	5,170	977	698
May, 1916	(1)	2,238	1,483	2,687	1,997	1,273
Cleveland—						
May, 1915	(1)	3,631	2,431	6,337	3,405	2,950
May, 1916	(1)	10,904	2,940	8,262	8,462	7,158
Columbus—						
May, 1915	(1)	1,201	739	3,393	1,153	1,045
May, 1916	(1)	2,956	727	2,447	2,670	2,122
Dayton—						
May, 1915	(1)	649	917	2,374	619	504
May, 1916	(1)	1,595	702	1,110	1,298	1,144
Toledo—						
May, 1915	(1)	1,414	1,029	1,989	983	968
May, 1916	(1)	4,532	1,423	2,442	2,840	2,443
Youngstown—						
May, 1915	(1)	555	651	1,348	596	493
May, 1916	(1)	1,356	715	1,240	1,341	1,221
Oklahoma (State):						
Enid—						
May, 1915	(1)	(1)	(1)	(1)	(1)	92
May, 1916	130	(1)	[2] 159	(1)	(1)	123
Muskogee—						
May, 1915	(1)	(1)	(1)	(1)	(1)	90
May, 1916	314	(1)	[2] 183	(1)	(1)	156
Oklahoma City—						
May, 1915	(1)	(1)	(1)	(1)	(1)	154
May, 1916	433	(1)	[2] 365	(1)	(1)	293

[1] Not reported.

[2] Number applying for work.

OPERATIONS OF FREE PUBLIC EMPLOYMENT OFFICES, APRIL AND MAY, 1915 AND 1916—Concluded.

State and city.	Number of—					
	Applications from employers.	Persons asked for by employers.	Persons applying for work.		Persons referred to positions.	Positions filled.
			New registrations.	Renewals.		
Oklahoma (State)—Concluded.						
Tulsa—						
May, 1915	[1]	[1]	[1]	[1]	[1]	[1]
May, 1916	742	[1]	[2] 565	[1]	[1]	565
Pennsylvania (State):						
Altoona—						
May, 1916	[1]	233	154	.....	91	89
Harrisburg—						
May, 1916	[1]	1,635	375	22	249	238
Johnstown—						
May, 1916	[1]	246	75	7	55	42
Philadelphia—						
May, 1916	[1]	698	889	243	541	309
Pittsburgh—						
May, 1916	[1]	1,114	727	138	477	436
Rhode Island (State):						
Providence—						
May, 1915	456	624	292	198	[1]	624
May, 1916	407	491	337	206	[1]	491
Texas (municipal):						
Dallas—						
May, 1915	28	32	57	26	73	32
May, 1916	182	247	124	62	358	247
Fort Worth—						
May, 1915	86	103	[2] 876	[1]	112	99
May, 1916	156	333	264	69	217	210
Virginia (municipal):						
Richmond—						
May, 1915	113	227	[2] 665	[1]	316	184
May, 1916	234	499	764	[1]	581	381
Washington (Federal-municipal):						
Tacoma—						
May, 1915	261	395	[1]	[1]	399	395
May, 1916	517	1,239	[1]	[1]	1,078	1,089
Washington (municipal):						
Everett—						
May, 1916	[1]	[1]	[1]	[1]	[1]	463
Spokane—						
May, 1915	[1]	[1]	[1]	[1]	732	662
May, 1916	2,260	3,175	[1]	[1]	2,895	2,893
Wisconsin (State):						
La Crosse—						
May, 1915	137	170	[3] 334	[1]	162	89
May, 1916	250	295	[3] 291	[1]	277	180
Milwaukee—						
May, 1915	1,389	1,957	[3] 2,848	[1]	3,056	2,493
May, 1916	2,439	4,269	[3] 3,193	[1]	3,335	2,666
Oshkosh—						
May, 1915	168	224	[3] 363	[1]	193	172
May, 1916	237	314	[3] 253	[1]	212	178
Superior—						
May, 1915	286	349	[3] 619	[1]	428	320
May, 1916	565	1,627	[3] 1,485	[1]	1,535	937

[1] Not reported. [2] Number applying for work. [3] Registrations.

EMPLOYMENT IN SELECTED INDUSTRIES IN MAY, 1916.

Figures collected by correspondence by the Bureau of Labor Statistics are here presented showing the changes in the amount of employment in nearly 500 representative establishments in 10 manufacturing industries between May, 1915, and May, 1916, and between April, 1916, and May, 1916, and also concerning the general

changes in the wage rates of employees in these industries since May 1, 1915.

The collection of data of this character was begun in October, 1915, and has been continued since. This information, accurate and closely up to date, is of such decided value to the industries reporting, and of so much public interest, that it is the purpose of the bureau to continue the inquiry from month to month as a regular feature of the bureau's activities.

The number of employees in May, 1916, was greater than in May, 1915, in 8 of the 10 industries covered. The greatest increase shown is in the iron and steel industry, where the number of employees reported on the pay roll was 31.7 per cent greater in May, 1916, than in May, 1915. More money was paid to employees in wages in all the industries covered in May, 1916, than in May, 1915. The greatest increase in the amount of the pay roll was 69.2 per cent, reported for the iron and steel industry.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN MAY, 1915, AND MAY, 1916.

Industry.	Establishments to which inquiries were sent.	Establishments reporting for May, both years.	Period of pay roll.	Number on pay roll in May—		Per cent of increase (+) or decrease (−).	Amount of pay roll in May—		Per cent of increase (+) or decrease (−).
				1915	1916		1915	1916	
Boots and shoes	86	66	1 week	48,225	59,234	+22.8	$510,006	$765,206	+50.0
Cotton manufacturing	92	55	do	55,668	54,778	− 1.6	469,805	521,502	+11.0
Cotton finishing	19	14	do	10,281	10,467	+ 1.8	114,211	134,878	+18.1
Hosiery and underwear	82	53	do	25,414	27,914	+ 9.8	223,363	275,729	+23.4
Woolen	56	44	do	36,894	41,401	+12.2	368,069	500,583	+36.0
Silk	64	44	2 weeks	17,392	19,129	+10.0	348,408	429,586	+23.3
Men's ready-made clothing	86	38	1 week	15,308	16,606	+ 8.5	172,073	209,585	+21.8
Iron and steel	142	102	½ month	118,545	156,126	+31.7	3,572,210	6,043,820	+69.2
Car building and repairing	80	39	do	38,214	48,457	+26.8	1,077,433	1,577,227	+46.4
Cigar manufacturing	107	69	1 week	11,728	10,799	− 7.9	109,092	113,642	+ 4.2

Comparing April, 1916, and May, 1916, in the next table, 5 of the industries listed show an increase in the number of employees on the pay roll and 5 show a reduction. The greatest increase is 3.5 per cent for the iron and steel industry and the greatest reduction is 3.1 per cent for the cotton finishing industry. All of the industries listed, with the exception of silk and men's ready-made clothing, show that employees received more money in wages in May, 1916, than in April, 1916. The greatest increase, 9.2 per cent, is shown for the iron and steel industry.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN APRIL, 1916, AND MAY, 1916.

Industry.	Establishments to which inquiries were sent.	Establishments reporting for April and May.	Period of pay roll.	Number on pay roll in—		Per cent of increase (+) or decrease (−).	Amount of pay roll in—		Per cent of increase (+) or decrease (−).
				April, 1916.	May, 1916.		April, 1916.	May, 1916.	
Boots and shoes	86	66	1 week	54,506	53,515	−1.8	$682,024	$696,027	+2.1
Cotton manufacturing	92	55	do	54,620	54,771	+ .3	496,113	518,520	+4.5
Cotton finishing	19	15	do	11,490	11,130	−3.1	134,106	142,847	+6.5
Hosiery and underwear	82	55	do	28,853	29,121	+ .9	271,441	278,576	+2.6
Woolen	56	44	do	37,384	37,814	+1.2	442,745	471,364	+6.5
Silk	64	47	2 weeks	20,253	19,980	−1.3	447,944	447,437	− .1
Men's ready-made clothing	86	35	1 week	16,654	16,541	− .7	216,880	208,978	−3.6
Iron and steel	142	101	½ month	140,139	145,102	+3.5	5,109,612	5,582,177	+9.2
Car building and repairing	80	38	do	42,020	42,761	+1.8	1,355,308	1,408,254	+3.9
Cigar manufacturing	107	62	1 week	20,939	20,373	−2.7	214,943	215,660	+ .3

NUMBER ACTUALLY EMPLOYED ON LAST FULL DAY OF PAY PERIOD.

On the blank forms sent to the iron and steel plants two questions have been carried for several months: (*a*) Total number of persons on the pay roll; and (*b*) number actually working on the last full day of the pay period. The figures for these two inquiries, of course, differ in any plant having a shifting force, as the first counts every individual name on the pay roll, including all persons who worked the whole or any part of the pay period; while the second inquiry counts only those who were working on one particular day, the last day of the pay period in which the plant was in operation a full-length day, thus excluding a half-holiday Saturday or other irregular short day when the force might not have been quite normal.

The same two inquiries carried previously in the iron and steel industry were included in the May request for all of the other industries as well and the figures are presented below.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATION IN MAY, 1915, AND MAY, 1916.

Industry.	Establishments reporting for May both years.	Period of pay roll.	Number actually working on last full day of reported pay period in May—		Per cent of increase (+) or decrease (−).
			1915	1916	
Boots and shoes	35	1 week	23,765	27,019	+13.7
Cotton manufacturing	39	do	26,774	26,791	+ .1
Cotton finishing	11	do	8,761	9,062	+ 3.4
Hosiery and underwear	13	do	9,188	9,651	+ 5.0
Woolen	41	do	25,198	29,616	+17.5
Silk	36	2 weeks	10,939	12,269	+12.2
Men's ready-made clothing	11	1 week	1,259	1,380	+ 9.6
Iron and steel	87	½ month	92,954	123,526	+32.9
Car building and repairing	37	do	33,904	43,319	+27.8
Cigar manufacturing	44	1 week	11,379	10,881	− 4.4

The percentages of change in the numbers relating to employees between May, 1915, and May, 1916, in the first and third tables shown differ to some extent, yet the general significance of the two sets of figures is on the whole the same. In comparing the figures of the two tables it should be remembered not only that the questions differ in substance but that the last table is based on returns from a considerably smaller number of establishments.

In addition to the data presented in these tables 94 plants in the iron and steel industry reported 120,392 employees actually working on the last full day of the pay period reported for in May, 1916, as against 115,247 reported for in April, 1916, an increase of 4.5 per cent.

A few establishments have informed the bureau that they have reported as the total number of persons on the pay roll the positions occupied, and not the number of individual persons listed, regardless of the number of different individuals taken on to maintain the force; in other words, they have reported the net full force for the pay period, obtaining the figures by dividing the aggregate one-man hours worked in the pay period by the number of days the plant was in operation in the period. Such figures are, of course, the best possible means of indicating the volume of work afforded, but as many establishments do not keep such exact records it was thought inadvisable to ask employers to undertake the labor of keeping the necessary time records and making the computation for such a very accurate report. It is believed that the two inquiries made as to the number of persons on the pay roll and the number employed on the last full day indicate with sufficient accuracy the change in the volume of employment from one pay period to another.

The returns from a few establishments report identical numbers in answer to the two inquiries as to total persons on the pay roll and the number employed on the last full day of the pay period, which figures may be correct, but it is quite improbable in a plant of much size, owing to the shifting of the force caused by some employees leaving and others being hired in their places. It is hoped that correspondents will review the answers to these inquiries closely and make reply in accordance with the intent of each inquiry.

CHANGES IN WAGE RATES SINCE MAY 1, 1915.

The figures in the first table show a decided increase in the amount of money paid out in wages in May, 1916, as compared with May, 1915. In the inquiry sent out for May data, an additional question was included asking what general increases or decreases had been made in rates of wages since May 1, 1915, as distinguished from the totals of the pay rolls, and for the date and extent of such

changes in rates. The replies to this inquiry have not been as complete as desired, but the information received shows that decided increases have been made in rates of wages of employees in many lines of industry in the past year.

IRON AND STEEL.

Ninety-one of the 101 establishments in the iron and steel industry reporting announced increases in rates of wages since May 1, 1915; 10 only reported having made none. Seven other establishments reported as to volume of employment, but failed to answer this question. Of these 91, 83 increased wages in May, 1916, and for 71 of the 83 this was at least a second increase during the 13 months period. One establishment reported having advanced its rates every 60 days, with aggregates of from 15 per cent to 30 per cent in the different departments. February, 1916, ranks next to May in increases, 38 establishments reporting advances during that month.

One-half the increases made were of 10 per cent each, with a range in the several increases of from 5 per cent to 30 per cent, aggregating 33 per cent in one establishment where there had been 3 separate advances, and 45 establishments reported 2 increases of 10 per cent each. In nearly every case approximately all the employees of the establishments were affected by the increases, although 3 establishments reported that common labor only was benefited. These increases are not confined to any one district, but have been general in establishments in the Eastern, Middle Western, and Southern States.

COTTON MANUFACTURING.

As industrial conditions are somewhat different in the northern and southern States, statements are given for the two groups separately. Reports were received from 31 northern cotton mills as to whether changes in rates of wages were made during the past year. Of this number every one of the 31 gave a general increase in the last year and 25 gave two general increases. The first of the two general increases in the cotton mills took effect in January, and the second in April or May. Of the 31 mills, 26 gave increases in January. In 31 mills the increase was 5 per cent, in 2 mills 8 per cent, in 1 mill 8½ per cent, in 1 mill 10 per cent, and in 1 mill the percentage of increase varied in the different occupations. Of the 31 mills reporting, all save one made an increase in April or May. In 24 mills the increase was 10 per cent, in 1 mill 8½ per cent, in 1 mill 8 to 10 per cent, in 1 mill 7½ per cent, in 2 mills 5 per cent, and in 1 mill a varying increase.

Of 27 southern mills 7 made a general increase in the last year, and 15 no general increase. Five southern mills to which the inquiry was sent made no report. Of the 7 mills reporting an increase in

the year, one gave 2½ per cent advance in May, one an increase for weaving in September, 1915. One reported a general gradual increase for the last six months, one made a 10 per cent increase in April, one an increase of 13½ per cent in May for spinners, one an increase of 5 per cent in April to 30 per cent of its employees, and one reported changes at different times in different departments of from 5 to 10 per cent.

COTTON FINISHING.

The bureau has but few correspondent establishments in cotton finishing. Reports have been received, however, from thirteen establishments, all of which report increases in wages since May 1, 1915. In general, the time of the increases is reported as about the same as for the cotton manufacturing industry, the first increase being early in 1916, and the second in April or May. Nine establishments report increases in both periods, and four in the spring only. The rate of increase varied from 5 per cent to 20 per cent, the spring increase having been greater than the one early in the year.

WOOLEN.

The increases in wages reported in the woolen industry follow as to time, and largely as to extent, the increases reported in the cotton manufacturing and cotton finishing industries, the first period of increase being in January, 1916, and the second period in April or May. Thirty-eight establishments reported increases in both January and May. The increases in January ranged from 5 per cent to 9 per cent, while the increase in April or May was uniformly 10 per cent. One establishment reported a single increase of 10 per cent in May, and one a single increase of 17½ per cent in January, and seven establishments failed to make a report as to increases.

SILK.

In the silk industry 27 of the establishments to which inquiries were sent reported increases in rates of wages, 3 reported reductions in hours with no change in pay, 8 reported no increases, and 8 failed to respond to the inquiry. Of the 27 above mentioned, 14 had made increases as follows: Five establishments increased their rates from 5 to 10 per cent in January; 6 from 10 to 15 per cent in March or April; 2, 5 per cent in May, and 1 had made two advances of $1 per week each to all unskilled labor, one in February and one in May. All of the remaining 13 of the 27 establishments showing increases reported an increase in rates of wages, for the most part of 10 per cent in March or April, and, in addition, a reduction in working hours from 10 to 9 per day, or from 55 to 50 per week. The 3 establishments which reduced the working hours with no change in weekly pay were in effect increasing the rate of wages per hour.

HOSIERY.

In the hosiery industry 13 establishments report some increase, 15 report none, and 30 failed to reply to the inquiry. Of the 11 reporting increases 3 gave increases of 5 per cent in January, 1916, and of 10 per cent in April, one gave an increase of approximately 10½ per cent between January 1 and April 24, one an increase of 10 per cent March 1st, one from 10 per cent to 25 per cent with dates not given, and the remaining 7 report adjustments which they say generally mean advances.

CLOTHING.

No general increases were reported in the men's ready-made clothing industry. Returns were made by 39 establishments; of these 8 had made no increase in rates of wages, 24 did not answer the question, and 7 reported some increases, as follows: One establishment granted a 10 per cent increase to three-quarters of its force in March, one gave a part of its employees a 10 per cent advance in March and to another part a similar advance in May; two establishments reported an increase but gave no data as to time or amount, and three establishments reported a decrease in hours of work in January, with an increase in rates that maintained weekly earnings.

BOOTS AND SHOES.

The wage increases in this industry have been gradual and specific rather than general throughout the industry. Twenty-one factories out of 71 replying reported some increases. These increases for the most part applied to certain operations only, mainly piecework. One of the 21 establishments reported a general increase of 5 per cent in January, and 9 others reported fairly general increases without stating the amount or time. One establishment reported an increase of 8 per cent to timeworkers, being one-quarter of their employees, another 10 to 12 per cent to the same class and same proportion of employees. The remaining 10 out of the 21 did not specify the amount of increases. Sixteen establishments reported having made no increases and 34 others failed to answer the inquiry, presumably having made no increases.

CIGAR MANUFACTURING.

Few changes in wage rates were reported in cigar manufacturing establishments. Of 51 establishments replying to the inquiry, only 5 reported an increase in rates, there having been no changes in the remaining 46. The increases reported were: "About 10 per cent since August, 1915"; "increases aggregating 40 per cent to employees in the stemming department"; "an increase on several brands of

cigars in September, 1915"; "a gradual increase"; and "a reduction of one-half hour per day to female timeworkers."

CAR BUILDING AND REPAIRING.

Twenty-one out of 39 car building and repairing shops that made returns reported general increases in rates of wages made during the last year; the remaining 18 have made no material changes.

Three shops in each of two companies reported increases in February, March, or May of from 1 to over 6 per cent; two shops of one company reported increases of 5½ per cent, affecting three-fourths of the men in one shop and 41 per cent of the men in the other; one shop 1½ to 3 cents per hour to timeworkers in April and 4.6 per cent to pieceworkers in February; one shop 6.4 per cent to 61 per cent of the force in April; one shop 6 per cent increase to 40 per cent of the force in February; four shops 1½ to 4 per cent increase in March; five shops reporting an increase did not specify amounts of increases or time when made; and one shop reported a reduction of hours per week from 54 to 50, with no change in weekly pay.

EMPLOYMENT IN THE STATE OF NEW YORK IN MAY, 1916.

A statement concerning manufacturing activity in the State of New York in May, issued by the New York State Industrial Commission, is here reproduced:

The high record of business activity in the factories of New York State, which was established in April of this year, was almost equaled in May, in spite of the disturbing influence of important strikes in the latter month. This is shown by returns from over 1,400 representative manufacturers with over half a million employees, made to the Bureau of Statistics and Information of the State Industrial Commission. From April to May the total number of employees decreased less than 2 per cent while the total amount of wages paid decreased less than 1 per cent. In May, 1916, there were 17 per cent more people employed and 31 per cent more wages paid than in May, 1915. In all industries the amount of wages paid continues to increase more rapidly than the number of employees.

There was a small decrease from April to May in the number of men employed in the stone, clay, and glass products group. The group as a whole paid 6 per cent more in wages in May than in April. The number of employees in May, 1916, was one-eighth greater and the amount of wages was one-fourth greater than in May, 1915. The number of employees in the metals, machinery, and conveyances group set a new high record in May. Almost 2 per cent more men were employed in this group than were employed in April. Increases were greatest in the manufacture of firearms, tools, and cutlery; brass, copper, and aluminum products; and in automobile factories. The increase in total wages for the entire group was approximately 4 per cent. Increases in total wages paid were greatest in the industries whose increases in the number of employees were most marked. The group as a whole employed three-eighths more workers and paid eleven-twentieths more wages in May, 1916, than in

May, 1915. The decrease of 4 per cent in employees and of 3 per cent in total wages paid by the wood manufactures group from April to May is accounted for very largely by a strike in one of the large planing mills. Every industry in this group, except the one in which the strike occurred, employed from one-tenth to one-fifth more men and paid from one-eighth to three-tenths more in wages in May, 1916, than in May, 1915. The furs, leather, and rubber goods group maintained in May the high record in number of employees which it established in April and exceeded its April record for the total amount of wages paid by over 2 per cent. The group as a whole employed one-fifth more workmen and paid two-fifths more in wages in May, 1916, than in May, 1915. The April record of the number of men employed in the chemicals, oils, and paints group was exceeded in May by nearly 1 per cent. The amount of wages paid in this group in May was over 3 per cent more than in April. Increases in both the number of employees and in wages were most marked in the animal and mineral oil products industry. This group of industries employed over one-fifth more workers and paid nearly one-third more in wages in May, 1916, than in May, 1915. The paper-making industry employed nearly 1 per cent more workers and paid 5 per cent more in wages in May than in April. This industry also employed one-sixth more workers and paid over one-third more wages in May, 1916, than in May, 1915. The printing and paper goods group of industries changed but little from April to May. Fluctuations in the business of a few concerns in this group caused a slight decrease in the total amount of wages paid. The group as a whole employed one-twelfth more people and paid one-tenth more in wages in May, 1916, than in May, 1915. In the textiles group the number of employees decreased over 6 per cent and the total wages decreased 4 per cent from April to May. This decrease occurred chiefly in the knit-goods industry, several of whose plants were on strike in May. This group employed one-twentieth more workers and paid one-fifth more wages in May, 1916, than in May, 1915. The clothing, millinery, and laundering group also experienced a decrease in both employees and in wages from April to May. The greatest decrease occurred in the women's clothing industry, which was disturbed by a strike in May. The decrease of 33 per cent in the number of employees and 42 per cent in wages in this industry accounts for most of the decrease of 8 per cent in employees and 14 per cent in the wages paid in the entire group. Largely because of this strike only 2 per cent more workers were employed and only 11 per cent more wages were paid in this group in May, 1916, than in May, 1915. The food, liquors, and tobacco group experienced a decrease of 2 per cent in the number of employees but maintained the same wage total from April to May. The greatest decrease in the number of employees occurred in the tobacco industry and in the manufacture of ice cream, confectionery, flour, and groceries. This group of industries employed only 2 per cent more people and paid only 11 per cent more in wages in May, 1916, than in May, 1915. The water, light, and power industry experienced a decrease of 3 per cent in the number of employees from April to May but increased the total wages by 1 per cent during the same period. The industry employed 2 per cent fewer people but paid 6 per cent more in wages in May, 1916, than in May, 1915.

PROCEEDINGS OF THE AMERICAN ASSOCIATION OF PUBLIC EMPLOYMENT OFFICES.

Though the existence and the evils of unemployment are generally realized only in times of industrial crisis and depression, the fact remains that a great amount of unemployment exists in the United States, even in the most prosperous times and in the most

stable industries. The establishment of public employment offices recognizes not only this fact of unemployment, but also the fact that there is a measure of public responsibility for its causes and of public obligation to provide remedies.

Appreciating the significance of their work and the necessity of coordinating, extending, and improving it, the public employment officials of the country organized at a meeting in Chicago, December 19, 1913, the American Association of Public Employment Offices. The objects of this organization, as set forth in its constitution, are as follows: (1) To improve the efficiency of the public employment offices now in existence; (2) to work for the establishment of such offices in all the States; (3) to secure cooperation and closer connection between the offices in each State and among the States; (4) to promote uniform methods of doing business in all the public employment offices; (5) to secure a regular interchange of information and reports among the various offices; and (6) to secure a proper distribution of labor throughout the country by the coöperation of municipal, State, and Federal governments. All persons connected with Federal, State, provincial, or municipal departments that operate public employment offices are eligible to membership in the association.

Since the Chicago meeting two other meetings have been held by the association, one in Indianapolis, September 24 and 25, 1914, and one in Detroit, July 1 and 2, 1915. At each meeting fundamental principles and practical problems of great interest and importance were discussed, but up to the present time no printed reports of the proceedings have been published. Accordingly, the Bureau of Labor Statistics of the United States Department of Labor has assumed the task of publishing as its Bulletin No. 192 a report of the three conventions. This report is compiled from the written papers of some of the speakers and from the notes of the secretary. As no stenographic reports were taken, all the addresses and discussions could not be reproduced, but those which it is possible to present indicate clearly the scope and value of the work of the association and make available important information regarding the aims, the problems, and the work accomplished by public employment offices.

At the first meeting papers were presented relating to the development of free public employment offices in the United States following the year 1890, when Ohio established the first State offices of that kind in the country; the work of bureaus of employment in France, Austria, Belgium, Denmark, Italy, Switzerland, and Great Britain; the woman's department of a free employment office; the handling of immigrant workers, and the distribution of alien and citizen labor. The resolution respecting the promotion of employment bureaus by

the Swiss Federal Government was also presented, and discussions were held regarding the difficulties of conducting free employment offices, how to organize a State system, what records should be kept and how, and the relation of public and private offices.

In an address at the second meeting of the association the United States Commissioner of Labor Statistics emphasized the seriousness of the unemployment problem, the importance of the public employment office as a constructive agency for furnishing real work to real workers, the magnitude of the work accomplished by such officers in the face of great difficulties, the need of complete statistical records, and the necessity of cooperation between the Federal Bureau of Labor Statistics and the State offices. Other papers related to the wrong way to conduct a system of public employment offices; what must be done to make them more effective; policies and methods of employment agencies maintained by employers' associations; regulation and control of private agencies; distribution of labor and the problem of transportation; a plan for gathering and distributing farm hands in grain States, and a woman's employment office. In addition there was a report on the condition and management of public employment offices in the United States, showing wherein some offices had succeeded and others failed, and offering suggestions for increasing their efficiency.

At the third meeting of the association papers were presented on the problems of organizing a State system of employment offices; experiences in extending and improving the work of a public employment office; developing a farm-hand business; the National Farm Labor Exchange; the placing of women by public employment offices; the immigrant worker and the public employment bureau; the immigrant and the industrial world, and vocational guidance and public employment offices. A preliminary report also was made by a "committee on standards," presenting a system of records, registration, and filing, and making recommendations in regard thereto.

Appendixes to the report give the resolutions adopted at each of the three meetings of the association, recent statistics of public employment offices in the United States, Great Britain, and Germany, and a translation of a series of tables with explanatory text, prepared by the German Imperial Statistical Bureau and published in the German Reichs-Arbeitsblatt, showing the present status of unemployment insurance on the basis of official sources and of reports prepared for the general convention at Ghent of the International Association on Unemployment in September, 1913.

Twenty-five States in this country have provided for public employment offices, and already 77 such State offices have been established in 76 cities; 30 municipal public employment offices have

been established in 28 cities in 16 States, and 77 Federal employment offices have been established in connection with the Division of Information of the United States Department of Labor in 30 States. A tabular statement shows these bureaus according to their character and location.

UNEMPLOYMENT INSURANCE UNDER THE BRITISH NATIONAL INSURANCE ACT.

The British scheme of insurance against unemployment under the National insurance act, 1911, Part II, and the amendment act of 1914 is administered by the Board of Trade and came into operation July 15, 1912. The objects of the scheme are:

1. Compulsory insurance against unemployment in certain trades described as "insured trades." This involves contributions from all employers and workmen in the insured trades, which are designated below, contributions from the State, and the payment of benefits to the workpeople when unemployed.

2. Encouragement of voluntary insurance against unemployment by money grants from State funds to associations of persons, in all trades and occupations, which pay out-of-work benefits.

COMPULSORILY INSURED TRADES.

The insured trades are:

1. *Building trades.*—Construction, alteration, repair, decoration, or demolition of buildings, including manufacture of wood fittings commonly made in builders' workshops.

2. *Construction of works.*—Construction, reconstruction, or alteration of railroads, docks, harbors, canals, embankments, bridges, piers, or other works of construction.

3. *Shipbuilding.*—Construction, alteration, repair, or decoration of ships, boats, or other craft by persons other than members of ship crews, and manufacture of wood fittings commonly made in shipyards.

4. *Mechanical engineering.*—Including manufacture of ordnance and firearms.

5. *Iron founding,* whether included under foregoing headings or not.

6. *Construction of vehicles.*—Construction, repair, and decoration of vehicles.

7. *Sawmilling* (including machine woodwork) carried on in connection with any other insured trade or of a kind commonly so carried on.

Foremen other than manual workmen, clerks, apprentices, and persons under 16 years of age are excluded. The nature of his work

rather than the business of his employer determines whether a workman is or has been in an insured trade. No employer may employ a workman in one of the insured trades who does not have an unemployment book. These books can be obtained from labor exchanges or other local offices of the unemployment fund and are current only for such period, not exceeding 53 weeks, as is specified thereon.

The State contributions must be paid each year and are fixed by the law at one-third of the total net contributions from employers and workmen in insured trades during that year, after deducting the refunds of contributions authorized by law. The treasury may determine the manner and the time such contributions are to be paid.

COLLECTION OF CONTRIBUTIONS FROM EMPLOYERS AND WORKMEN.

Contributions of employers and workmen are paid in the first instance by the employers, who are required to purchase and affix to the workmen's unemployment books unemployment insurance stamps to the value of the joint contributions of employer and workman. The unemployment insurance stamps are obtainable at post offices, but are entirely distinct from postage stamps or from the health insurance stamps issued under Part I of the insurance act. Stamps of three ordinary denominations are on sale, namely, 5d., 4d., and 2d., while stamps of higher denominations may be obtained from the Board of Trade.

After having affixed the stamps the employer may deduct from the workman's wages one-half the value of such stamps. No contributions are required while the workman is out of work or engaged in any other than an insured trade.

UMPIRE TO DECIDE DOUBTFUL CASES.

If there is doubt whether any workman is included in an insured trade information can be obtained from a labor exchange or other local office of the unemployment fund, and if the employer or workman desires he may apply for a definite decision to an umpire appointed by the Crown and acting independently of the Board of Trade.

WORKMEN ONLY PARTLY IN AN INSURED TRADE.

Workmen employed by the same employer partly in and partly not in an insured trade may arrange with the employer to have contributions paid on their account as if they were wholly employed in an insured trade, and will be entitled to benefits accordingly.

CONTRIBUTIONS.

As stated above, contributions are required from all employers and workmen in insured trades and also from the State.

When the workman is 18 years of age or over contributions of 2½d. (5.07 cents) each are required from the employer and the workman, or 5d. (10.14 cents) from both, for every period of employment lasting more than two days but not over a week; 2d. (4.06 cents) from each or 4d. (8.11 cents) from both for every employment period of over one but not over two days; and 1d. (2.03 cents) each or 2d. (4.06 cents) from both for every employment period of not over one day. If the workman is under 18 years of age the contributions required are 1d. (2.03 cents) each or 2d. (4.06 cents) from both for every employment period not exceeding a week.

An employer or workman who fails to pay any of his contributions or refuses to comply with the act or regulations thereunder is liable for each offense to a fine of £10 ($48.67), and in addition, where the offense is failure to pay any contribution, he is liable to the unemployment fund for three times the amount he has refused to pay, not exceeding £5 ($24.33). If an employer convicted of the offense of failing or neglecting to make any contribution is further convicted of failure to pay other contributions in respect of the same workman during the year preceding the date information was laid he is liable to the unemployment fund for the total of such other contributions and can not recover the workman's portion thereof.

CUSTODY OF UNEMPLOYMENT BOOKS.

While the workman is employed his unemployment book is kept by the employer, who must give him reasonable opportunity to inspect the book. When the workman loses his employment the employer must return his book, which the workman must then deposit with a labor exchange or other local office of the unemployment fund.

CONTRIBUTIONS FROM CASUAL WORKMEN.

In ordinary cases, as has been stated, a contribution of 2½d. (5.07 cents) each is required from the employer and the workman for every separate employment period lasting over two days but not over a week. Under this rule a workman having two separate periods of employment in a week, each lasting three days, under different employers, for example, is subject to two contributions—that is, 5d. (10.14 cents)—altogether, and his employers would also have to pay the same amount. On the other hand, if he had been continuously employed for one week by one employer, he and the employer would each have had to pay only 2½d. (5.07 cents).

This to some extent automatically adjusts the premium for insurance to the greater risk, in so far as casual workmen and their employers must pay greater contributions than regular workmen and their employers, though it may be noted that the casual employee under such circumstances gets a proportionately increased claim on the fund.

By a special provision in section 99 of the act, however, casual workmen and their employers may escape the higher contributions and the employer be relieved of the obligation of keeping and stamping unemployment books. This provision authorizes the employer, through the Board of Trade, to make an arrangement with a labor exchange whereby the latter undertakes to keep and stamp on the employer's behalf the unemployment books of workmen engaged through the labor exchange, and whereby all the employment periods of the same or different workmen engaged by that employer through the labor exchange may be treated as a single continuous period of employment of one person. In other words, the employer who uses the labor exchange in this way may pay according to the amount of labor he has, though the employment has been discontinuous and he has not had the same man, and the workman engaged through the labor exchange may pay at the rate of a single contribution for each week of work he does, regardless of the number of separate engagements he may have had.

Employers who thus arrange for a labor exchange to keep and stamp the unemployment books are required to deposit with the Board of Trade a sum sufficient to cover the estimated contributions of both employers and workmen for three months, or such lesser period as may be agreed upon between them and the Board of Trade.

UNEMPLOYMENT FUND.

The unemployment fund is made up of the contributions of employers, workmen, and the State, as above described. From it are paid all claims for unemployment benefit and any other payments authorized under Part II of the act. The fund is controlled and managed by the Board of Trade.

BENEFITS.

Benefits may be obtained by workmen in insured trades either (1) direct from the unemployment fund through a labor exchange or other local branch of the fund, or (2) through an association of workmen which pays unemployment benefits and has arranged with the Board of Trade for a refund under section 105 of the act. In the latter case the members of the association instead of drawing unemployment benefits from a local office under the rules of the unemploy-

ment fund may draw benefits from the association, and the association may thereafter recover from the unemployment fund the amount which the workmen would have been entitled to had they made direct claim. The word "association" as here used includes trade-unions paying unemployment benefits.

According to the amendment act of 1914 the Board of Trade shall not make or continue an arrangement such as that just described unless they are satisfied that the total benefit authorized by the association is at least one-third greater than the benefit provided to be paid from the unemployment fund under the original act.

Whether the workman seeks benefits direct from the unemployment fund or through an association he must, on losing his employment, get his unemployment book from the employer and leave it at a labor exchange or other local office of the fund. Notice that the book has been lodged and claim made will be given in every case to the last employer.

If the workman makes direct claim to the fund he must, if living within three miles of the local office, go to that office daily and sign a register during working hours as evidence of unemployment. If, however, he lives over three but not over five miles from the office he is required to attend only on alternate days, and may then sign both for the actual day of attendance and the preceding day. If the distance exceeds five miles he may attend at longer intervals or give such evidence of unemployment as the Board of Trade may direct.

When the workman makes claim through an association he must get a receipt for his book, take it to the association and give such evidence of unemployment as is required by his arrangement with the association. He thereafter draws benefits from the association in accordance with its rules and subsequent settlement of claim is made between the association and the Board of Trade.

In accordance with its provisions no benefits were paid during the first six months after the law went into effect, that is, until January 15, 1913, but the unemployment benefit to be paid from the unemployment fund after that date was placed at 7s. ($1.70) a week for workmen 18 years of age or over, and 3s. 6d. (85 cents) a week for workmen between 17 and 18, while those under 17 can not claim benefits. Benefits can not be obtained for more than 15 weeks in any insurance year or for less than one day, nor can a workman receive more than the proportion of one week's benefit to five contributions paid by him.

WAITING PERIOD.

No benefit is allowed for the first week of unemployment. This "waiting period" plays an important part in the working of the system. If the rule stood by itself it would mean that every time a

workman obtained employment, even for a day, he would on again losing employment be disqualified from receiving unemployment benefit for a whole week.

A paragraph in section 107 provides, however, that when two periods of unemployment of not less than two days each are separated by a period of not more than two days involving employment of not more than 24 hours, the two unemployment periods are together treated as a continuous period of unemployment.

The meaning of this can be explained best by an illustration. If a workman has been unemployed four days, then gets work for two days, and again is unemployed four days, he can get benefit for the last two days of the second period. In this case the first two days of the second unemployment period are combined with the first unemployment period of four days to make up the waiting week.

Section 107 also provides that when there are two periods of unemployment of not less than a week each, separated by an interval of not more than six weeks, the two unemployment periods are treated as a continuous period of unemployment. Thus, if a workman has been unemployed six days, then gets work for six weeks, and is again unemployed for six days he can receive benefit for the whole of the second six days, the first unemployment period of six days being considered as the waiting period.

A workman is not considered to be unemployed while employed at a remunerative occupation in an insured trade or while following any other occupation from which he gets pay or profit greater than he would derive from unemployment benefit under the act, unless he has ordinarily followed the other occupation in addition to his employment in an insured trade and outside his working hours in that trade, and his pay from such other occupation is not over £1 ($4.87) a week.

CONDITIONS OF BENEFIT.

In order to receive benefits a workman must prove that not less than 10 contributions have been paid by him; that he has made application for unemployment benefit in the prescribed manner, and since the date of the application has been continuously unemployed; that he is capable of work but unable to obtain suitable employment; and that he has not exhausted his right to unemployment benefit. He is not considered to have failed to meet these conditions if he has declined to accept (1) a situation vacant because of stoppage of work due to a trade dispute; (2) an offer of employment in a district where he was last ordinarily employed at a lower rate or on less favorable conditions than those he ordinarily obtained in his usual employment in that district or would have obtained had he continued to be so employed; (3) or an offer of employment in any other district at a

lower rate or on less favorable conditions than those generally observed in such district by agreements between associations of employers and of workmen or, if there is no such agreement, than those generally recognized by good employers.

On the other hand, workmen are not paid unemployment benefit if they unreasonably refuse offers of suitable situations. The situation must, however, be in their own trade and the wages must not be lower and the conditions not worse than those usually prevailing in the trade in the locality where the work is to be done.

DISQUALIFICATION FOR UNEMPLOYMENT BENEFIT.

The following are disqualified from receiving unemployment benefits: (1) A workman who has lost employment by reason of a stoppage of work due to a trade dispute at his place of employment for so long as such stoppage continues or until he gets work elsewhere in an insured trade; (2) a workman who has lost employment through misconduct or voluntarily leaving employment without just cause, for six weeks after so losing employment; (3) a workman while an inmate of any prison, workhouse, or other institution supported by public funds, or while residing temporarily or permanently outside the United Kingdom; (4) a workman receiving sickness or disablement benefit or disablement allowance under Part I of the national insurance act.

DISPUTED CLAIMS.

The decision as to whether a workman is entitled to benefit or not is made in the first instance by an insurance officer appointed by the Board of Trade, subject to the workman's right to appeal to a court of referees, consisting of an "impartial chairman" and one representative each of employers and workmen. From the decision of the court of referees the workman has no appeal, but if the insurance officer disagrees with the recommendation of the court he may carry the matter to the umpire, an officer appointed by the Crown and independent of the Board of Trade, whose decision is final.

REFUND OF CONTRIBUTIONS.

The insurance act originally provided that an employer, in order to get a refund on contributions paid by him in behalf of any workman, must have paid at least 45 such contributions and have had the workman continuously in his service for one year. Under this provision refunds were lost in many cases owing to circumstances over which the employer had no control; for example, when workmen went on strike. The amendment act of 1914 changed this provision so that all that is necessary for the employer to do to get a refund in respect to any workman is to pay 45 contributions or more during the

insurance year. This entitles him to a refund of 3s. (73 cents) for each workman for whom he has paid such contributions whether or not the workman has been continuously employed by him.

The Board of Trade may apply this provision to any period less than an insurance year subject to proportionate reduction in the number of contributions and the sum to be refunded.

A workman who has made 500 contributions is entitled on reaching the age of 60 to a refund of the whole of his contributions (but not what his employer and the State have paid over for him), less the amount he may have received as unemployment benefit, with compound interest at 2½ per cent. If he was over 55 years of age when his contributions first became payable the number of weekly contributions required to entitle him to repayment is reduced by 50 for every year or part of a year by which his age at that time exceeded 55.

When it appears to the Board of Trade that there is exceptional unemployment, workmen systematically working short time and their employers may be exempted entirely from paying contributions.

ENCOURAGEMENT OF VOLUNTARY INSURANCE AGAINST UNEMPLOYMENT.

An important feature of the law is found in section 106, relating to money grants from the State (not from the unemployment fund) to aid voluntary insurance against unemployment. By these grants part of the expenditure actually incurred on account of unemployment may be repaid to associations paying benefits to unemployed persons, whether in an insured trade or not. These grants apply only to insurance through associations and no provision is made for direct voluntary insurance of individual workmen. Repayments may not exceed one-sixth of the amount of benefit paid.

The original act provided that any amount by which benefit payments exceeded 12s. ($2.92) a week should be excluded in calculating repayments under the one-sixth rule. This provision was repealed by the amendment act of 1914 and the limit of benefits on which such repayments can be calculated raised to 17s. ($4.14). On benefits exceeding this amount repayments are subject to reduction by the Board of Trade from what they would otherwise amount to under the one-sixth rule.

In the case of associations of workmen in "insured trades" the refund of one-sixth is calculated not on the whole amount of the benefit paid but on what remains after deducting the amount recoverable by the association from the unemployment fund, according to section 105 of the act, as described above under the heading "Benefits."

Thus, for example, if an association of workmen belonging to the "insured trades" pays a total benefit of 13s. ($3.16) per week, of

which 7s. ($1.70) is allowed by the State and is recovered from the unemployment fund, the refund it would get under the one-sixth rule would not be one-sixth of 13s. ($3.16), but one-sixth of the balance of 6s. ($1.46), or 1s. (24.33 cents) per week. This with the 7s. ($1.70) recovered from the unemployment fund would amount to a total of 8s. ($1.95) recovered per week.

On the other hand, an association of workmen not belonging to the insured trades, which gives a benefit of 13s. ($3.16), for example, can recover nothing from the unemployment fund, but can recover from the State one-sixth of 13s. ($3.16), or 2s. 2d. (52.73 cents) a week.

The amendment act of 1914 further provides that in associations of workmen in insured trades if the highest weekly benefit authorized is less than 13s. ($3.16) the whole amount recovered from the unemployment fund is not excluded in calculating repayments by State grant, but rather such proportion of the amount recovered as the highest weekly payment is of 13s. ($3.16).

Suppose, for example, an association authorizes unemployment benefits of only 12s. ($2.92) per week. The amount recovered by this association from the unemployment fund in respect to a workman receiving such benefit would be 7s. ($1.70) per week. Under the 1914 amendment just mentioned, however, the additional amount to be repaid by State grant according to the one-sixth rule would not be calculated on the balance of 5s. ($1.22) remaining after deducting the 7s. ($1.70) recovered from 12s. ($2.92), but rather on the amount remaining after deducting twelve-thirteenths of 7s. ($1.70), or 6s. 5½d. ($1.57), from 12s. ($2.92). The remaining amount would thus be 5s. 6½d. ($1.35), and one-sixth of this, or $11\frac{1}{12}$d. (22 cents), would be the amount repaid by State grant. This with the 7s. ($1.70) recovered from the unemployment fund would amount to a total of 7s. $11\frac{1}{12}$d. ($1.92) recovered per week.

Soon after the outbreak of the European war the Government authorized emergency grants to associations in addition to the one-sixth allowed under section 106. To secure these extra grants extra levies in addition to regular contributions are required from members who are 21 years of age and over and are fully employed. Emergency grants may amount to one-sixth or one-third of the expenditures for unemployment benefit, depending on the amount of the levy. The rate of the levy also varies according to the benefit paid. If the weekly unemployment benefit is 13s. ($3.16) or less per week, a weekly levy of 1d. (2.03 cents) is required to obtain an emergency grant of one-sixth, and a levy of 2d. (4.06 cents) to obtain a grant of one-third; if the benefit is over 13s. ($3.16) but not over 15s. ($3.65), a levy of 2d. (4.06 cents) is required to secure a grant of one-sixth, and a levy of 4d. (8.11 cents) to secure a grant of one-third; if the

benefit exceeds 15s. ($3.65) but does not exceed 17s. ($4.14), a levy of 3d. (6.08 cents) is required to obtain an emergency grant of one-sixth, and 6d. (12.17 cents) to obtain a grant of one-third. Thus an association paying an unemployment benefit of 17s. ($4.14) per week and levying 6d. (12.17 cents) per week on its members who are fully employed will obtain an emergency grant of one-third of its expenditure on unemployment benefit, which with the one-sixth ordinarily obtainable under section 106 will equal one-half of the association's expenditure. If it levies only 3d. (6.08 cents) per week it will obtain an emergency grant of one-sixth, which with the one-sixth ordinarily obtainable will amount to one-third of its expenditure. Emergency grants are allowed only when associations are suffering from abnormal unemployment and do not pay unemployment benefit of over 17s. ($4.14) a week, and on condition that they agree while receiving such grants to make levies over and above the ordinary contributions on members remaining fully employed.

The following tables, compiled from statements in the Board of Trade Labor Gazette, show, first, the number of workmen insured against unemployment in each group of insured trades at specified dates since the law went into effect, and second, the total number of claims made and the amount of benefits paid from month to month. The figures in these tables are necessarily incomplete, because of lack of official information:

NUMBER OF PERSONS INSURED AGAINST UNEMPLOYMENT UNDER BRITISH NATIONAL INSURANCE ACT OF 1911, AT SPECIFIED DATES, BY TRADES, JULY 27, 1912, TO FEB. 29, 1916.

Date.	Persons insured in—							Total insured.
	Building trades.	Works of construction.	Shipbuilding.	Engineering and iron founding.	Construction of vehicles.	Sawmilling.	Other industries.	
1912.								
July 27	[1] 740,524	[2]	204,672	696,779	171,055	17,192	71,608	1,901,830
Aug. 31	[1] 806,857	[2]	217,377	731,619	179,779	17,616	76,298	2,029,546
Sept. 28	[1] 845,030	[2]	224,569	746,752	183,446	18,047	76,730	2,094,574
Oct. 26	[1] 893,617	[2]	230,724	763,031	187,574	18,218	77,487	2,170,651
Nov. 30	[1] 918,026	[2]	237,313	779,114	191,290	18,480	78,145	2,222,368
Dec. 28	[1] 931,269	[2]	240,567	787,962	193,550	18,661	78,622	2,250,631
1913.								
Feb. 1	792,553	158,308	248,221	802,094	198,060	18,785	79,305	2,297,326
Mar. 1	[1] 967,321	[2]	254,850	814,930	201,994	18,854	80,750	2,338,699
Mar. 29	[1] 983,154	[2]	259,394	824,691	205,009	18,778	82,247	2,373,273
Apr. 26	[1]1,002,141	[2]	264,021	836,683	208,470	18,867	83,400	2,413,582
May 31	[1]1,024,848	[2]	269,749	850,696	212,025	18,973	84,727	2,461,018
June 28	[1]1,045,698	[2]	273,278	862,672	214,718	19,080	86,046	2,501,492
July 12	861,408	186,260	274,228	865,563	216,028	19,118	86,334	2,508,939
1914.								
Jan. 17	775,755	161,168	260,820	804,527	204,672	11,819	63,563	2,282,324
May 31	[1] 927,117	[2]	260,996	807,169	206,170	11,776	63,030	2,276,258
June 30	[1] 947,685	[2]	262,130	811,288	208,130	11,922	63,744	2,304,899
July 31	[1] 956,890	[2]	264,217	817,931	209,985	12,029	64,546	2,325,598
Aug. 31	[1] 967,374	[2]	265,584	820,850	210,859	12,123	64,718	2,341,508
Sept. 30	[1] 976,921	[2]	272,996	828,988	211,471	12,192	64,743	2,367,311

[1] Including those in works of construction. [2] Included in building trades.

NUMBER OF PERSONS INSURED AGAINST UNEMPLOYMENT UNDER BRITISH NATIONAL INSURANCE ACT OF 1911, AT SPECIFIED DATES, BY TRADES, JULY 27, 1912, TO FEB. 29, 1916—Concluded.

Date.	Persons insured in—							Total insured.
	Building trades.	Works of construction.	Shipbuilding.	Engineering and iron founding.	Construction of vehicles.	Sawmilling.	Other industries.	
1914.								
Oct. 31	[1] 985,383	([2])	276,143	838,185	212,370	12,294	64,446	2,388,821
Nov. 30	[1] 926,660	([2])	255,208	771,758	195,326	11,618	59,410	2,219,980
Dec. 31	[1] 889,975	([2])	242,790	730,785	184,720	11,165	56,101	2,115,536
1915.								
Jan. 31	[1] 889,975	([2])	242,790	730,785	184,720	11,165	56,101	2,115,536
Feb. 28	[1] 889,975	([2])	242,790	730,785	184,720	11,165	56,101	2,115,536
Mar. 31	[1] 895,029	([2])	246,027	741,855	186,291	11,257	55,568	2,136,027
Apr. 30	[1] 895,029	([2])	246,027	741,855	186,291	11,257	55,568	2,136,027
May 31	[1] 825,073	([2])	247,745	763,731	183,033	10,246	47,897	2,077,725
June 30	[1] 825,073	([2])	247,745	763,731	183,033	10,246	47,897	2,077,725
July 31	640,947	150,974	242,963	758,093	174,275	9,433	42,998	2,019,683
Aug. 31	640,947	150,974	242,963	758,093	174,275	9,433	42,998	2,019,683
Sept. 30	640,947	150,974	242,963	758,093	174,275	9,433	42,998	2,019,683
Oct. 31	640,947	150,974	242,963	758,093	174,275	9,433	42,998	2,019,683
Nov. 30	577,928	114,155	226,048	804,002	174,139	8,566	47,222	1,952,060
Dec. 31	577,928	114,155	226,048	804,002	174,139	8,566	47,222	1,952,060
1916.								
Jan. 31	550,973	113,427	222,870	846,009	167,075	8,239	43,224	1,951,817
Feb. 29	550,973	113,427	222,870	846,009	167,075	8,239	43,224	1,951,817

[1] Including those in works of construction. [2] Included in building trades.

PERSONS INSURED AGAINST UNEMPLOYMENT, CLAIMS MADE, AND BENEFITS PAID UNDER PART II OF THE BRITISH NATIONAL INSURANCE ACT OF 1911, AT SPECIFIED PERIODS, JAN. 31, 1913, TO FEB. 25, 1916.

Four weeks ending—	Number insured (at end of specified month).	Claims made.[1]	Benefits paid.	
			Number.	Amount.
1913.				
Jan. 31[2]	2,297,326	165,642	[3] 64,522	[3] $120,572
Feb. 28	2,338,699	87,646	[3] 185,222	[3] 288,287
Mar. 28	3,373,273	65,577	[3] 111,161	[3] 173,033
Apr. 25	2,413,582	63,447	[3] 68,043	[3] 105,389
May 30[4]	2,461,018	74,186	[3] 63,639	[3] 95,763
June 27	2,501,492	68,058	[3] 47,379	[3] 71,095
July 25	2,508,939	68,806	[3] 57,372	[3] 85,295
Aug. 29[4]	([5])	78,229	[3] 70,081	[3] 104,425
Sept. 26	([5])	77,266	85,897	125,176
Oct. 31[4]	([5])	110,242	145,856	206,281
Nov. 28	([5])	92,106	154,079	220,671
Dec. 26	([5])	90,615	168,551	245,247
1914.				
Jan. 30[4]	([5])	163,300	317,704	466,955
Feb. 27	([5])	86,465	211,654	301,903
Mar. 27	([5])	75,183	147,225	206,807
Apr. 24	([5])	63,794	120,535	167,442
May 29[4]	2,276,258	83,884	127,925	174,367
June 26	2,304,899	73,743	([5])	156,390
July 31[4]	2,325,598	103,730	([5])	213,956
Aug. 28	2,341,508	180,233	([5])	229,154
Sept. 25	2,367,311	133,692	([5])	384,142
Oct. 30[4]	2,388,821	124,730	([5])	345,278
Nov. 27	2,219,980	76,656	([5])	196,373
Dec. 24	2,115,536	56,049	([5])	151,445

[1] Including both claims for direct payment of benefits and claims for payment through associations which have made arrangements with the Board of Trade under section 105 of the National Insurance Act, 1911.
[2] Jan. 8 to Jan. 31.
[3] Not including benefits due through associations.
[4] Five weeks.
[5] Not reported.

PERSONS INSURED AGAINST UNEMPLOYMENT, CLAIMS MADE, AND BENEFITS PAID UNDER PART II OF THE BRITISH NATIONAL INSURANCE ACT OF 1911, AT SPECIFIED PERIODS, JAN. 31, 1913, TO FEB. 25, 1916—Concluded.

Four weeks ending—	Number insured (at end of specified month).	Claims made.	Benefits paid.	
			Number.	Amount.
1915.				
Jan. 29[1]	2,115,536	73,395	(2)	$200,743
Feb. 26	2,115,536	43,113	(2)	106,635
Mar. 26	2,136,027	32,916	(2)	61,240
Apr. 30[1]	2,136,027	33,538	(2)	48,884
May 28	2,077,725	23,434	(2)	30,599
June 25	2,077,725	22,867	(2)	26,824
July 30[1]	2,019,683	31,179	(2)	33,871
Aug. 27	2,019,683	21,663	(2)	29,024
Sept. 24	2,019,683	22,329	(2)	26,883
Oct. 29[1]	2,019,683	27,195	(2)	32,703
Nov. 26	1,952,060	21,316	(2)	28,634
Dec. 31[1]	1,952,060	27,765	(2)	46,767
1916.				
Jan. 28	1,951,817	20,359	(2)	50,806
Feb. 25	1,951,817	16,959	(2)	34,221

[1] Five weeks. [2] Not reported.

Of the total benefits the larger amount is paid directly from the unemployment fund. Thus, in 1914 the per cent of benefit paid directly ranged from 63 per cent in June and October to 71 per cent in February. The corresponding benefits paid through associations in 1914 and repayable to them from the unemployment fund ranged from 29 to 37 per cent of the total. In 1915 the proportionate amount of benefits paid directly from the unemployment fund was somewhat smaller than in 1914, ranging from 53 per cent in June to 64 per cent in March. In January and February, 1916, 53 per cent of the total amount of benefits was paid directly from the unemployment fund, and 47 per cent through associations.

In connection with various methods proposed for encouraging economy and savings among the British people, in order to meet the conditions growing out of the European war, the suggestion has recently been made[1] that in the national insurance act of 1911 the Government already possesses statutory power to deal effectively with this problem as respects the working classes. The scheme of compulsory unemployment insurance already in effect under this act can be used as a means of promoting thrift and increasing savings among working people and at the same time as a method of bringing to these classes the very important advantage of more general protection against unemployment, a large amount of which is anticipated when the war ends and the Government's war expenditure of four or five million pounds a day ceases.

In the period of nearly four years since the insurance law went into effect much distress has been prevented and a large unemployment

[1] New Statesman, Apr. 15, 1916, pp. 29, 30.

fund has been accumulated. The scheme has worked smoothly and has commanded the approval of both employers and workmen. So far, however, compulsory insurance against unemployment has been limited to certain specified trades, which include about 25 per cent of male wage earners and only 3 per cent of female wage earners, or altogether only about one-fifth of the whole number of working people in the United Kingdom.

Instead of this small proportion practically all working people could be protected and their savings, it is claimed, could be increased six or seven million pounds a year by simply extending the existing scheme of compulsory unemployment insurance under the law. It is pointed out that this extension could be accomplished by the mere issuing of a treasury order, that the machinery for working the scheme already exists and its expansion would call only for additional clerical help, and that the time is opportune because most employers are making unusual profits, unemployment is at a minimum, and organizations of working people are disposed to favor any scheme that will help to meet the strain at the close of the war.

The extension of the scheme, it is stated, would greatly facilitate the task of the Government's "reconstruction committee" in providing for "labor after the war," and it would mean a great deal to the entire nation to know that in any future crisis all its wage earners and not merely the small proportion now protected would have the assurance of benefits amounting to at least 7s. ($1.70) a week each if thrown out of work.

EMPLOYMENT MANAGERS' CONFERENCES, BOSTON, MAY 10, 1916.

BY RALPH G. WELLS, SECRETARY, EMPLOYMENT MANAGERS' ASSOCIATION.

Employment men from all parts of New England met in Boston on May 10 to attend the conference of employment managers and directors of personnel held under the auspices of the Employment Managers' Association of Boston. The program included as speakers men of recognized prominence in business affairs, who had had actual experience in creating or managing successful employment departments in large organizations.

Probably the most significant feature of the conference was the emphasis placed by the speakers on the importance and value of the functionalized employment department as an essential factor in commercial and industrial success. The entire conference was significant of the latest developments in modern methods of man-

agement, which regard personnel problems of as much importance as sales, finances, and production, and as deserving of the expert attention of a competent executive with sufficient authority who has the confidence of the management.

The response to the invitations to the conference indicated strikingly the widespread interest in the subject. The majority of those in attendance were employment executives and were accompanied in many cases by the managers or proprietors of the concerns.

The object of the conference was to bring together those active in the work for the purpose of interchanging ideas and experiences. There was also a realization that in many establishments there are men who are endeavoring to work out alone similar problems and who would appreciate the opportunity of such a meeting, for there is a lack of adequate literature or other recognized sources of information to which the individual may turn when he desires to secure the benefit of experiences other than his own. In fact, one of the chief advantages of such a conference is to crystallize the best thought of the moment into definite form, that it may be available for others who have not had the opportunity of coming in contact with those of more experience.

The question of "hiring and firing" is not new, and for years many of the principal firms have had employment departments, but only within the last four years have business men realized that the subject deserved detailed study and was possessed of such surprising possibilities of improvement and development.

The program of the conference given below illustrates well the progress that has been made in placing the movement on a practical basis and is proof that the functionalized personnel department is no longer an academic proposal but an accepted fundamental in successful business organization.

PROGRAM.

Employment Managers' Conference, Boston, Wednesday, May 10.

Luncheon, 1 p. m., President C. M. Lawrence presiding.

Conference, 2 p. m., four 15-minute papers, each followed by an informal discussion, W. S. Fields presiding.

"Sources of supply and means of getting in touch with them," H. B. Coho, United States Cartridge Co.

"Selection and examination of employees," Dale G. Steely, W. F. Schrafft & Sons (Corp.).

"Training, promotion, transfer, discharge," J. M. Larkin, Fore River Shipbuilding Corporation.

"Records and filing systems for employment departments," W. C. Swallow, Amoskeag Manufacturing Co.

Banquet, 6.30 p. m., President Charles M. Lawrence presiding; James P. Munroe, toastmaster.

"Selection and development of employees," T. K. Cory, Wm. Filene's Sons Co.

"Improving the efficiency and quality of the personnel, H. G. Smith, general manager Fore River Shipbuilding Corporation.
"Methods of reducing the labor turnover, Henry S. Dennison, treasurer Dennison Manufacturing Co.
"The employment department, its functions and scope," H. L. Gardner, Cheney Bros., employment manager.

The conference opened with a luncheon at the Boston City Club, Charles M. Lawrence, president of the Employment Managers' Association, presiding. There were addresses of welcome and congratulation by A. Lincoln Filene, of Wm. Filene's Sons Co.; Meyer Bloomfield, of the Vocation Bureau; Hon. Edwin Mulready; and Ethelbert Stewart, of the United States Bureau of Labor Statistics, who pointed out that there was a lack of uniform methods of keeping records of labor turnover and suggested that statistics showing the turnover by departments were more valuable than figures for the entire plant, but even these were not equal to records of the turnover of each individual job. If in a foundry 50 are quitting from one job while 5 are quitting from another, this fact would not be developed by a record from a department or the plant as a whole. When one knows how many are leaving each job it is possible to determine just the cause of the turnover at that point and take steps which will remedy conditions. Every employment man owes it to himself to find out just why men quit, so that he may guard against losses due to such conditions.

The first paper on the subject of "Sources of supply" was read by H. B. Coho, business director of the United States Cartridge Co. In opening, Mr. Smith emphasized the necessity of the employment manager being a man of broad experience, with an accurate knowledge of the business. He not only should have the confidence of the management but also should have a thorough understanding with his superior officers as to just what his responsibilities and authorities are. An excellent plan is to hold meetings of the overseers at least once a week so that they may offer criticisms and suggestions to the employment manager. However, in any event it is always advisable to set a standard scale of wages which will attract the better classes of help. Far more important than this is the favorable influence of consistent management and attractive working conditions, as there seems to be nothing which secures loyalty and support so much as absolutely consistent management. Anything which encourages employees to talk about the plant outside of working hours, especially if they speak favorably of working conditions, is of great assistance in attracting to the doors the right kind of applicants from which to fill vacancies. He suggested as one means of this the various forms of employees' organizations, baseball clubs, bowling clubs, social events, and features of a similar nature.

One of the principal sources of supply for the average plant is the friends and relatives of people already on the pay roll. Where it is necessary to go outside of the immediate vicinity, conditions should be represented accurately, so that the new employee will not be disappointed. Employment managers should get together and arrange some basis, fair to both employer and employee, upon which employees could be engaged while working for other concerns. There should be a definite understanding as to how much notice should be given. Mr. Coho favored strongly a waiting list of old employees and of applicants. He also considered it necessary to promote from within the ranks wherever possible, suggesting that competitive examinations be held whereby employees could be given tests which would demonstrate their fitness for certain positions.

Dale G. Steely, of W. F. Schrafft & Sons, opened the discussion on "Selection, training, and development of employees" by saying that there were from 6 to 10 points which should be considered in selecting help—namely, physical qualification, adaptation, mental attitude toward the job, honesty, industry, intelligence, health, neatness, cleanliness, and temperament. The character and needs of each business must determine the sequence in which these qualities are valued.

Philip J. Reilly, of the Dennison Manufacturing Co., outlined his system of job analysis. Mr. Reilly said that the information secured from the analysis of each job was:

Job number and designation.
Brief description of job.
Time required to learn job.
Previous training or experience necessary.
Starting wage.
Next advance.
Wage limit (that is, not a hard and fast limit, but representing the maximum earnings of the majority).
Age.
Height.
Weight.
Posture (whether the work requires the man or girl to stand, sit, stoop, or walk).
Motion.
Hands (especially in fine paper-box making small neat hands are required).
Eyesight.
Schooling necessary.
Whether the job entails lay offs or overtime.

This information materially assists the employment department in making wise selections. It enables them to give the applicant a clear idea of what the work is. These analyses also encourage the opening up of channels of promotion from "blind alley" jobs so that employees will not be held indefinitely on such jobs at relatively low wages.

H. L. Gardner, of Cheney Bros., then took up the "Psychological tests" which his concern has used for the past year. These are not used for the selection of ordinary labor, being confined strictly to the choice of men and women for positions requiring certain mental qualifications. From seven to eight hours are occupied in making the average tests. They include:

General intelligence.
Speed.
Accuracy.
Quickness of perception.
Imagination.
General education.
Inventive genius.
Mathematical ability.
Mechanical ability.
Any other tests that are needed to discover specific qualifications.

There have been a few instances where men were chosen for other reasons in spite of failure to pass the tests, but in nearly every case the results have been disappointing, as a man who does not show mechanical ability in a test will not develop mechanical ability on the job. This is true of other qualifications.

J. M. Larkin, of the Fore River Shipbuilding Corporation, described apprenticeship classes which have been organized for nineteen different trades in the plant, presided over by practical men from the shops. In some cases, college men are taken into the works, started at a low rate of pay, and put through the various branches of the work from the bottom up. The policy of promoting from within the ranks was a large factor in reducing the turnover, as the constant bringing in of men from the outside for the better jobs discourages the employees. It is absolutely necessary that employment men should interview every employee before he leaves the plant. First, for the purpose of finding out the cause of the turnover and, second, because they may be needed in some other part of the works.

W. L. Shaw, of W. H. McElwain Co., said that one of the sources of difficulty in training, promotion, transfer, and proper management of employees lies in the improperly or incompletely trained foreman or assistant foreman, and explained the plan which had been adopted by his organization for bringing about better results. The number of departments in each factory were reduced from about 10 to 4 departments. Broader and more experienced foremen were placed in charge of these, and care was taken that these men should be "big leaders" rather than "little bosses." These men have under them an executive foreman who devotes his entire time to the administrative detail of the department. In each department there is a carefully trained and selected staff of assistants, who spend part of their

time on nonproductive labor and part of their time as substitute operatives.

This entire staff is taken into the company counsels by having them attend foremen's dinners and discussions. In other words, every productive department is organized in such a way that the foreman will not become a detail man but be free to handle properly the employees of his department. Everything is done to enlarge the viewpoint of the staff and to emphasize the importance of abandoning the old idea of personal domination and adopting the art of impersonal management and accomplishment.

The paper of W. C. Swallow, of the Amoskeag Manufacturing Co., dealt with employment records and filing systems. He emphasized the necessity of accurate records which would work without causing friction or involving excessive red tape. Records should be kept of people as they come and go with enough information so that they can be looked up readily if they apply for reemployment. He discussed the topic of application blanks, employment passes or certificates of employment, pay roll systems, inquiry blanks and individual folders for employees' records.

An important point brought out in the discussion was that certain firms have developed a system of keeping track of the expense of errors whereby the employee is required to sign for the expense resulting from his error, although this amount is not deducted from his wages. The employee is impressed with the importance of the error by this and these expense records are filed in his individual folder for future reference.

At the evening session, J. P. Munroe, of the Munroe Felt & Paper Co., presided.

T. K. Cory, of Wm. Filene's Sons Co., said, in part:

> Industry should safeguard itself by drawing a middle line between the extremely high class persons and the extremely low class persons. Then it can safely assume that anything above the middle line is fairly good material to start with. We have not so many employees but so many positions to fill, and if each is carefully defined and outlined it is much easier to select the right person to fill it. An employee is an investment rather than an expense and should be safeguarded as such. His health and happiness are big assets, and it is one of the biggest functions of the employment manager to look after these.

Mr. Cory considered the education of employees of more importance than original selection. The education not only develops people along the right lines but should also determine their fitness for various positions, so as to avoid loss which occurs if the person is discharged because of inability to do one certain job. Many times persons holding minor positions have splendid executive ability if given a big enough job. Understudies are as important in industry and commerce as in the theatrical world. Young college men are

good material from which to develop executives, although it is necessary to know how to make the transition for them from the artificial atmosphere of college to the practical life in business.

H. G. Smith, of the Fore River Shipbuilding Corporation, spoke on improving the efficiency and quality of personnel. In the first part of his address he told of a report on employment matters which had been submitted by a committee of departmental heads of his organization who had visited a number of large manufacturing plants in the Middle West for the purpose of studying employment methods in use there. This report was sent to every man occupying an executive position in the plant with the request for comments, criticisms, and suggestions. From the replies to this request there was drawn up a final summary in the form of a report, which led to a number of important changes in their system. In this it seemed to be the unanimous opinion that a new employment bureau should be established on a much higher plane than had been done before. Another conclusion was that when men seek employment in large numbers, a quick selection should be made so that those outside will not have to wait a long time. Applicants waiting should be properly seated and room provided where interviews can be held freely and satisfactorily. Physical examination for all new employees was urged, together with the suggestion that those who did not pass this examination should be given proper advice as to how to bring themselves up to the standard. It was deemed essential that the man in charge of the employment work be one who is naturally courteous himself so that there would be no need of rules for guidance along this line.

H. L. Gardner, of Cheney Bros., dealt with "The employment department, its functions, and scope." He said in part:

> The superintendent who does the hiring and firing under the old system can not have the time to attend to his regular duties and still give proper attention to the selection of employees. There is immense economic loss in actual dollars and cents due to promiscuous employment methods. I have yet to hear of a single establishment which has installed a central employment department that has not found it a great improvement over any other system.
>
> The functions of the employment department are:
>
> First. To secure, by advertising and other standard methods, the necessary applicants.
>
> Second. To weed out undesirables by a personal interview, by searching physical examination, or by reference to former employers.
>
> Third. To select employees who are physically and mentally equipped for the position.
>
> Fourth and fifth. To have complete and up-to-date records of service of every employee, his wage-earning record, etc.
>
> Sixth. To act as a clearing house for the transfer and promotion of employees.
>
> Seventh. To make regular reports on transfer, wage-earning records, and routine work.
>
> Eighth. To make such special studies, reports, or recommendations as may be required for the interests of the concern.

In conclusion, Mr. Gardner said that the establishing of an employment bureau is too often believed to necessitate stripping the foreman or superintendent of authority, prestige, and discipline. So drastic a course is seldom necessary and rarely possible. A foreman's authority need not be curtailed in the slightest degree unless his treatment of employees can not bear the light of investigation.

H. S. Dennison, of the Dennison Manufacturing Co., who spoke on methods of reducing turnover, after dwelling upon the importance of the employment department and the need of having a man of ability in charge, took up the question of labor turnover, saying, in part:

> We fail to realize that the employee is a capital asset simply because the treasurer does not have to write a check for a certain amount to replace that asset after it has been lost. To conserve this asset, you have in the first place your choice of applicants. In choosing men, job specifications are of very great assistance and importance. As the second feature, I urge that the employment manager get into the works freely and often. For the next 50 years three-quarters of the work of the employment manager will be education, instruction, and fitting people to their jobs. A very large proportion of the drop-outs are among those who have been employed a short time. We appreciate too little the discouragement that goes with placing the beginner along side of the highly skilled worker. I urge that the fitness of the employee be determined early and not be postponed. If you are going to shift him anyway, shift him early. Wage increases are easily forgotten in the first few months, when they are more important than at any other time. Among the causes of industrial difficulty a great deal of blame can be laid upon the tactless foreman, and plans to educate foremen for foremanship should be undertaken. This can be done by having meetings where cases reported to the employment manager can be discussed. A skilled workman is not always a good foreman. The man who can do things well himself does not always have patience with the shortcomings of others.

Mr. Dennison also took up the question of irregular employment, due in a measure to the fluctuations of industries, both seasonal and cyclical, and the serious effects of unemployment due to depressions, which at their worst make hoboes and always deteriorate a man and injure his future earning ability. Seasonal unemployment has ten times the chance of betterment. There are methods of regularizing seasonal industry, such as getting orders early, making stock goods or parts of goods in dull seasons, and fitting employees for more than one kind of work.

Following this there were addresses by Robert C. Clothier, of the Curtis Publishing Co.; Joseph Mayper, of the United States Chamber of Commerce; Hon. James Logan, of Worcester; and C. H. Hood, who summarized much of the discussion of the evening in this way:

> Select with the greatest care the best and only the best. After you have selected the best, then instruct them so that they are thoroughly instructed and put upon them all the responsibility that they can carry. Responsibility develops.
>
> Next, promote from the ranks, and in promoting, or at the time of promoting, you must again select and instruct. You must give as careful instruction now as when you began.

Have employees' councils. Let your employees come to the councils and let them be heard. If possible let them go to the management. Do not let a man leave without an interview with the proper party. Lastly, let me say that poor men never leave; do not let good men get away.

The full proceedings of the conference will later be placed at the disposal of the United States Bureau of Labor Statistics to be published as a bulletin.

STRIKES AND LOCKOUTS, DECEMBER, 1915, TO MAY, 1916.

According to data compiled from various sources by the United States Bureau of Labor Statistics, the number of strikes and lockouts during the six months December, 1915, to May, 1916, inclusive, was 1,432. The number similarly compiled during the calendar year 1915 was 1,405.

The following table shows the number of strikes and lockouts begun in each of the months of December, 1915, to May, 1916, inclusive, together with 108 strikes and lockouts reported as having occurred during the period, although the month in which they began was not reported. The strikes and lockouts were distributed as follows:

NUMBER OF STRIKES AND LOCKOUTS BEGINNING IN EACH MONTH, DECEMBER, 1915, TO APRIL, 1916, INCLUSIVE.

Kind of dispute.	December.	January.	February.	March.	April.	May.	Month not stated.	Total.
Strikes	70	151	156	209	295	396	101	1,378
Lockouts	8	8	5	8	10	8	7	54
Total	78	159	161	217	305	404	108	1,432

The column for May includes disputes that began in the month of May only. During this month 71 other disputes were reported, which either began in preceding months or the date of beginning was not given; the former have been distributed in the preceding columns, the latter added in the column entitled "Month not stated." More detailed accounts of the disputes reported for each month from December, 1915, to April, 1916, may be found in the numbers of the REVIEW relating to those months.

DISPUTES REPORTED DURING MAY, 1916.

The strikes during May were especially numerous, and the number of persons engaged in them was exceptionally large. The most prominent probably was that in the clothing industry in New York, which started with a lockout of 30,000 employees on the first of May and was answered by a strike of 30,000 others two days later. While

the number of strikes in the metal trades, the clothing industry, and among the railroad employees has not perceptibly increased over the number reported during the preceding month, and the number of seamen's strikes shows a marked diminution, the number of strikes in the building trades, of miners, longshoremen, and workers belonging to the less skilled classes is especially noticeable. The number of persons on strike in New York City during the first week of May aggregated 100,000 and in Chicago 25,000. Among the more prominent strikes of the month may be mentioned those of the building trades in New York and St. Louis, the street railway employees in Pittsburgh, the marine engineers in New York City, the tanners, molders, and garment workers in Chicago, the coal miners in various parts of Pennsylvania over the interpretation of the recently made contracts, and the railroad section hands in the eastern States, while those brought to an end during the month were the strikes at the International Harvester Company in Chicago and at the Westinghouse plants in Pittsburgh and of the shovelers in Springfield, Mass.

The data in the following tables relate to 475 strikes and lockouts concerning which information was received by the bureau during the month of May. These include, in addition to the 396 strikes and 8 lockouts which began in May, 65 strikes and 6 lockouts which were reported during the month, but began as follows: 33 strikes and 4 lockouts in April, 1 strike in March, 1 strike in January, and 30 strikes and 2 lockouts the dates of commencement of which were not reported, but most of which probably occurred in April or May. Inasmuch as strikes which start toward the end of a month frequently do not come to the attention of the bureau until after the report for the month has been prepared, it is probable that corrected figures for May will show a material increase over the number of strikes herein reported for that month.

Of the disputes reported during May, 13 strikes and 2 lockouts occurred east of the Mississippi and south of the Ohio and Potomac Rivers, 62 strikes and 2 lockouts west of the Mississippi, and the remaining 386 strikes and 10 lockouts in the territory north of the Ohio and Potomac and east of the Mississippi. More than three-fourths of these strikes occurred in seven States.

STATES IN WHICH FIVE OR MORE STRIKES AND LOCKOUTS WERE REPORTED DURING MAY, 1916.

State.	Strikes.	Lock-outs.	Total.
Pennsylvania	90	.....	90
New York	74	2	76
Ohio	51	3	54
New Jersey	46	1	47
Massachusetts	42	2	44
Illinois	33	.....	33
Connecticut	17	.....	17
Washington	13	.....	13
Nebraska	12	.....	12
Maryland	9	.....	9
Michigan	8	1	9
California	7	.....	7
West Virginia	7	.....	7
Missouri	5	.....	5
Rhode Island	5	.....	5
21 other States	42	5	47
Total	461	14	475

Fifteen of these strikes were confined to women and 10 strikes and 1 lockout included both men and women. In 36 strikes and 1 lockout the sex was not stated.

The industries in which four or more strikes and lockouts were reported were as follows:

NUMBER OF STRIKES AND LOCKOUTS IN SPECIFIED INDUSTRIES REPORTED DURING MAY, 1916.

Industry.	Strikes.	Lock-outs.	Total.
Building trades	66	3	69
Metal trades	64	4	68
Mining	52	.....	52
Longshoremen and freight handlers	27	.....	27
Clothing industries	23	1	24
Iron and steel mills	21	.....	21
Railroads	20	.....	20
Textile workers	20	.....	20
Laborers	16	.....	16
Woodworkers	14	1	15
Seamen and marine engineers	10	.....	10
Bakers	6	3	9
Teamsters	7	1	8
Cigar makers	6	.....	6
Quarrying and stone working	6	.....	6
Rubber workers	6	.....	6
Street railways	6	.....	6
Pottery	5	.....	5
Printing trades	5	.....	5
Paper workers	4	.....	4
All others	77	1	78
Total	461	14	475

Included in the above are 44 strikes and 3 lockouts of machinists and 14 strikes of molders, 16 strikes of carpenters, 11 of painters, 9 of structural-iron workers, 12 of mule drivers in coal mines, 15 of railroad section hands, and 8 of weavers.

In 247 strikes and 9 lockouts the employees were connected with unions; in 27 strikes and 2 lockouts they were not so connected; and

in 3 strikes they were not connected with unions at the time of striking, but organized themselves into unions during the course of the strike; in the remaining 184 strikes and 3 lockouts it was not stated whether the strikers had union affiliations or not.

In 396 cases the causes of the strikes and lockouts were given. In 86 per cent of these the question of wages or hours, or both, was a leading issue. The principal causes are shown in the following table:

PRINCIPAL CAUSES OF STRIKES AND LOCKOUTS REPORTED DURING MAY, 1916.

Cause.	Strikes.	Lockouts.	Total.
For increase of wages	184	7	191
For decrease of hours	14	.....	14
For increase of wages and decrease of hours	72	.....	72
General conditions	2	.....	2
Conditions and wages	4	.....	4
Conditions and hours	1	.....	1
Recognition and closed shop	4	1	5
Recognition and wages	9	.....	9
Recognition and hours	3	.....	3
Recognition, wages, and hours	7	1	8
Because of discharge of employees	20	1	21
Because nonunion men were employed	6	.....	6
In regard to the agreement	6	.....	6
Jurisdictional	2	.....	2
Sympathy	9	.....	9
For overdue wages	3	.....	3
Over interpretation of 8-hour clause	27	.....	27
Miscellaneous	12	1	13
Not reported	76	3	79
Total	461	14	475

In 260 of the strikes the number of persons involved was reported to be 279,523, an average of 1,075 per strike. In 51 strikes, in each of which the number involved was over 1,000, the strikers numbered 229,550 persons, thus leaving 49,973 involved in the remaining 209 strikes, or an average of 239 to each. In 9 lockouts the number of employees involved was reported to be 36,799, an average of 4,089 per lockout. In 7 lockouts, in each of which the number involved was less than 1,000, the number involved was reported to be 799, or an average of 114 to each.

In 323 strikes and 8 lockouts only 1 employer was concerned in each disturbance; in 19 strikes, 2 employers; in 22 strikes and 3 lockouts, more than 2; and in 97 strikes and 3 lockouts, the number of employers was not stated.

Of 141 strikes reported as ending in May, 41 were won; 26 lost; 51, most of which dealt mainly with wages, were compromised; while in 9 the strikers returned to work under promise of the employer to arbitrate the matters in dispute. Three lockouts were lost to the employer and 2 were compromised. In 14 strikes and 2 lockouts the results were not given. The duration of 127 of these strikes was given as follows: One day or less, 23; 2 days, 10; 3 days, 14; 4 to 7 days, 26; 1 to 2 weeks, 28; 2 to 3 weeks, 11; 3 to 4 weeks, 6; 4 weeks to 3 months, 7; over 6 months, 2. Omitting the last two

mentioned, the duration of the remaining 125 strikes was 1,239 days, or an average of 10 days each. Omitting 1 lockout which lasted for 7 months, the duration of the remaining 5 lockouts which ended in May was 57 days, or an average of 11 days each.

UNION SCALE OF WAGES AND HOURS OF LABOR, MAY 1, 1915.

The union scales of wages and hours of labor prevailing in May, 1915, in 89 of the principal trades in 47 of the leading cities of the United States are published in Bulletin No. 194, just issued by the Bureau of Labor Statistics. The scales shown are those of the baking, brewing, building, freight handling, stone, metal, millwork, printing, soft-drink, and teaming trades.

The average rate of wages per week for all cities taken collectively was higher on May 1, 1915, than on May 1, 1914, for 44 of the trades reported; in 44 trades there was no change, and in only 1 trade was it lower.

Considering some of the more important trades, the following increases in weekly rates of pay between May, 1914, and May, 1915, are noted: Bakers, 1 per cent; beer bottlers, 3 per cent; carpenters, 1 per cent; hod carriers, 1 per cent; inside wiremen, 1 per cent; plumbers and gas fitters, 1 per cent; slate and tile roofers, 4 per cent; steam fitters, 2 per cent; painters (hardwood finishers), 4 per cent; electrotypers (battery men and builders), 3 per cent; electrotypers (finishers and molders), 2 per cent; compositors (book and job), 1 per cent; web pressmen (newspaper), 1 per cent.

Considering rates of wages per hour as distinguished from rates per week, 47 trades showed an increase, 42 no change, and for none was the rate lower.

The highest scales per hour paid in May, 1915, in a few of the principal trades were as follows: Bricklayers, 87.5 cents, in Dallas, Houston, and San Francisco; carpenters, 65 cents, in Chicago and Kansas City; portable and hoisting engineers, 75 cents, in Chicago, St. Louis, and San Francisco; hod carriers, 50 cents, in Portland, St. Louis, Salt Lake City, San Francisco, and Spokane; inside wiremen, 75 cents, in St. Louis; painters, 70 cents, in Chicago; plasterers, 87.5 cents, in Dallas, Houston, and San Francisco; plumbers and gas fitters, 75 cents, in Birmingham, Chicago, Dallas, Houston, Portland, St. Louis, Salt Lake City, San Francisco, and Seattle; stonecutters, 70 cents, in Portland and San Francisco; structural-iron workers, 70 cents, in Cleveland and Indianapolis; granite cutters, 68.8 cents, in New York, Salt Lake City, San Francisco, and Seattle; linotype operators (Hebrew, book and job), 83.3 cents, in New York; compositors (English, newspaper), daywork, 75 cents, in Seattle.

As to changes in hours of labor, 19 trades showed a reduction of hours between May, 1914, and May, 1915, 70 reported no change, and none reported an increase.

In 1915 the union scales in the baking trade show hours in some localities as low as 48 per week, but generally they are higher. The building and stone trades in a great majority of the cities covered have an 8-hour day and most of these trades also have a Saturday half holiday either for the whole year or part of the year.

The hours of labor in the metal trades range from 44 to 60 per week, 54 being the predominant hours. The printing trades in the book and job offices have an 8-hour day in nearly all the cities covered, and in the newspaper offices all trades have an 8-hour day or less.

The bulletin further shows by index numbers (percentages) the relative change between 1907 and 1915 in union wages and hours of labor as compared with retail prices of food, and in the purchasing power of wages as measured by food. The index numbers of wages and prices, with 1907 as 100, are as follows:

INDEX NUMBERS OF UNION WAGE RATES AND HOURS OF LABOR AND OF RETAIL PRICES OF FOOD, 1907 TO 1915.

Year.	Rates of wages per hour.	Full-time hours per week.	Rates of wages per week, full time.	Retail prices of food.
1907	100	100	100	100
1908	101	100	101	103
1909	102	99	102	108
1910	105	99	104	113
1911	107	98	105	112
1912	109	98	107	119
1913	111	98	109	122
1914	114	97	111	125
1915	114	97	112	124

With each item in 1907 taken as 100 per cent, rates of wages per hour in 1915 had advanced to 114, rates of wages per week to 112, and retail prices of food to 124, and hours had decreased to 97 per cent of what they were in 1907.

While wages and food both advanced between 1907 and 1915, the advance in the retail prices of food having been the greater, the purchasing power of wages as measured in food diminished during the period. This is brought out in a table showing index numbers of the purchasing power of union wages as measured in food, 1907 to 1915, 1907 again being taken as the base or 100.

INDEX NUMBERS OF PURCHASING POWER OF UNION WAGES AS MEASURED IN FOOD, 1907 TO 1915.

Year.	Purchasing power, measured by retail prices of food—	
	Of rates of wages per hour.	Of rates of wages per week, full time.
1907	100	100
1908	99	98
1909	95	94
1910	93	92
1911	95	94
1912	91	90
1913	91	90
1914	91	89
1915	92	90

From 1907 to 1912 the amount of food purchasable with an hour's wages and a week's wages decreased 9 per cent and 10 per cent, respectively. Since 1912 the food-purchasing power of wages has remained practically unchanged.

WAGES AND HOURS OF LABOR IN THE COTTON, WOOLEN, AND SILK INDUSTRIES.

Rates of wages per hour and hours per week in the leading occupations of the cotton, woolen, and silk industries, from 1907 to 1914, and full-time weekly earnings from 1910 to 1914 are shown in Bulletin 190 of the Bureau of Labor Statistics. The information upon which the report is based was obtained from the records of representative establishments in the States in which these industries are important. The report includes data relating to approximately 93,000 employees in the cotton industry, 40,000 in the woolen industry, and 22,000 in the silk industry.

For several years there has been a general tendency toward shorter hours and higher wages in the three industries.

In cotton goods manufacturing (not including finishing) the average hours per week in 1914 were 1 per cent lower than in 1912 and 1913, and 3 per cent lower than in 1910 and 1911; the average hourly rate of wages in 1914 was 2 per cent higher than in 1913, 3 per cent higher than in 1912, and 14 per cent higher than in 1910 and 1911; and the full-time weekly earnings in 1914 were 1 per cent higher than in 1913, 2 per cent higher than in 1912, and 11 per cent higher than in 1910 and 1911.

In woolen and worsted goods manufacturing the average hours per week in 1914 were 2 per cent lower than in 1912 and 1913, 4 per cent lower than in 1911, and 3 per cent lower than in 1910; the average hourly rate of wages in 1914 was 2 per cent higher than in 1913, 1 per

cent higher than in 1912, and 14 per cent higher than in 1910 and 1911; and the full-time weekly earnings in 1914 were the same as in 1913, 2 per cent lower than in 1912, and 9 per cent higher than in 1910 and 1911.

In silk goods manufacturing the average hours per week in 1914 were 2 per cent lower than in 1912 and 1913, and 3 per cent lower than in 1910 and 1911; the average rate of wages per hour in 1914 was the same as in 1913, 6 per cent higher than in 1912, 11 per cent higher than in 1911, and 12 per cent higher than in 1910; and the full-time weekly earnings in 1914 were 2 per cent less than in 1913, 3 per cent higher than in 1912, 6 per cent higher than in 1911, and 7 per cent higher than in 1910.

There was a wide range in the average full-time weekly earnings in the several occupations in each industry, the range in cotton goods manufacturing being from $6.41 for trimmers or inspectors (female), to $15.95 for mule spinners (male); in woolen and worsted goods the range was from $6.53 for combers (female) to $17.22 for loom fixers (male); and in silk goods manufacturing the range was from $5.80 for doublers (female) to $19.65 for warpers (male).

The average full-time weekly earnings in 1914 in some of the principal occupations were as follows:

Cotton goods:	
Card strippers, male	$8.06
Fine speeders, male	9.04
Fine speeders, female	8.61
Loom fixers, male	13.09
Spinners, frame, male	8.37
Spinners, frame, female	7.45
Weavers, male	9.93
Weavers, female	9.30
Woolen and worsted goods:	
Burlers, female	8.41
Laborers, dye house, male	8.74
Loom fixers, male	17.22
Menders, female	10.56
Spinners, frame, female	7.95
Spinners, mule, male	14.03
Weavers, male	13.10
Weavers, female	11.06
Silk goods:	
Laborers, dye house, male	12.12
Loom fixers, male	17.92
Warpers, female	10.99
Weavers, broad silk, male	13.31
Weavers, broad silk, female	10.58
Weavers, ribbon, male	16.05
Weavers, ribbon, female	13.14
Winders, hard silk, female	6.54
Winders, soft silk, female	8.14

The bulletin also contains data relating to the fluctuations of employment in the industries, based on the number of days plants were in operation, the number of employees, and the amount of pay rolls for each pay period during a given year. Employment in the cotton industry did not vary greatly from month to month, and no well-defined dull or active seasons were indicated during the period covered; the silk industry showed some variation at different seasons; in the woolen industry employment fell off greatly in the summer months, rising during the winter months, and reaching the maximum in the early spring.

In cotton manufacturing during the year ending March 28, 1914, employment as measured by the pay rolls was lowest in the two biweekly periods ending January 3, 1914, and August 30, 1913, when the pay rolls were 88 and 89 per cent, respectively, of the average pay roll for the year; the maximum of 106 per cent was reached in the two weeks ending December 20, 1913. In cotton finishing pay rolls varied from 86 per cent of the year's average in the two weeks ending June 7, 1913, to 111 per cent in the two weeks ending November 8, 1913.

In the silk industry figures for the year ending October 31, 1914, show a comparatively busy season from February to May, 1914, and a dull season in October, 1914. The smallest pay roll for any biweekly period, however, was in that ending January 10, 1914, being 83 per cent of the average for the year, and the largest, 111 per cent, in the two weeks ending April 4, 1914.

In the woolen industry during the year ending March 28, 1914, the pay rolls varied from a minimum of 44 per cent of the yearly average in the week ending July 12, 1913, to a maximum of 128 per cent in the week ending March 28, 1914.

RETAIL PRICES OF FOOD IN THE UNITED STATES IN MARCH AND APRIL.

Reports to the Bureau of Labor Statistics from approximately 725 retail dealers in 44 of the principal industrial cities of the United States show that for the month from March 15 to April 15 the retail price of the principal articles of food as a whole increased 2 per cent.

The first table presented below shows the average retail price of the several commodities covered by the inquiry, on March 15 and April 15, 1916, together with relative retail prices which indicate the per cent the average prices in each month were of the average prices for the year 1915.

All meats show an increase, several of them 3 per cent; hens and lard each show an increase of 4 per cent, butter 3 per cent, while onions

and sugar show a decided increase, 8 and 6 per cent, respectively. Eggs, cheese, and potatoes were the only articles showing a decrease, that of eggs being the greatest, 5 per cent. Nine articles showed no change in price.

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON MARCH 15 AND APRIL 15, 1916.

[The relative price shows the per cent that the average price on the 15th of each month was of the average price for the year 1915.]

Article.	Unit.	Average money price.		Relative price (average price for the year 1915=100).	
		Mar. 15, 1916.	Apr. 15, 1916.	Mar. 15, 1916.	Apr. 15, 1916.
Sirloin steak	Pound	$0.263	$0.268	103	105
Round steak	do	.233	.239	102	105
Rib roast	do	.204	.210	102	105
Chuck roast	do	.164	.169	102	105
Plate boiling beef	do	.124	.128	102	105
Pork chops	do	.219	.226	108	111
Bacon, smoked	do	.281	.284	103	104
Ham, smoked	do	.276	.284	107	110
Lard, pure	do	.152	.158	103	107
Hens	do	.229	.237	110	114
Salmon, canned	do	.202	.202	101	101
Eggs, strictly fresh	Dozen	.281	.268	84	80
Butter, creamery	Pound	.407	.418	113	116
Cheese	do	.249	.247	108	107
Milk, fresh	Quart	.090	.090	100	100
Flour, wheat	⅛ barrel bag.	.953	.953	95	95
Corn meal	Pound	.031	.031	99	99
Rice	do	.091	.091	100	100
Potatoes	Peck	.360	.355	157	155
Onions	Pound	.045	.048	128	138
Beans, navy	do	.092	.092	119	120
Prunes	do	.131	.131	98	98
Raisins, seeded	do	.127	.127	101	101
Sugar, granulated	do	.075	.080	114	121
Coffee	do	.302	.302	100	100
Tea	do	.552	.552	100	100
All articles combined				**105**	**107**

The next table compares the prices on April 15 each year from 1912 to 1916.

AVERAGE MONEY RETAIL PRICES AND RELATIVE RETAIL PRICES OF FOOD ON APRIL 15 OF EACH YEAR, 1912 TO 1916.

[The relative price shows the per cent that the average price on the 15th of April in each year was of the average price for the year 1915.]

Article.	Unit.	Average money price, Apr. 15—					Relative price, Apr. 15 (average for the year 1915=100)—				
		1912	1913	1914	1915	1916	1912	1913	1914	1915	1916
Sirloin steak	Pound	$0.219	$0.253	$0.253	$0.250	$0.268	86	99	99	98	105
Round steak	do	.189	.221	.228	.221	.239	83	97	100	97	105
Rib roast	do	.180	.200	.200	.196	.210	90	100	100	98	105
Chuck roast	do	.....	.....	.167	.158	.169	.....	.....	104	98	105
Plate boiling beef	do	.....	.....	.124	.122	.128	.....	.....	102	100	105
Pork chops	do	.191	.218	.218	.197	.226	94	107	107	97	111
Bacon, smoked	do	.240	.271	.271	.268	.284	88	99	99	98	104
Ham, smoked	do	.235	.263	.263	.251	.284	91	102	102	97	110
Lard, pure	do	.141	.158	.157	.151	.158	95	107	106	102	107
Hens	do	.206	.223	.231	.214	.237	99	107	111	103	114
Salmon, canned	do	.....	.....	.....	.200	.202	.....	.....	.....	100	101
Eggs, strictly fresh	Dozen	.258	.248	.251	.258	.268	77	74	75	77	80
Butter, creamery	Pound	.378	.407	.331	.364	.418	105	113	92	101	116
Cheese	do	.....	.....	.....	.231	.247	.....	.....	.....	100	107
Milk, fresh	Quart	.087	.090	.091	.090	.090	97	100	101	100	100
Flour, wheat	½-barrel bag.	.843	.803	.793	1.094	.953	84	80	79	109	95
Corn meal	Pound	.029	.028	.030	.032	.031	92	90	95	101	99
Rice	do	.....	.....	.....	.091	.091	.....	.....	.....	100	100
Potatoes	Peck	.468	.225	.273	.222	.355	204	98	119	97	155
Onions	Pound	.....	.....	.....	.036	.048	.....	.....	.....	104	138
Beans, navy	do	.....	.....	.....	.076	.092	.....	.....	.....	99	120
Prunes	do	.....	.....	.....	.135	.131	.....	.....	.....	101	98
Raisins, seeded	do	.....	.....	.....	.126	.127	.....	.....	.....	100	101
Sugar, granulated	do	.065	.053	.050	.067	.080	98	81	76	101	121
Coffee	do	.....	.....	.....	.302	.302	.....	.....	.....	100	100
Tea	do	.....	.....	.....	.552	.552	.....	.....	.....	100	100
All articles combined		.....	.....	.....	.....	.....	**95**	**96**	**95**	**97**	**107**

All articles for which figures are available were higher in April, 1916, than in April, 1912, with the exception of potatoes. Nineteen articles were higher in April, 1916, than in April, 1915, potatoes; with an increase of 60 per cent, having the widest variation. Onions increased 33 per cent, beans 21 per cent, butter 15 per cent, pork chops 14 per cent, and hens 11 per cent.

From the last line of the table it is seen that food as a whole advanced 10 per cent between April, 1915, and April, 1916, while the increase from April, 1914, to April, 1915, was 2 per cent. April, 1913, shows a slightly higher average than that shown in April, 1912 or 1914.

RETAIL PRICES IN FOREIGN COUNTRIES.

Prices of meat in Vienna, Austria, show exceptionally large increases since the beginning of the war. Beef, fore quarter, has advanced from 6.3 cents a pound, minimum, in February, 1914, to 38.7 cents in February, 1916, or an increase of 514 per cent—the largest advance shown among five kinds of meat. Cabbage and spinach show decreases in price from January, 1914, to January, 1916. The increases in the

maximum prices quoted have generally not been so sharp as those in the minimum quotations.

In Canada the cost per week of a family budget of staple foods in terms of the average prices in certain cities increased from an average of $7.73 in 1914 to $7.87 in 1915, or an advance of 1.8 per cent. The price in April, 1916, was $8.34 or 7.9 per cent higher than the average for 1914.

The cost of a year's supply of necessaries, food, fuel and lighting, for a family of four persons in France in terms of the average prices in cities of over 10,000 population (not including Paris) was 23.1 per cent higher during the third quarter of 1915, the latest data available, than during the third quarter of 1914. It was 21.1 per cent higher than during the first quarter of 1913.

Price quotations for Berlin, Germany, obtainable for this summary of foreign prices, are almost all for meat—11 out of 15 quotations. Prices of pork of different kinds, and of butter, lard, and potatoes are fixed maximum prices. In the case of lard the maximum price one week in February, 1916, was 205 per cent over the average competitive price of February, 1914. Disregarding maximum price quotations, it appears that the highest advance during the two-year period, February, 1914, to February, 1916, was 163 per cent in the case of mutton (breast, flank); the lowest, or 100 per cent, in the case of veal cutlets (loin).

On May 1 the increase in the retail prices of food in Great Britain since the beginning of the war was 55 per cent. This percentage makes allowance for the relative importance of the various articles in working-class expenditures. The greatest increase, or 152 per cent, is noted in the case of sugar; the lowest, or 17 per cent, in the case of oleomargarine.

Compared with the average price in 1912, the price of wheat bread in Italy was 21.2 per cent higher in February, 1916; the price of beef, 36.6 per cent; macaroni, spaghetti, etc., 32.6 per cent; bacon, 31.7 per cent; wheat flour, 28.5 per cent; table oil, 15 per cent; and milk, 9.5 per cent.

In the Netherlands the average price of 29 commodities combined increased 58 per cent in March, 1916, over the general level of 1893. The highest increase for any one commodity was 150 per cent in the case of soda; 128 per cent for cooking butter; 121 per cent for white beans. Decreases are shown for coffee and salt.

From the outbreak of the war to February 1916, the food expenses of an average workingman's family in Copenhagen, Denmark, are estimated as having increased approximately 34 per cent; other expenses, 16 per cent; and both classes of expenses combined, 24 per cent.

In Norway prices of 27 household necessaries were 63 per cent higher in February, 1916, than in 1911. Individual commodities

showed great variations, coke being 147 per cent higher and rye flour 105 per cent. The increase in prices in Christiania in January, 1916, over those prevailing in the first half of 1914 was practically 34 per cent.

The cost per year in Stockholm, Sweden, of a family budget of staple foods, fuel, and lighting in terms of the average monthly prices increased 23.6 per cent in 1915 over 1913 and 20.7 per cent over 1914. It was 49 per cent higher in 1915 than in 1904. For the country, as a whole, based on average monthly prices, brown beans increased 123.9 per cent in price in February, 1916, over February, 1914; yellow peas, 80.6 per cent; salt herring, 73.9 per cent; and pork sides, 68.7 per cent.

Since June 1, 1914, 26 out of 29 articles of household consumption in Zurich, Switzerland, showed increases in price of from 3 to 175 per cent over March 1, 1916. The maximum increase was attained by barley, followed by hulled oats (141 per cent), oatmeal (138 per cent), and beans (136 per cent).

AUSTRIA (VIENNA).

Retail prices of food in the markets of Vienna have been taken from the Neue Freie Presse, issues of January 4 and March 1, 1914, January 3 and February 28, 1915, and January 9 and February 27, 1916. These tables show the average retail prices of 16 commodities on a certain day of each of the months of January and February, 1914, 1915, and 1916.

RETAIL PRICES OF FOOD IN VIENNA MARKETS.

[Source: Neue Freie Presse, Jan. 4 and Mar. 1, 1914, Jan. 3 and Feb. 28, 1915, Jan. 9 and Feb. 27, 1916.]

Article.	Unit.	Jan. 3, 1914.	Jan. 2, 1915.	Jan. 8, 1916.	Feb. 28, 1914.
		Cents.	*Cents.*	*Cents.*	*Cents.*
Beef:					
Fore quarter	Pound	7.4–18.0	11.0–20.6	29.5–48.8	6.3–16.6
Hind quarter	do	9.2–20.3	13.3–22.1	35.0–51.6	7.4–20.3
Beefsteak	do	16.6–23.9	17.3–23.0	49.7–58.9	12.9–21.2
Veal	do	8.7–20.3	16.6–23.9	33.1–40.5	8.1–16.6
Pork	do	13.8–20.3	18.4–23.9	40.5–55.2	12.5–20.3
Cabbage:					
White	Each	1.6– 6.1	2.3– 6.0	1.4–4.9	.....
Red	do	2.3– 7.3	3.2– 6.5	4.1–12.2	.....
Lemons	Dozen	9.7–14.6	9.7–14.6	19.5–29.2	.....
Potatoes	Bushel	44.2–66.3	66.3–88.4	88.4	.....
Onions	Pound	1.5– 2.0	3.3– 4.2	5.5– 6.3	.....
Beans	do	.....	.....	10.1–12.9	.....
Sauerkraut	do	1.8– 2.2	2.6– 2.9	4.4	.....
Spinach	do	6.4–11.0	7.3– 7.9	7.1– 7.5	.....
Butter	do	15.8–37.9	30.2–45.7	66.3–75.1	.....
Eggs, fresh	Dozen	25.6–34.8	37.5–44.3	40.6–54.1	.....

RETAIL PRICES OF FOOD IN VIENNA MARKETS—Concluded.

Article.	Unit.	Feb. 27, 1915.	Feb. 26, 1916.	Per cent increase (minimum prices).		Per cent increase (maximum prices).	
				Jan., 1916, over Jan., 1914.	Feb., 1916, over Feb., 1914.	Jan., 1916, over Jan., 1914.	Feb., 1916, over Feb., 1914.
Beef:		*Cents.*	*Cents.*				
Fore quarter	Pound	12.9- 22.1	38.7-51.6	289.6	514.3	171.1	210.8
Hind quarter	do	18.4- 24.9	42.4-55.2	280.4	473.0	154.2	171.9
Beefsteak	do	20.3- 25.8	55.2-62.6	199.4	327.9	146.4	195.3
Veal	do	18.0- 23.9	36.8-40.5	280.5	354.3	99.5	144.0
Pork	do	19.3- 29.5	47.0-51.9	193.5	276.0	171.9	155.7
Cabbage:							
White	Each	2.4- 8.9	1.4- 6.1	[1] 12.5	.....	[1] 19.7	.....
Red	do	4.1- 10.2	11.4-17.3	78.3	.....	67.1	.....
Lemons	Dozen	9.7- 12.2	19.5-24.4	101.0	.....	71.8	.....
Potatoes	Bushel	71.9-110.5	88.4	100.0	.....	33.3	.....
Onions	Pound	3.9- 6.3	3.7- 6.3	266.7	.....	215.0	.....
Beans	do	13.8- 18.4	12.9	.....	.....	.....	.....
Sauerkraut	do	2.9- 3.5	4.6	144.4	.....	100.0	.....
Spinach	do	5.5- 12.0	8.3- 8.8	10.9	.....	[1] 31.8	.....
Butter	do	27.3- 44.9	66.3-77.3	319.6	.....	97.9	.....
Eggs, fresh	Dozen	32.5- 40.6	32.5-34.8	58.6	.....	55.5	.....

[1] Decrease

CANADA.

The Canadian Labor Gazette for May, 1916, reports as follows on the movement of retail prices in April:

In retail prices the cost of a list of staple foods stood at $8.34 in April as compared with $8.36 in March, $7.79 in April, 1915, and $7.50 in April, 1914. The chief changes for the month were decreases in eggs and butter, owing to the advance of season, and a steep rise in sugar. Flour, however, was lower. Beef, veal, mutton, pork, bacon, lard, old cheese, rice, beans, and potatoes showed slight advances. Rents averaged slightly higher in New Brunswick and Ontario. As compared with April, 1915, all commodities in the list were higher except milk, bread, flour, and rolled oats. Rent averaged slightly higher than a year ago, but lower than in 1914.

The table which follows shows the cost of a week's supply of 29 staple foods in terms of the average prices in certain cities in each Province of Canada.

COST PER WEEK OF A FAMILY BUDGET OF STAPLE FOODS IN TERMS OF THE AVERAGE PRICES OF THE CITIES IN EACH PROVINCE.

Province.	1910	1911	1912	1913	1914	1915	April, 1914	April, 1915	March, 1916	April, 1916
Nova Scotia	$6.817	$6.776	$7.166	$7.289	$7.475	$7.826	$7.278	$7.393	$8.531	$8.518
Prince Edward Island	5.812	5.795	6.107	6.338	6.693	6.617	6.510	6.612	7.446	7.456
New Brunswick	6.548	6.836	7.130	7.041	7.443	7.682	7.204	7.565	8.437	8.410
Quebec	6.331	6.457	6.968	6.870	7.158	7.387	7.035	7.169	8.142	8.032
Ontario	6.504	6.666	7.251	7.203	7.479	7.676	7.287	7.399	8.322	8.295
Manitoba	7.462	7.405	7.884	7.873	8.149	8.071	7.970	7.934	8.507	8.543
Saskatchewan	7.859	8.083	8.164	8.250	8.327	8.299	8.027	8.332	8.463	8.302
Alberta	7.998	8.081	8.147	8.327	8.266	8.209	7.973	8.326	8.401	8.259
British Columbia	8.321	8.789	9.028	9.128	7.606	8.807	9.128	8.898	8.719	8.498
Total (all provinces)	6.954	7.138	7.339	7.337	7.731	7.866	7.505	7.793	8.360	8.342

DENMARK (COPENHAGEN).

The Danish statistical office has made four special inquiries concerning the increase in the cost of living in Copenhagen consequent upon the war. The most recent inquiry in that respect relates to February, 1916. Based upon budgetary studies made by the statistical office during the year 1910 the cost of a household budget of an average workingman's family is ascertained in terms of the current prices for any particular month, and comparisons made for different periods. On this basis the statistical office calculates that, from the outbreak of the war to February, 1916, the food expenses of an average workingman's family have increased approximately 34 per cent and other expenses about 16 per cent, the total average increase being about 24 per cent. The results of the four investigations on the increase in the cost of living since the outbreak of the war are set forth in the following statement:

RELATIVE COST OF LIVING FOR WORKINGMAN'S FAMILY IN COPENHAGEN AT INDICATED PERIODS SINCE THE OUTBREAK OF THE WAR.

Date.	Food.	Other expenditures.	Total.
July, 1914	100	100	100
July, 1915	128	106	116
October, 1915	132	109	120
February, 1916	134	116	124

FRANCE.

In continuation of a study on the cost of living in France published by E. Levasseur,[1] the late president of the French superior council of statistics, the French statistical office (Statistique Générale de la France) began in the first volume (1911) of its bulletin the publication of "index" numbers of retail prices in French cities. These "index" numbers are computed on the basis of reports of the mayors of French cities with a population of over 10,000 inhabitants (not including Paris) showing the retail prices for 13 principal articles of consumption, including foods, fuel, and lighting.

Based on budgets showing the amounts consumed yearly by a workman's family of four persons living in Paris, as adopted by the statistical office in its study, "Salaires et coût de l'existence jusqu'en 1910," the 13 articles included in the "index" numbers were weighted as follows:

Bread	700 kilograms (1,543.2 pounds)
Meat	200 kilograms (440.9 pounds)
Lard	20 kilograms (44.1 pounds)

[1] Levasseur, E. Le cout de la vie; enquête sur le prix des denrées alimentaires dans 70 lycées. Brussels, 1909.

Butter	20 kilograms (44.1 pounds)
Eggs	20 dozens.
Milk	300 litres (317.0 quarts)
Cheese	20 kilograms (44.1 pounds)
Potatoes	250 kilograms (551.2 pounds)
Beans	30 kilograms (66.1 pounds)
Sugar	20 kilograms (44.1 pounds)
Oil, table	10 kilograms (22.0 pounds)
Petroleum	30 liters (31.7 quarts)
Alcohol, fuel	10 liters (10.6 quarts)

The prices obtained in the individual cities for each article were multiplied by the respective quantities shown above and the products added. The results so obtained are, therefore, really not index numbers, but statements of the probable cost in francs of a family budget expressed in terms of the average retail prices at any particular period of time which may be selected.

Below are shown the "index" numbers for all France and for certain geographical divisions at indicated periods of time, as reported in the January–February, 1916, issue of the Bulletin du Ministère du Travail et de la Prévoyance Sociale, page 69.

COST PER YEAR IN DOLLARS OF A FAMILY BUDGET OF 13 STAPLE ARTICLES OF FOOD, FUEL AND LIGHTING IN TERMS OF THE AVERAGE RETAIL PRICES IN FRENCH CITIES OF OVER 10,000 INHABITANTS, BY GEOGRAPHICAL DIVISIONS AND FOR ALL FRANCE AT INDICATED PERIODS OF TIME, 1911-1915.

Period.	All France.	Geographical divisions.				
		North.	East.	Southeast.	South.	West.
First quarter, 1911	$195.70	$204.39	$193.39	$212.88	$195.90	$191.65
First quarter, 1913	194.93	201.30	190.88	199.95	200.33	190.11
Third quarter, 1914	193.77	212.11	190.68	196.47	190.68	181.81
First quarter, 1915	213.46	223.88	213.46	215.20	210.37	205.74
Third quarter, 1915	238.36	246.85	232.57	237.58	243.37	231.02

GERMANY (BERLIN).

In compiling retail prices for Berlin use was made of the *Vossische Zeitung*—issue of March 2, 1916—which carries the retail prices reported by the statistical office of Berlin. The table which follows gives prices for February, 1914, 1915, and 1916.

RETAIL PRICES OF FOOD IN THE MUNICIPAL MARKETS OF BERLIN.

[Sources: Vossische Zeitung, No. 114, Mar. 2, 1916, and Preiszusammenstellungen des Statistischen Amts der Stadt, Berlin, February, 1915.]

Article.	Unit.	February, 1914, (average for the month).	Week Feb. 22-27, 1915.	Week Feb. 21-26, 1916.	Per cent increase, February, 1916, over February, 1914.
		Cents.	*Cents.*	*Cents.*	
Beef:					
Sirloin, round steak, rump	Pound	22.0	22.9	48.2	119.1
Breast	do	18.4	19.0	46.0	150.0
Veal:					
Cutlets, loin	do	22.5	22.0	45.1	100.4
Breast	do	18.6	20.3	43.6	134.4
Mutton:					
Chops, loin	do	21.4	23.1	50.3	135.0
Breast, flank	do	18.8	21.0	49.5	163.3
Pork:					
Loin, spareribs	do	20.7	24.4	[1] 30.2	45.9
Ham, fresh	do	18.4	22.7	[1] 30.2	64.1
Shoulder, belly	do	16.4	22.2	[1] 30.2	84.1
Bacon, smoked	do	20.1	30.0	[1] 49.7	147.3
Ham, smoked, sliced	do	38.0	43.6	[1] 64.8	70.5
Butter	do	.....	34.6	[1] 57.9	.....
Lard	do	17.7	28.3	[1] 54.0	205.1
Potatoes	Bushel	.....	76.5	[1] 51.8	.....
Eggs	Dozen	.....	34.3	57.1	.....

[1] Legal maximum price.

GREAT BRITAIN.

On May 1 the average increase in the retail prices of food in Great Britain since the beginning of the war may be put at 55 per cent, according to the Board of Trade Labor Gazette for May. This percentage makes allowance for the relative importance of the various articles in working-class household expenditures and relates to food only. The estimate must not be applied to the total family expenditures therefore, but only to that proportion which is expended on food.

Summarizing the situation as of May 1, 1916, the Labor Gazette notes an increase of about 4 per cent in retail prices since April 1. Both beef and mutton showed an advance of about 6 per cent; but flour and bread continued to decline slightly. Potatoes showed an advance during the month of 42 per cent, and the increase in the tax on sugar is reflected in the rise in the retail price of about 10 per cent.

As compared with May 1, 1915, the general level of prices showed an increase of about 23 per cent.

The table which follows gives the percentage increase in the level of prices on May 1, 1916, as compared with prices prevailing in July, 1914.

PERCENTAGE INCREASE IN PRICE OF FOOD COMMODITIES IN GREAT BRITAIN ON MAY 1, 1916, OVER JULY, 1914.

Article.	Percentage increase from July, 1914, to May 1, 1916.		
	Large towns (population over 50,000).	Small towns and villages.	United Kingdom.
Beef, British:			
Ribs	51	47	49
Thin flank	71	55	63
Beef, chilled or frozen:			
Ribs	70	60	65
Thin flank	91	77	84
Mutton, British:			
Legs	45	44	44
Breast	75	54	64
Mutton, frozen:			
Legs	74	63	69
Breast	112	92	102
Bacon (streaky)	41	33	37
Fish	117	81	99
Flour (households)	55	63	59
Bread	55	48	51
Tea	50	49	49
Sugar (granulated)	158	146	152
Milk	37	30	34
Butter:			
Fresh	34	36	35
Salt	33	34	34
Cheese	50	49	49
Oleomargarine	20	15	17
Eggs (fresh)	23	17	20
Potatoes	62	[1] 32	47
Total [2]	59	51	55

[1] Decrease. [2] Weighted net percentage increase.

ITALY.

The semimonthly Bollettino of the Italian labor office publishes at the beginning of each month a short table of retail prices of seven articles of ordinary consumption, showing average prices in several cities (40 to 43), as furnished by cooperative stores, local labor unions, and chambers of commerce. Relative prices of these same commodities are also shown in parallel columns, the base from which changes are reckoned being the average prices for the year 1912.

The following table shows the actual and relative prices of the seven commodities for each of the months of December, 1914 and 1915, and January and February, 1915 and 1916:

ACTUAL AND RELATIVE PRICES OF ARTICLES OF FOOD BASED ON AVERAGE PRICES IN 43 CITIES IN ITALY.

Average actual prices.

Article.	Unit.	December.		January.		February.	
		1914	1915	1915	1916	1915	1916
		Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Bread, wheat	Pound	3.9	4.4	4.1	4.5	4.3	4.5
Flour, wheat	do	4.0	4.9	4.3	5.0	4.5	5.0
Macaroni, spaghetti, etc	do	5.1	6.4	5.3	6.5	5.5	6.4
Beef	do	13.2	20.7	13.6	20.4	14.1	20.6
Bacon	do	18.7	24.2	18.8	24.2	18.7	24.0
Oil, table	Quart	34.2	40.0	32.9	41.1	34.2	42.0
Milk	do	6.4	6.9	6.2	6.9	5.9	6.8

ACTUAL AND RELATIVE PRICES OF ARTICLES OF FOOD BASED ON AVERAGE PRICES IN 43 CITIES IN ITALY—Concluded.

Relative prices. Average prices for 1912=100.

Article.	Unit.	December.		January.		February.	
		1914	1915	1915	1916	1915	1916
Bread, wheat	Pound	106.4	118.3	110.7	120.7	110.5	121.2
Flour, wheat	do	104.3	126.2	111.0	130.1	116.2	128.5
Macaroni, spaghetti, etc	do	104.3	131.8	109.7	133.8	114.0	132.6
Beef	do	87.8	137.7	90.1	135.5	93.6	136.6
Bacon	do	102.8	132.6	103.3	133.2	102.8	131.7
Oil, table	Quart	93.5	109.5	90.0	112.5	93.5	115.0
Milk	do	102.9	109.8	99.0	110.1	94.7	109.5

NETHERLANDS.

The following table is published by the Journal (*Maandschrift*) of the Dutch statistical office for April 29, 1916, and presents the yearly relative prices for 1913, 1914, and 1915, based on the average monthly price for 29 articles of daily consumption, and the relative prices for the months of December, 1915, and January to March, 1916. The basic prices are those reported by two cooperative associations—one with branches at Amsterdam, Haarlem, Arnhem, Utrecht, and Leeuwarden, and the other at The Hague. The average prices reported for 1893 are taken as a base for calculating the relative prices.

RELATIVE RETAIL PRICES IN THE NETHERLANDS, 1913, 1914, 1915, AND JANUARY TO MARCH, 1916.

[Average prices, 1893=100.]

Commodity.	1913	1914	1915	January, 1916.	February, 1916.	March, 1916.
Beans, brown	154	157	175	196	204	211
Beans, white	166	176	200	210	210	221
Peas, marrow	150	161	178	175	175	175
Peas, yellow	125	139	157	157	157	157
Peas, green	157	143	160	207	213	213
Barley, pearl	113	116	142	152	152	152
Buckwheat, groats	104	117	171	187	192	192
Oatmeal	103	103	137	140	140	140
Cheese, Leyden	140	139	160	161	164	164
Cheese, full cream	124	125	137	127	124	128
Coffee	94	88	91	96	97	99
Oleomargarine	127	99	102	102	105	110
Flour, rye	85	81	115	119	119	122
Flour, wheat	124	129	159	153	153	153
Flour, buckwheat	105	110	152	176	176	176
Butter	94	97	130	144	144	144
Butter, cooking	135	142	207	226	223	228
Oil, rape	136	137	192	186	199	208
Rice	116	116	128	125	125	131
Soda	83	83	117	233	233	250
Starch	103	107	130	137	137	143
Sirup	100	100	125	132	146	146
Sugar, moist	89	91	105	115	115	115
Sugar, granulated	85	89	98	100	100	100
Tea	112	113	116	120	120	120
Vermicelli	121	128	203	207	207	207
Soap, white, Bristol	100	100	119	126	123	123
Soap, green, soft	87	87	121	129	142	150
Salt	80	80	90	90	90	90
Average, all commodities	114	116	142	153	150	158

NORWAY.

Official reports from the Norwegian Labor Office show that, compared with the general retail price level prevailing in 1911, there has been a general increase of 59 per cent in prices for January, 1916, and of 63 per cent for February, 1916. These increases are based on the relative prices of 27 articles, the average annual monthly prices of which are collected for the Kingdom as a whole from 12 or more industrial centers. Individual commodities show even higher increases. Thus, on the average price of 1911 the price of coke had more than doubled, the index number for January, 1916, being 236 and for February, 247. In January, 1916, the price of rye flour was exactly double the price of 1911 and a trifle more than double in February, 1916.

A special investigation of the increase in the cost of living in Christiania showed an increase of 56 per cent in January, 1916, over the general prevailing level of 1901. This is the increase which the average workman's family, consisting of 4.23 persons, with an average income of 1551.10 crowns ($308.49) has suffered in its living expenses, including food, fuel and lighting, clothing, house rent, taxes, and miscellaneous items. The percentage of increase in the different items for indicated periods is as follows:

PERCENTAGE INCREASE IN DIFFERENT ITEMS OF EXPENSE OF AVERAGE WORKINGMAN'S FAMILY IN CHRISTIANIA, NORWAY, FOR INDICATED PERIODS.

Items.	Percentage increase—				
	1901 to first half 1914.	First half 1914 to first half 1915.	First half 1915 to January, 1916.	First half 1914 to January, 1916.	1901 to January, 1916.
Foods	15.7	23.6	14.7	41.8	64.0
Fuel and lighting	8.5	28.0	29.9	66.3	80.4
Clothing	40.0	6.7	30.2	39.0	94.5
Rent	20.4	3.2	3.1	6.4	28.1
Taxes	[1] 43.2	.5	.....	.5	[1] 42.9
Miscellaneous	16.8	16.2	15.1	33.7	56.2
Total	16.8	16.2	15.1	33.7	56.2

[1] Decrease.

SWEDEN.

Average monthly retail prices of 56 articles are available for Sweden from 44 different industrial centers. During February, 1916, 31 articles increased in price, among which are included potatoes, meats of different varieties, coffee, sugar, and petroleum; 11 have declined, including butter, eggs, rye flour, and salt pork; and 14 articles have remained unchanged, including milk, flour, mixed rye, and different varieties of rye bread.

Prices of 28 commodities, as reported for February, 1914, 1915, and 1916, together with the per cent of increase or decrease over each preceding period, is shown in the table which follows:

AVERAGE PRICES OF 28 COMMODITIES DURING FEBRUARY, 1914, 1915, AND 1916, AND INCREASE OR DECREASE PER CENT, 1914–1916; 1915–1916.

[Source: Sociala Meddelanden utgivna av K. Socialstyrelsen, Stockholm, 1916, No. 3.]

Article.	Unit.	Average price during February—			Increase (+) or decrease (−) in per cent.	
		1914	1915	1916	February, 1916, over February, 1914.	February, 1916, over February, 1915.
Milk, unskimmed	Quart	$0.036	$0.038	$0.046	+ 28.6	+20.0
Butter, table, best	Pound	.284	.321	.367	+ 29.1	+14.4
Butter, cooking, country	do	.255	.289	.326	+ 27.6	+12.6
Oleomargarine, vegetable	do	.168	.202	.229	+ 36.2	+13.3
Eggs, fresh	Dozen	.281	.363	.357	+ 26.9	− 1.4
Peas, yellow	Pound	.038	.071	.068	+ 80.6	− 3.8
Beans, brown	do	.056	.079	.125	+123.9	+58.5
Flour, wheat, Swedish, best	do	.038	.047	.046	+ 22.6	− 2.6
Meal, rye, Swedish, best	do	.026	.038	.036	+ 42.9	− 3.2
Oatmeal, steamed	do	.044	.067	.060	+ 36.1	−10.9
Rice, Swedish, best	do	.049	.055	.057	+ 17.5	+ 4.4
Rye bread, hard	do	.050	.062	.063	+ 26.8	+ 2.0
Rye bread, soft, loaf, sweet	do	.046	.055	.058	+ 26.3	+ 6.7
Rye bread, loaf, sour	do	.036	.043	.046	+ 26.7	+ 8.6
Wheat bread, loaf, with water, cheapest	do	.053	.061	.064	+ 20.5	+ 6.0
Wheat bread, loaf, with milk, cheapest	do	.073	.079	.079	+ 8.3	+ 3.2
Beef, fresh:						
Roasting	do	.146	.143	.184	+ 25.8	+28.0
Soup	do	.120	.122	.158	+ 31.3	+30.0
Veal, roasting:						
Fattened	do	.159	.165	.205	+ 29.0	+24.3
Young	do	.089	.090	.122	+ 37.0	+35.1
Mutton:						
Fresh, steak	do	.162	.168	.218	+ 34.6	+29.7
Salt, Swedish	do	.143	.151	.192	+ 33.9	+27.4
Pork:						
Fresh, sides	do	.159	.177	.269	+ 68.7	+51.4
Salt, Swedish	do	.168	.187	.276	+ 64.5	+47.4
Herring, salt, fat	do	.056	.055	.097	+ 73.9	+77.8
Coffee, green, prime, Santos	do	.194	.196	.207	+ 6.3	+ 5.6
Sugar, loaf	do	.078	.080	.083	+ 6.3	+ 3.0
Kerosene, water-white	Gallon	.203	.223	.254	+ 25.0	+13.6

For the city of Stockholm there is available a series of relative retail prices for the years 1904–1915, prepared by the Swedish Labor Office and published in its monthly periodical since 1912.[1] These prices are based on average annual retail prices in Stockholm as derived from monthly quotations of 56 articles. The index is weighted according to the quantity of consumption of the different commodities as shown for an average family consisting of 4.4 persons. These quantities were derived as the result of a special investigation of 150 household budgets kept by families of moderate means (average income of 2,200 crowns, or $589.60) during the winter of 1907–8. By multiplying the average prices in any year in question by the average quantity of each article consumed during the year by the average

[1] Sociala Meddelanden utgivna af K. Socialstyrelsen. Stockholm, 1912, p. 35; 1913, p. 260; 1914, p. 129; 1915, p. 132; 1916, p. 193.

family, and combining the result, there is obtained a statment which shows the annual cost of living for an average family during any particular year.

The results thus obtained and stated in terms of crowns were then reduced to relative prices, the amount for the year 1904 being taken as the base, or 100. The result in percentages is as follows:

COST PER YEAR (ACTUAL AND RELATIVE) OF A FAMILY BUDGET OF STAPLE FOODS, FUEL, AND LIGHTING, IN TERMS OF THE AVERAGE MONTHLY PRICES IN STOCKHOLM, 1904–1915.

Year.	Cost.	Index number.	Year.	Cost.	Index number.
1904	670 crowns ($179.56).	100.0	1910	760 crowns ($203.68).	113.4
1905	696 crowns ($186.53).	103.9	1911	757 crowns ($202.88).	113.0
1906	712 crowns ($190.82).	106.3	1912	806 crowns ($216.01).	120.3
1907	738 crowns ($197.78).	110.1	1913	808 crowns ($216.54).	120.6
1908	758 crowns ($203.14).	113.1	1914	828 crowns ($221.90).	123.6
1909	760 crowns ($203.68).	113.4	1915	999 crowns ($267.73).	149.1

SWITZERLAND (ZURICH).

Under date of March 2, 1916, the American consul general at Zurich, Switzerland, reports that of 29 articles of ordinary household consumption 26 showed increase in price of from 3 to 175 per cent on March 1, 1916, as compared with June 1, 1914. Honey alone has decreased in price, while ordinary table chocolate and tea have remained unchanged. Meats, milk, and clothing have also increased in price.

The prices are those published by the Provision Association (*Lebensmittel-Verein*) of that city.

The consul comments that "the table strikingly illustrates the change in the household problem, since before the war, in the chief city of this neutral oasis." These increases in the cost of living, it is stated, are general in all Switzerland. The table follows.

PRICES OF COMMODITIES OF HOUSEHOLD CONSUMPTION IN ZURICH, SWITZERLAND, JUNE 1, 1914, AND MARCH 1, 1916.

Commodity.	Unit.	Price June 1, 1914.	Price Mar. 1, 1916.	Increase, per cent.
		Cents.	*Cents.*	
Cheese, full cream	Pound	21.0	24.5	18.5
Coffee	do	17.5	21.0	20
Oil, sesame	Quart	27.4	32.9	20
Butter, table	Pound	33.3	40.3	21
Butter, cocoa	do	14.9	21.0	41
Flour	do	4.0	5.8	43
Butter, cooking	do	26.3	38.5	47
Petroleum	Gallon	18.3	27.0	48
Bread	Pound	3.0	4.6	53
Lard, American	do	15.8	24.5	56
Eggs	Dozen	23.2	34.7	58
Potatoes	Bushel[1]	57.8	94.5	64
Alcohol, fuel	Gallon	47.5	80.3	69
Soap, best grade	Pound	8.8	14.8	69
Lentils	do	4.4	7.5	72
Corn meal	do	2.5	4.8	79
Rice, Italian	do	4.4	7.9	80
Groats	do	3.7	6.7	81
Rice, Indian	do	3.9	7.5	95
Sugar, broken loaf	do	3.9	7.9	105
Beans	do	3.9	9.1	136
Oatmeal	do	3.7	8.8	138
Oats, hulled	do	3.9	9.3	141
Barley	do	3.5	9.6	175
Coal, briquets	220.4 pounds	39.0	40.3	3
Chocolate, cooking	Pound	26.3	26.3	.....
Tea	do	70.0	70.0	.....
Honey	do	35.0	33.3	[2] 5

[1] 60 pounds.

[2] Decrease.

EMPLOYMENT IN FOREIGN COUNTRIES.

FRANCE.

The French Labor Office through its factory inspectors has made several inquiries concerning the amount of employment prevailing at different times during the period of the war. The most recent inquiry related to conditions on January 1, 1916. Previous investigations were made on August 1, 1914, October 1, 1914, and the 1st of January, April, July, and October, 1915, respectively. The method consists in comparing the number employed in identical establishments in any particular month with the normal number employed prior to the war.

The establishments covered by the investigations numbered 49,501, employing 1,690,453 workmen. The January inquiry showed that of this normal number of establishments 40,091 or 81 per cent were active. These establishments employed only 77 per cent of the normal number of workmen employed in them prior to the war.

This might lead to the erroneous conclusion that 23 per cent of the workers were unemployed on January 1, 1916. It must, however, be considered that the number of men mobilized since the outbreak of the war is about 24 per cent of the total number of workers of both sexes employed under normal conditions, so that on January 1, 1916, the number of workers employed was actually 1 per cent greater than under normal conditions.

The inquiry concerning the number of women employed in French munition industries showed 109,300 engaged in that work. In private establishments women formed 11.2 per cent of the total employed.

The following tables present data showing the number of establishments and the number of persons employed at the time of the different inquiries made by the French Labor Office since the outbreak of the war.

NUMBER OF PERSONS EMPLOYED IN IDENTICAL ESTABLISHMENTS UNDER NORMAL CONDITIONS, AND NUMBER AND PER CENT EMPLOYED ON AUG. 1, 1914, JAN. 1, AND JULY 1, 1915, AND JAN. 1, 1916, BY INDUSTRIES.

Industries.	Number of persons employed under normal conditions.	Number of persons employed on—				Per cent of normal number employed on—			
		Aug. 1, 1914.	Jan. 1, 1915.	July 1, 1915.	Jan. 1, 1916.	Aug. 1, 1914.	Jan. 1, 1915.	July 1, 1915.	Jan. 1, 1916.
Food products	102,585	43,556	68,509	73,755	82,808	42	67	72	81
Chemical industries	85,706	35,279	57,142	65,941	74,350	41	67	77	87
Rubber, paper, and cardboard	60,567	20,686	31,579	37,830	42,791	34	52	62	71
Printing and bookbinding	43,359	13,967	17,703	19,949	20,172	32	41	46	47
Textile industries	381,126	124,985	232,577	268,794	280,519	33	61	71	74
Clothing, millinery, etc	147,353	44,027	79,311	98,826	102,127	30	54	67	69
Hides and leather	59,102	22,620	38,494	45,272	47,687	38	65	77	81
Woodworking	91,712	18,362	34,977	41,558	46,843	20	38	45	51
Metal industries, base	431,862	141,542	261,697	347,181	447,114	33	61	80	104
Fine metals	10,234	966	2,049	3,233	3,772	9	20	32	37
Precious stones	2,516	427	816	1,105	1,239	17	32	44	49
Building trades	65,717	14,674	16,654	21,906	24,404	22	25	33	37
Stoneware, earthenware, and glassware	69,038	13,024	22,091	26,854	30,009	19	32	39	43
Transportation, loading, and unloading	30,206	14,517	19,390	25,071	25,450	48	64	83	84
Miscellaneous commercial establishments	109,370	57,348	61,878	67,606	70,592	52	57	62	65
All industries	1,690,453	565,980	944,867	1,144,881	1,299,877	34	56	68	77

As indicating the activity in coal mining, the Central Association of Coal Mine Owners in France reported concerning 47,959 men employed in December, 1915, that 90.6 per cent worked full time, i. e., six days or over, per week; and in January, 1916, out of a total of 44,038 employed, that 94.5 per cent worked full time per week. It is noted that in normal times this association has a pay roll of approximately 190,000 men.

GERMANY.

The Reichs-Arbeitsblatt for March, 1916, reports as follows on the condition of the labor market in February:

The industrial situation, with the exception of textiles and clothing, shows very considerable improvement in comparison with a year ago. Although in times of peace the labor market in a number of industries normally shows an improvement in February over the preceding month, this improvement has not been so pronounced during the war, because the so-called war industries dominate the labor market. The principal war industries have for some months past been employed at their highest intensity, and even after 19 months of war continued as active as ever during February.

The demand for coal, in normal times less in February than in January, continued at a high level and gave more employment than in February, 1915. Employment in the metal, mechanical, and electrical industries continued as good as in the preceding month, but somewhat improved over the corresponding month of 1915. Slight improvement over conditions in January was noted in the chemical and the woodworking industries. No revival as yet had taken place in the building trades.

Returns from the sick funds showed a continuous decline in the numbers employed among the male members, a decline which was partly offset by an increased employment of women members.

Reports from 815,196 members of 37 trade-unions showed 22,987, or 2.8 per cent unemployed during the month. The percentage unemployed for January was 2.6. In February, 1915, the percentage was 5.1, and in February, 1914, 3.7.

According to returns from the public employment offices there were, among males, 86 applicants for each 100 vacancies reported, as compared with 84 in January, 1916, and 113 in February, 1915. For women applicants the ratio in February, 1916, was 167, in January 163, and in February, 1915, 172.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN FEBRUARY, 1915, AND FEBRUARY, 1916.

Industry.	Establishments reporting.	Number on pay roll at the end of February—		Per cent of increase (+) or decrease (−).
		1915	1916	
Mining and smelting	36	52,461	61,246	+16.75
Iron and steel, and metal	61	81,454	97,377	+19.55
Machinery	80	61,722	70,609	+14.40
Electrical	11	5,161	5,096	− 1.26
Chemical	31	26,853	30,688	+14.28
Textile	37	12,358	8,502	−31.20
Woodworking	12	2,748	2,261	−17.72
Food products	12	8,423	8,527	+ 1.23
Clothing	13	4,017	4,566	+13.67
Glass and china	11	3,463	3,247	− 6.24
Paper and printing	20	4,965	4,974	+ 0.18
Other industries (inclusive of building materials and navigation)	16	3,549	3,218	− 9.33
Total	320	267,174	300,311	+12.40

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN JANUARY AND FEBRUARY, 1916.

Industry.	Establishments reporting.	Number on pay roll at the end of—		Per cent of increase (+) or decrease (−).
		January, 1916.	February, 1916.	
Mining and smelting	31	40,163	40,523	+0.90
Iron and steel, and metal	54	99,518	101,306	+1.80
Machinery	72	59,432	61,990	+4.30
Electrical	3	1,136	1,074	−5.46
Chemical	30	29,955	30,610	+2.19
Textile	14	7,378	7,138	−3.25
Woodworking	7	1,356	1,409	+3.91
Food products	11	8,541	8,473	−0.80
Clothing	10	3,947	4,084	+3.47
Glass and china	9	2,228	2,255	+1.21
Paper and printing	17	3,993	4,160	+4.18
Other industries (inclusive of building materials and navigation)	13	2,864	2,968	+3.63
Total	271	260,511	265,990	+2.10

GREAT BRITAIN.

The Board of Trade Labor Gazette for May reports good employment in the principal industries during April, some working at great pressure. "The increasing number of enlistments emphasizes the need for more women and girls, and the substitution of them for men must be carried much further than hitherto if the requirements of industry are to be met."

Compared with the volume of employment in April, 1915, there was a decline in the number of employees, but an increase in the amount of wages paid.

Employment conditions were generally good in the mining industries. The pig-iron industry was short of labor and raw materials, but employment was good. The mechanical industry, shipbuilding, and metal trades were generally working at pressure with considerable overtime. The activity was not so pronounced in the textile trade, although conditions were reported as fairly good. On the other hand, the boot and shoe trade continued at high pressure.

The trade-union percentages of unemployed was negligible, 940,698 members reported 0.5 per cent unemployed at the end of April, 1916, as compared with 1.2 per cent at the end of April, 1915.

The percentage of employees insured under the unemployment insurance act was 0.7 at the end of April, compared with 1.1 per cent during the same month a year ago.

Returns from establishments employing 603,778 employees in different industries for the week ended April 15, 1916, showed a decrease of 0.6 per cent in the number employed, and an increase of 0.4 per cent in the amount of wages paid compared with the month preceding; but compared with a year ago there was a decrease

of 3.1 per cent in the number employed, and an increase of 5.1 per cent in the amount of wages paid. A table giving more detail follows:

Trade.	Number employed.			Wages paid.		
	Week ended Apr. 15, 1916.	Per cent of increase (+) or decrease (−).		Week ended Apr. 15, 1916.	Per cent of increase (+) or decrease (−).	
		Month ago.	Year ago.		Month ago.	Year ago.
Textiles:						
Cotton	180,038	−0.9	− 5.1	$982,016	(1)	+ 2.1
Woolen	23,582	− .4	+ .1	134,773	+0.6	+ 6.4
Worsted	33,867	− .2	− 2.9	162,921	− .1	+ 6.4
Linen	39,924	− .1	− 3.3	139,883	+2.7	+11.5
Jute	12,166	+ .6	+ 6.6	61,727	+2.0	+12.5
Hosiery	22,037	+ .4	+ 5.0	104,109	+ .8	+18.7
Lace	8,767	− .1	+ 2.0	47,190	−1.5	+12.7
Other textiles	16,601	− .1	− 4.3	74,832	+ .8	+ 6.4
Bleaching, dyeing, etc	25,753	+ .6	+ 7.4	201,468	+1.4	+21.8
Total	362,735	− .4	− 2.4	1,908,919	+ .5	+ 6.8
Boot and shoe	64,783	− .2	− 3.8	395,106	+ .8	+ 2.4
Shirt and collar	19,504	+ .2	− 2.8	73,139	− .5	+ .3
Clothing (ready-made)	32,409	−2.0	− 7.5	147,927	−1.5	− 7.4
Printing and bookbinding	23,051	− .4	− 8.1	147,192	− .7	+ .8
Pottery	18,086	− .3	(2)	98,839	−1.0	+12.7
Glass	10,437	−1.3	− 3.9	82,550	− .9	+10.2
Brick	6,453	(1)	−22.7	45,823	+6.3	−14.6
Cement	7,195	−1.1	−13.6	62,496	+3.8	− 9.9
Food preparation	59,125	−1.9	+ 1.5	315,106	+ .7	+11.9
Grand total	603,778	− .6	− 3.1	3,277,096	+ .4	+ 5.1

[1] Decrease less than one-tenth of 1 per cent. [2] Increase less than one-tenth of 1 per cent.

The changes in rates of wages reported as taking effect in April were all increases and affected nearly 300,000 workpeople. These increases resulted in the total addition of over £30,000 ($145,995) to the weekly wages of those concerned. Among those affected by this increase were 114,000 coal miners in Scotland and 44,500 in Northumberland; 30,000 machinists in the Manchester district; 20,000 puddlers and millmen in the Midlands; 20,000 carters in London, and about 17,500 employees in the building and allied trades.

SCANDINAVIAN COUNTRIES.

Reports from the statistical office of Denmark show that 10.5 per cent of her 138,200 organized workmen were without work during January, 1916. The corresponding percentage in 1915 was 17.5 and in 1914, 18.5. The number of days lost per workman during January, 1916, was two and one-half. The largest amount of unemployment prevailed in the towns outside of Copenhagen. According to industry groups the largest percentage of unemployment, or 25.8, prevailed in the building and furniture industries. Among ordinary workmen the percentage of unemployment was 16.8, and among workmen employed in factories the percentage was the lowest, or 3.3 per cent.

Reports from the labor office of Norway are to the effect that unemployment was below the normal in February, 1916. The average percentage of the 13 trade-unions reporting conditions at the close of February in that respect showed 1.8 per cent unemployment as compared with 2.1 per cent at the end of January preceding, and 4 per cent at the close of February a year ago. It is particularly noted that in the woodworking industries the percentage of unemployment declined from 13.9 in February, 1915, to 3.1 in February, 1916, and also of bakers from 13.8 to 4.8. In January the percentage of unemployment for woodworkers was 6.4 and for bakers 7.

Reports from 26 public employment offices show a decline in the number of applications for work of from 5,769 in January, 1916, to 5,148 in February; but the number of vacancies reported in January was 4,289 compared with 4,295 in February. Compared with February a year ago there was a considerable increase in the number of applicants for work and also in the number of vacancies reported; the number of applicants for each 100 vacancies reported fell from 145 in February, 1915, to 120 in February, 1916.

During January and February there was a slight increase in the number employed in the establishments of the National Association of the Engineering and Machine Tool Trades. The number increased from 18,253 on January 1, 1916, to 18,329 on February 1, and to 18,424 at the close of February.

The Swedish Labor Office notes that the labor market during February, 1916, has generally improved, and considering the season of the year, is quite satisfactory. Strikes have occurred, however, in the building industry in Skåne, and also in lumbering in Norrland.

Considering the season, the number of applicants at the public employment offices in February, 1916, was less in proportion to 100 places available than for any of the years 1913 to 1915, or the average for the period 1902 to 1912. The number of applicants for 100 places vacant was as follows: February, 124; January, 138; December, 1915, 113.

Among trade-union membership the percentage unemployed in February, 1916, was 8.2 as compared with 14.8 in 1915; 10.4 in 1914; 8.9 in 1913; and 11.1 in 1912. In December, 1915, the percentage unemployed was 4.5. The percentage of unemployment in December was based on reports concerning 66,947 organized workmen. As complete data are available at present only for the month of December, 1915, it is noted that during that month the largest percentage of unemployment, or 46.4, was found among plasterers; the next highest percentage, or 27.9, among masons, followed in order by painters, 20.1 per cent; street pavers and waterworks

employees, 19.3; quarry workers, 15.1; and hatters, 14.4 per cent. These high percentages are largely explained by the season of the year.

TUBERCULOSIS AMONG INDUSTRIAL WORKERS.

A recent study by surgeons of the Public Health Service of tuberculosis among industrial workers in Cincinnati, Ohio,[1] estimates that a considerable percentage, probably 19.3 per cent, of tuberculosis is due to occupation hazards and to working conditions, hazards and conditions not necessarily inherent in the occupation, but due to harmful factory influences which existing legislation is adequate to remove; that the elements of poverty and poor housing intensify the effect of family infection and hereditary predisposition, which are admittedly predisposing factors most in evidence; that there is abundant evidence that the course of tuberculosis is much accelerated on account of alcoholism, although the connection between alcoholism and the disease was apparent in only 7.2 per cent of the cases. Generally speaking, the report states, in a large proportion of cases of tuberculosis (23.3 per cent) it was impossible to assign the chief place to any predisposing cause.

The investigation, the findings of which are thus summarized, is the result of a survey undertaken by the Public Health Service at the request of the board of health and of the Anti-Tuberculosis League of Cincinnati in order to determine to what extent the high death rate from tuberculosis in that city was due to the influence of occupation. The work was begun in March, 1914, and was completed a little over a year later, in April, 1915. As the work developed, consideration was given to any other condition besides occupation which might be a possible factor in producing the high death rate.

Recognizing the fact that either an unusually low or high death rate in any State may be more apparent than real, that wide differences in the death rate as between cities may be due to differences in methods of reporting, that diagnosis may frequently be faulty, and that the death rate from tuberculosis is materially affected by the prevalence of pneumonia, the report is nevertheless of the opinion that an especially high tuberculosis death rate can not be wholly thus explained, and does not justify a neglect to study carefully every condition which may be reasonably supposed to influence the general situation. And this is particularly true where the death rate from tuberculosis has been higher, as is the case in Cincinnati, than that of the country at large.

[1] United States Public Health Service. Tuberculosis among industrial workers, report of an investigation made in Cincinnati, with special reference to predisposing causes, by Surg. D. E. Robinson and Asst. Surg. J G. Wilson. Washington, 1916. 143 pp. (Public Health Bull. No. 73, Mar., 1916.).

In order to segregate the different factors influencing the tuberculosis death rate, an inquiry was made into the surrounding living conditions of each person examined, as far as possible, the persons in the different establishments having been previously made interested in the whole question by lectures setting forth the purpose and importance of such an investigation. The physical examinations were made in some place in each establishment set aside by the employer. This examination, made by the physicians personally, consisted in taking the temperature of each subject, as thorough an examination of the chest as possible, and questioning the worker relative to family history and as to cough, loss of weight, "stomach trouble," and other symptoms commonly associated with tuberculosis. In most cases it was not possible to examine the chest entirely bared; it was therefore necessary to be content with inspection, percussion, and auscultation of the upper portion of the chest posteriorly to the spine of the scapula, and anteriorly and laterally to the lower border of the lung. In females the examination anteriorly did not extend below the level of the fourth rib.

Conservatism in diagnosis, it is stated, was the rule, and no doubtful case was diagnosed as tuberculosis unless two of the examining physicians concurred. Where it was not possible to arrive at a definite diagnosis from one examination, a special examination was held, whenever the employee observed his promise and appeared for such supplementary diagnosis. In this connection it should be noted, furthermore, that, as the report states, in many places there were a few who could not be persuaded to have any examination made, "and too often these were the ones whose physical appearance would lead one to suspect the presence of the disease."

The inquiry in question was conducted in 154 establishments and covered 19,932 employees. Out of the 38 industries included, tuberculosis was found among employees in 29. Among the number examined, 220 cases of tuberculosis, or 1.1 per cent, were found. The number of males examined was 14,049 with a tuberculosis percentage of 1.07, and 5,883 females with a tuberculosis percentage of 1.19. The percentage of employees between 15 and 35 years of age was 66, and the percentage over 35 years, 34. Of those examined 22.3 per cent had been in the particular industry in question less than one year; 31.5 per cent from 1 to 3 years; and 46.6 per cent over 3 years.

It must not be assumed, the report states, that a hazardous occupation was the active predisposing cause simply because a person engaged in such occupation was found to have tuberculosis. Giving consideration to other factors it was found that in the 220 cases of tuberculosis there were 62 (34.3 per cent) in which there was a history

of tuberculosis in the family; 19 (10.5 per cent) in which poverty and poor housing appeared most in evidence; 13 (7.2 per cent) in which alcoholism, venereal diseases, and excesses appeared; 10 (5.5 per cent) in which other diseases and injuries were noted; and 35 cases (19.3 per cent) in which occupational hazards or working conditions were most in evidence. There were 42 cases (23.2 per cent) in which none of the foregoing factors were in special evidence, while in 39 cases no data were obtainable. These 39 cases were eliminated in the calculation and consideration was given only to the 181 cases for which complete data were obtained.

The second part of the study relates to the predisposing causes of tuberculosis in cases reported to the Board of Health of Cincinnati. In the 138 cases investigated the report states it is reasonable to conclude from all the evidence that the following were the chief factors predisposing to tuberculosis: (1) Insufficient income resulting in poor or insufficient food, heat, clothing, and recreation; (2) family infection and family predisposition; (3) occupation hazard; and (4) alcohol, "which seemed to act as a link in a vicious circle, aggravating all other deleterious influences and exerting itself most strongly when combined with one or more of the foregoing."

The third part of the report relates to the predisposing causes of tuberculosis among 204 inmates of the Municipal Tuberculosis Hospital. The cases studied showed that occupation in itself had been a relatively unimportant factor.

The remainder of the investigation was concerned with the larger phases of the problem of the causes of tuberculosis as affecting the city of Cincinnati, and included a survey of predisposing causes as determined by general housing and economic conditions in the city; causes associated with climatic conditions, including the prevalence of Ohio River floods; prevalence of other diseases as a predisposing cause of tuberculosis; causes inherent in the character and growth of the population; measures in operation for the eradication of tuberculosis; and cost to the people of Cincinnati of care and treatment of tuberculous cases. The report contains illustrations, maps, and charts upon various features of the inquiry.

Among other suggestions of a general nature concerning health inspection and the reporting of cases, the investigators recommend the institution of State industrial insurance by which the worker can obtain the necessary medical relief, and pecuniary aid for the family while the remedial measures are being carried out; the improvement of home conditions by providing sanitary homes in the suburbs at reasonable rent, and cheap and rapid transit between these homes and places of work.

LIGHTING FOR FACTORIES, MILLS, AND OTHER WORK PLACES.[1]

The Illuminating Engineering Society, organized in 1906 to advance the theory and practice of illuminating engineering and to disseminate knowledge relating thereto, is made up of about 1,500 members who are interested in the subject of lighting from various standpoints—engineering, economic, hygienic, and esthetic. Committees of this society have prepared a code of lighting for factories, mills, and other work places "in order to make available authoritative information for legislative bodies, factory boards, public service commissions, and others who are interested in enactments, rules, and regulations for better lighting. While the code is intended as an aid to industrial commissions and other similar bodies in those States and municipalities which shall actively take up the questions of legislation as related to factory and mill lighting, it is intended in equal measure for the industries themselves as a practical working guide in individual efforts to improve lighting conditions."

The following 11 articles, supplemented by 8 explanatory rules, constitute the code of lighting as approved by the Illuminating Engineering Society:

ARTICLE I. All buildings hereafter constructed must be provided with adequate window area. * * * The daylight openings shall be so designed and proportioned that at the darkest part of any work space, when normal exterior daylight conditions obtain, there shall be available at least a minimum intensity equal to three times the minimum intensities given in Article V for artificial light.

ART. II. Old buildings at present constructed and not having adequate window area must be provided with adequate artificial light, * * * so as to supplement the natural light during normal daylight hours.

ART. III. All buildings, whether old or hereafter constructed, must be provided during those hours of work when natural light is insufficient or not available, with adequate artificial light * * *.

ART. IV. Adequate intensity of the light must be provided for each class of work, both on a horizontal plane as well as on a vertical plane passing through the work, according to Article V. In all cases, however, glare on working surfaces is to be avoided, as it tends to reduce the visual efficiency of the workmen and to increase the likelihood of accidents.

ART. V. Artificial light—Intensity required: The average illumination intensity throughout any month actually measurable in foot candles on a horizontal plane through the work is to conform to the following table. * * *

Class of work.	Minimum foot-candle intensity.	Desirable foot-candle intensity.
Storage, passageways, stairways, and the like	0.25	0.25– 0.5
Rough manufacturing and other operations	1.25	1.25– 2.5
Fine manufacturing and other operations	3.50	3.50– 6.0
Special cases of fine work	.....	10.00–15.0

[1] Code of Lighting [for] Factories, Mills, and Other Work Places. New York, 1915. 45 pp. Illustrated.

Where operations are performed on the sides of the work in hand they shall be classified according to this table, and if the illumination is furnished from an overhead system it shall preferably be not less than 50 per cent of the foregoing values, when measured on a vertical surface. If the illumination is furnished by an individual lamp or by lamps close to the work, the intensity shall conform to the minimum or desirable intensities required in the foregoing table.

(NOTE.—As a guide to inspectors and others it may be stated that with modern lamps roughly 1 candlepower per square foot produces an effective illumination of 3 foot candles when the lamps are arranged according to the uniformly distributed overhead system, with mounting heights ranging from 12 to 16 feet above the floor, and when the light is directed from said lamps to the work in an efficient manner. A rough idea may thus be secured of the candlepower per square foot necessary to conform to the foregoing table of intensities by taking one-third of the intensity values given in the foregoing table.)

Thus for fine manufacturing and other operations the minimum foot-candle intensity is 3.5, which is approximately equal to 1.2 candlepower per square foot. The use of a portable photometer or illuminometer, however, is recommended for the determination of existing systems, and all uncertain cases are finally to be established by these instruments.

ART. VI. Lamps and machinery jointly are to be so arranged as to avoid the casting of shadows over belts and other obstructions on important parts of the work, and the distribution of light from the lamps should be such as to avoid sharp contrasts of light and shade on the work.

ART. VII. Inspection and regular maintenance of all lighting systems is required in spaces where work is being conducted, and in no case must the lighting devices, whether windows, lamps, or auxiliaries, such as globes and reflectors, be allowed to deteriorate, due either to dirt accumulations or to burned-out lamps, more than 20 per cent below the minimum intensity values required by Article V.

ART. VIII. Roadways, yards, and places not usually frequented must either be provided by illumination during working hours when natural light is absent or partly absent, to make them safe against accident to employees traversing or engaged in such places, or a convenient control or controls must be placed at the entrance to basements, stock rooms, and the like, so that a person on entering can readily turn on the lamps beforehand.

ART. IX. Stairways and passageways must be provided with lamps and reflectors or shades carefully located so as to shed their light generally over the entire space or spaces involved, and in sufficient quantity to make stairways and passages safe against accident to employees traversing or engaged in such places.

ART. X. Each working space is preferably to be illuminated by lamps mounted overhead according to the system of general lighting, in preference to individual lighting. The overhead method of lighting, besides possessing many other advantages, also tends to reduce dark spots throughout the floor area, a feature usually objectionable with the use of individual lamps. This particular article is not an absolute requirement, but a suggestion enforceable at the discretion of a lighting expert.

ART. XI. Auxiliary lighting should be provided in all large work spaces, such lamps to be in operation simultaneously with the regular lighting system, so as to be available in case the latter should become temporarily deranged.

The rules intended to aid in the observance of the above requirements, to reduce eye trouble and accidents, and to help in the securing of favorable results in planning lighting systems, are as follows:

1. Lamps should be equipped with reflectors or shades for minimizing glare and economizing light. Bare lamps should not be used except in rare cases, and then only when out of the line of vision.

2. As a general plan, mount the lamps high and out of the ordinary line of vision.

3. Although the types of reflectors and shades, and reflector and shade holders or fitters on the market are numerous, it is recommended that the holder or fitter, as well as the reflector or shade be selected with reference to placing the light source at the proper point in the reflector or shade so as to eliminate glare, due to exposure of the light source, and also for the purpose of directing the light from the lamp effectively to the work; that is, for obtaining a distribution of light which meets the desired requirements.

4. Light thrown vertically downward is not the only important component of the resulting illumination. The sides of machinery, machine tools, and work, as well as horizontal surfaces often require good light.

5. Control few lamps in each group so that lamps not needed may be turned off conveniently.

6. Keep windows, lamps, and reflectors clean since large losses of light result from the accumulations of dust and dirt.

7. Provide a maintenance department if the shop is large enough to warrant it, so that all the items associated with the upkeep of the lighting system may be cared for systematically.

8. Keep ceilings and upper portions of walls a light color for the purpose of rendering both natural and artificial lighting more efficient and better diffused. The lower portions of walls should be a color which is restful to the eyes, preferably a medium tint, typified by the tint known as factory green, or a rather dark shade of yellow. Other medium tones are also available.

In 40 pages devoted to explanatory notes, diagrams, and illustrations, these articles and rules are taken up in detail, the purpose being to define the requirements more carefully and particularly and to offer practical suggestions for putting them into effect. Three important considerations of any lighting method are stated to be sufficiency, continuity, and diffusion, and a recognition of these considerations applied to the daylight illumination of interiors, the importance of which is strongly emphasized, has suggested the following requirements for natural lighting:

1. The light should be adequate for each employee.

2. The windows should be so spaced and located that daylight conditions are fairly uniform over the working area.

3. The intensities of daylight should be such that artificial light will be required only during those portions of the day when it would naturally be considered necessary.

4. The windows should provide a quality of daylight which will avoid a glare due to the sun's rays and light from the sky shining directly into the eye, or where this does not prove to be the case at all parts of the day, window shades or other means should be available to make this end possible.

5. Ceilings and upper portions of walls should be maintained a light color to increase the effectiveness of the lighting facilities from window areas. The lower portions of walls should be somewhat darker in tone to render the lighting restful for the eye. Factory green or other medium colors may be used to good effect.

The means for natural lighting are classified under three heads, as follows:

1. That case in which the windows are located on the sides of the building or in the framework of saw-tooth construction, where diffused light from the sky reaches the work during a large portion of the day.

2. That case in which windows are located overhead on a horizontal or nearly horizontal plane in the form of skylights, thus furnishing direct light from the sky during a large portion of the day.

3. That case in which prismatic glass takes up the direct light from the sky and redirects it into the working space.

The report emphasizes the necessity of designing the factory so as to produce the best practicable distribution of daylight illumination. This would include avoiding wide aisles and low ceilings, placing the windows as near the ceiling as practicable in rooms of moderate size, tempering the light by employing an opaque shade to be raised from the bottom of the window, arranging the work benches so that the light received on the work may be most satisfactory, using translucent or wire glass windows, prism glass or skylights, keeping all glass free from accumulations of dirt, and avoiding sunlight. A method for calculating the intensity of natural light is given as follows:

In certain typical localities, the average brightness of the sky during business hours is about 250 candles per square foot. This is probably a fair average value for the entire United States. The lower or minimum value of sky brightness, excluding particularly stormy days, may be taken as about 100 candles per square foot. Allowing for a reduction of 25 per cent for losses in the windows themselves, the brightness of the sky as seen through a window becomes equal to a minimum of say 75 candles per square foot in any direction from which the sky can be seen through the windows. This brightness value if multiplied by the part of the window area through which sky is visible from a given point in the work space gives the available candlepower through the window in question, and this candlepower is then divided by the square of the distance between the given point and the window to obtain the foot-candle intensity of the illumination at the given point.

To illustrate this method, consider a hallway 40 feet long, lighted by a window 5 feet by 5 feet at one end, with the sky visible from the darker end of the hall through the upper half of the window only. The illumination at the dark end of the hall will then be equal to

$$5\times5\times0.5\times\frac{75}{1,600}=0.58 \text{ foot candles}$$

under the assumed window brightness of 75 candles per square foot. The 1,600 in this calculation results from the square of 40 feet, the length of the hall, or in other words the distance from the point considered to the window; and the factor 0.5 takes into account the fact that the sky is visible through only one-half of the window area from the point considered.

The intensity is not sufficient at this darkest part of the hall since the requirements of Article I of the code proper call for three times the minimum values given in Article V, and the minimum value given in Article V for passageways is 0.25. Three times this value is 0.75 which is somewhat greater than the value found in this calculation. The window area must therefore be increased in size by about 50 per cent, or if this is impossible or impracticable, the hallway must be provided with artificial light at those points where the natural light falls below the requirement.

As another illustration, assume that fine manufacturing work is to be performed under a skylight 20 feet above the work. If the brightness is assumed to be 75 candles per square foot as before, the minimum intensity must be 3 by 3.5 foot candles, that is, 10.5 foot candles, based on the requirements of Article I of the code. The window area must then equal:

$$10.5\times\frac{400}{75}=56 \text{ square feet.}$$

It is important in estimating the illumination of any workroom to consider only that portion of the window area through which clear sky is visible, provided the window is equipped with ordinary clear glass.

The value of adequate illumination, both natural and artificial, as applied to output, increased economies and protection, and in higher efficiency of the plant, is summed up in the following list of advantages, the last five of which have an important bearing on accident prevention: (1) Reduction of accidents, (2) greater accuracy in workmanship, (3) increased production for the same labor cost, (4) less eyestrain, (5) promote better working and living conditions, (6) greater contentment of the workmen, (7) more order and neatness in the plant, (8) supervision of the men made easier. These points are emphasized as forming the most important features in the problem of good lighting. "Although difficult to interpret into money values and somewhat intangible, they are indisputable arguments in favor of the best available illumination from the standpoint of the factory or mill owner."

It is estimated that, due to poor lighting facilities, workmen lose as much as one to two hours per day on certain days. "If good light will add an average of say one-half an hour per day to the output, these 30 additional effective minutes represent an increase in output of 5 per cent, brought about through an expenditure equal to one-half of 1 per cent of the wages for improved lighting, or a saving equal to ten times the expense." However, the report suggests that the principal item to consider is not the expense but the necessity of providing employees with proper and sufficient illumination from the standpoint of safety.

Reference is made to the broader possibilities presented in factory and mill lighting by the introduction of modern gas and electric lamps, including the scientific installation of the light units, suiting each to the location and class of work for which it is best adapted. In this connection the following requirements of adequate artificial lighting are presented, made all the more important, it is thought, by the peculiar limitations and the wide variety of conditions to be found in factory and mill buildings and in factory and mill work:

1. Sufficient illumination should usually be provided for each workman irrespective of his position on the floor space.

2. The lamps should be installed and selected so as to avoid eyestrain to the workmen.

3. The lamps should be operated from sources of supply which will insure reliable illumination results, particularly on account of the demoralizing effect produced by intermittent service just when the light may be most needed.

4. Adequate illumination should be provided from overhead lamps so that sharp shadows may be prevented as much as possible and in such measure that individual lamps close to the work may be unnecessary except in special cases.

5. The type and size of lamp should be adapted to the particular ceiling height and class of work in question.

6. In addition to the illumination provided by overhead lamps, individual lamps should be placed close to the work if they are absolutely necessary in the eyes of a lighting expert, and in such cases the lamps should be provided with suitable opaque reflectors.

Factory and mill lighting is classified and discussed under two general divisions: (1) Distributed illumination from lamps mounted overhead, and (2) specific illumination furnished by individual lamps located close to the work.

Illustrations are given showing the effect of lighting in factories where the mountings are at a height of less than 16 feet, between 16 and 25 feet, and over 25 feet. It is concluded that in general large lamps are not desirable for mountings under 16 feet, but for mounting heights of 16 to 25 feet they may or may not be adapted, depending on whether the reduction of shadows is of much importance, while for mountings higher than 25 feet they are to be preferred because the increased height of the lamp causes the light to fall in such directions as to distribute it evenly over the entire floor space.

The control of lamps in factory and mill lighting is believed to be important in all cases, but especially so where a large number of lamps is used in preference to a small number for a given floor area. This control should be parallel to the windows, so that all the lights not needed may be turned off without disturbing the others. Care should be exercised in locating switches.

In offering suggestions for changing a poor lighting system to an improved arrangement, the report emphasizes the need for systematic procedure involving careful study and preparation of plans, so that the work may be done with the greatest economy in time and labor, and the cost of installation distributed over a relatively long period.

The proper selection of reflectors and shades is deemed very important in securing uniform illumination for a given spacing distance and mounting height of the lamps. Also with a light ceiling the reflection of that part of the light which passes through a glass reflector to the ceiling, and which is added to the light thrown downward from the under surface of the reflector, is a factor in building up the intensity of the illumination on the working surface.

Great importance is therefore attached to light interior colors, especially on ceilings and the upper portions of walls, both in reinforcing the direct illumination and in giving diffusion, which in turn adds to the amount of light received on the side of a piece of work. It should also be stated that the intensity of the light from bare overhead lamps when measured on the working surface may be increased by as much as 60 per cent through the use of efficient reflectors.

In the selection of reflectors, whether of glass or metal, the report suggests that the following items be given consideration:

1. Utilization efficiency; how much does the reflector contribute to the effective illumination on the work?
2. The effect in reducing glare.
3. Natural deterioration with age through accumulations of dust and dirt.
4. Ease in handling and uniformity of manufacture.
5. Physical strength and the absence of projections which may increase the breakage in case of glass reflectors.

Attention is given to the necessity, in many cases, of securing adequate side lighting as well as the illumination of the horizontal surfaces of machines. This may be effected by lowering the lamps or by using broader distributing reflectors than are ordinarily necessary.

In order to avoid excessive losses of light, the report urges the importance of system in the upkeep of natural and artificial lighting equipment. Windows should be cleaned periodically, and lamps and reflectors should be regularly inspected and cleaned, and renewed immediately upon becoming out of order so as to maintain a maximum of lighting intensity.

The advantages of securing expert assistance in dealing with illumination is strongly emphasized, since the points which come up for solution are complex and require, in many cases, the judgment of one who has had wide experience in the lighting field.

Care is urged on the part of those responsible for the health and welfare of employees to see that adequate eye protection is afforded in all operations which are apt to cause injuries to eyesight if such protection is neglected. Arc welding is mentioned as typical of the causes of dangers to eyesight, where the operator wears a helmet serving as an eye shield as well as a shield for the face and head in general.

Protective glasses for this purpose should not be judged as to their protective properties by mere visual inspection. They should, however, be analyzed for their spectral transmission of invisible radiation.

RECENT REPORTS RELATING TO WORKMEN'S COMPENSATION AND INDUSTRIAL ACCIDENTS.

NEW YORK.

INDUSTRIAL ACCIDENT PREVENTION.[1]

The purpose of this bulletin, issued under the direction of the New York State Industrial Commission, as suggested in the introduction, is to broaden the interest in industrial safety by showing that accidents

[1] New York. Department of Labor. Industrial Commission; Bureau of Statistics and Information. Industrial acoident prevention. No. 77. Albany, 1916. 54 pp.

can be prevented and by suggesting the means of accomplishing this result. The entire discussion is meant to be suggestive only, and makes no claim to be a complete treatise on the subject. In pursuance of this purpose an investigation was made of the accident experience of a number of manufacturers and public service corporations to ascertain whether any of the employers in New York State are reducing their accidents, and, if so, what means they are employing. In addition some study was made of recent safety literature, especially the bulletins published by the establishments visited and the proceedings of the National Safety Council for 1915. Employers were found universally to recognize that the goal of accident prevention is to be reached only through cooperation and the constant interchange of ideas, and this led them to give support to the investigation. The bulletin is divided into two parts: Part I shows what progress has been made in the work of accident prevention in a few of the establishments visited; Part II is a discussion of the means by which these results have been obtained.

In charts showing the accident experience of nine plants in New York State the number of accidents which any plant has had in a given month is not indicated, the purpose being primarily to present a comparison of the accident record of each month with that of other months in the same plant, so as to bring out the relation of the accident record of each employer in 1915 with his own previous record. No attempt has been made to compare the accident prevention record of one establishment with that of another. These charts indicate the following per cent of reduction in accidents for the periods indicated:

ACCIDENT EXPERIENCE OF NINE MANUFACTURING PLANTS IN NEW YORK STATE, SHOWING PER CENT OF ACCIDENT REDUCTION FOR EACH PLANT DURING THE PERIOD INDICATED.

[The charts from which this table is compiled are constructed on an accident-rate basis.]

Name of plant.	Period.	Per cent of reduction.
American Locomotive Co.—Schenectady plant [1]	1913 to 1914	45
	1914 to 1915	30
	1913 to 1915	62
Eastman Kodak Co.—Camera plant [2]	1911–12 to 1914–15	51
Barcalo Manufacturing Co.[3]	1911–12 to 1914–15	30
Stromberg-Carlson Telephone Manufacturing Co.[4]	1912 to 1914	40
Eastman Kodak Co.—Kodak Park plant [2]	1913 to 1914–15	56
Rochester Railway & Light Co.[2]	1913 to 1915	43
New York Edison Co.[4]	1913 to 1915	38
Lackawanna Steel Co.[2]	1913 to 1915	44
General Electric Co.—Schenectady plant [5]	1913 to 1914	23
	1914 to 1915	15
	1913 to 1915	34

[1] Only those accidents which occasioned loss of time of 5 hours or more are included.
[2] All accidents occasioning loss of time are included.
[3] All accidents occasioning loss of time of 2 hours or more are included.
[4] All accidents that caused injury which required at least first aid treatment are included.
[5] Includes all accidents occasioning loss of time amounting to more than the remainder of the shift during which the accident occurred.

A chart giving the fatal-accident experience of the Lackawanna Steel Co. indicates a reduction from 1904 to 1915 of 90 per cent. A chart showing the eye-accident experience of the American Locomotive Co. (Schenectady plant), including all eye accidents which occasioned injuries requiring medical attention, based on the rate per 1,000 employed, indicates a reduction from 1912 to 1915 of 65 per cent; based upon the number of eyes lost on account of accidents, the reduction from 1912 to 1915 is 85 per cent. A statement is given of the accident experience of each subsidiary plant of the International Harvester Co., which was one of the first to undertake the work of accident prevention in a systematic way, and the following summary, covering all plants, shows the per cent of decrease in the number of lost-time accidents per 1,000 employees for the years ending August 31, 1914 and 1915, using the accident experience for the year 1911 as the base:

PER CENT OF DECREASE IN THE NUMBER OF LOST-TIME ACCIDENTS IN THE PLANTS OF THE INTERNATIONAL HARVESTER CO. PER 1,000 EMPLOYEES, 1914 AND 1915, USING 1911 AS THE BASE.

Kind of plant.	Per cent of decrease for the year ending Aug. 31—	
	1914	1915
Manufacturing (all companies)	47	75
Steel mills	46	77
Industrial railroads	44	79

In 1906 the United States Steel Corporation began to systematize and standardize the safety work which its subsidiaries had undertaken. A chart [1] tracing the accident record for the 10 years, 1906 to 1915, shows a reduction for each year over 1906 as follows:

1907	10.40	1912	36.06
1908	18.21	1913	38.29
1909	25.28	1914	40.52
1910	43.49	1915	43.54
1911	41.26		

About two-thirds of the pamphlet is devoted to a discussion of means of preventing accidents. Based upon the theory that every accident indicates the presence of defects in materials, machines, methods, or men, or, what is perhaps most common, a combination of two or more of these elements, the report offers the following estimate by one large steel plant [2] of the distribution of the efficiency of its safety work.

[1] In this chart serious accidents include those which caused fatality, permanent injury, loss of member or portion of member, loss of eye, or disablement for more than 35 days.

[2] It is recognized that the relative weight is not constant for all industries nor for all plants in a given industry; the suggestive nature of the table is the excuse for its presentation.

	Per cent.
Organization:	
Attitude of officers	20
Safety committees	20
Inspection (workmen)	5
Total	45
Education:	
Instruction of men	15
Prizes	9
Posting signs	3
Lectures	3
Total	30
Safeguarding:	
Safety devices	17
Lighting	5
Cleanliness	3
Total	25

The above distribution is suggestive at least of the nature of successful safety efforts. It indicates that the prevention of accidents can be effected neither by the mere parrot-like utterance of "Safety first" nor by the installation of mechanical safeguards alone. Furthermore, successful experience has demonstrated that spasmodic safety campaigns, launched with a blare of trumpets and dropped soon after, can not produce lasting results. If our industrial accidents are to be prevented or even materially reduced in number and seriousness, our efforts must be directed by well-studied plans and they must be continuous and persistent. We must realize also that after we have eliminated the grossly unnecessary accidents, the fruits of our efforts will be less apparent from year to year. But having attained a satisfactory record we must persist in our safety campaigns in order to maintain it.

The reduction of accidents depends first of all, suggests the report, upon the attitude of employers who should equip their plants with all possible safeguards and point the way to prevention of such accidents as are likely to occur through the carelessness or ignorance of workmen, the driving practices of foremen, and other defects which can not be prevented by mechanical safeguards. Foremen should be clothed with authority and responsibility in the work of preventing accidents, since they are in close touch with the men and know the hazards under which they work; they should also be taught to realize their responsibility of impressing upon workmen the necessity of being careful and attentive in their work in order to minimize the chances of accident.

Suggesting that guards on machinery need not hamper the operator and reduce output, as is maintained by some, the report emphasizes in the following words the beneficial results of safety:

It helps to keep his organization intact, thereby increasing production and reducing the cost of manufacturing; it avoids the loss due to the time and effort required to break in new men to take the places of those efficient and trained men who drop out of the service on account of injuries due to accidents which are preventable; it saves medical fees and compensation awards in such cases; and it produces better relations between employer and employees when the latter know that the former is sincere in his efforts to protect them in their work.

Considerable attention is given to the subject of mechanical guards, and while the matter is not discussed exhaustively, it is suggested that proper safety standards can be reached only by careful scientific study of industrial hazards and of the best means of reducing them, and that by a cooperative exchange of ideas all employers may learn from each other the best known means of guarding all their machinery, this exchange being effected by visits of inspection to other plants or by cooperation with those associations which are organized to spread the gospel of safety, such as the National Safety Council. In brief, guards should be attached to the machine when it is made, should be constructed of suitable material, should be automatic in action, application, or operation, and should be designed so as to provide a ready means of access to the parts guarded.

Good shop housekeeping is suggested as a means of preventing accidents. Lighting, ventilation, and sanitation should be given careful consideration, since lack of attention to these phases of industrial hygiene was found to be responsible for a large number of preventable accidents. Fatigue being recognized as a contributing cause of accidents, occasional relaxation from work that is monotonous or which involves high speed and close attention is thought advisable. Some firms, it is stated, have brief intermissions during the hours of greatest fatigue in both forenoon and afternoon; others have a fire drill in the afternoon for the purpose of breaking the monotony of the work. In no case investigated was there complaint of a decrease in production because of time thus taken.[1]

Welfare work properly managed and conducted, it is believed, can become a powerful factor in safety work and in efficiency campaigns. The necessity of teaching employees their responsibility in the work of accident prevention is urged.

Machines are given careful study while men—the most uncertain and at the same time the most promising factor in production—are taken for granted. The safer plan is to destroy as far as possible the interrelationship between safety and universal human shortcomings. For example, if a man's act is essential to his own or another's safety we should make it mechanically necessary for him to perform this act before proceeding with his regular work. After that we must give more attention to the study of men and we must learn how to teach them their responsibility. The proper attitude of mind must be taught to the foreman and the employer before the proper standards of safety can be reached.

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[1] Compare MONTHLY REVIEW of U. S. Bureau of Labor Statistics for June, 1916, p. 81.

The habit of taking chances, due to carelessness or recklessness or ignorance, is a mental hazard which the report suggests may be eliminated as a cause of industrial accidents.

Education as a means of preventing accidents is considered very important. It is necessary that new men be given instruction in a language which they can understand, not only in printed form, but through interpreters (for many laborers can not read the language that they speak). In this connection the practice of some factories in encouraging their employees to attend evening classes for instruction in English is noted. But more especially is education needed along safety lines, teaching the new men concerning the hazards of their work and the means of avoiding them, such instruction being given in the form of lectures, or by safety advertising in which the danger of accident is explained and pictured in graphic form. Some of the methods enumerated are: Bulletin boards, the sandwich man, general safety-first signs, signs indicating specific hazards, insert cards attached to machines or placed in pay envelopes, safety rule books adapted to the class of men intended to be reached, magazines or company organs, and moving pictures.

Safety work should be organized, declares the report. A man placed in charge should have associated with him a central committee to act in an advisory capacity. Committees of foremen and of workmen should be formed and safety councils should be organized to promote the exchange of ideas among safety directors. The functions of the workmen's committees should be educational and regulatory, the education of members being devoted largely to reducing to a minimum the physical hazard of the plant, after which attention should be given to the mental hazard, the education of their fellow employees. Regular inspections should be made and reports of unsafe conditions filed. Suggestions from workmen as to accident prevention should be encouraged, possibly by offering of prizes. Records of accidents should be kept by employers in order that information may be available as to what classes of hazards must be guarded against. It is suggested that a good plan is to afford foremen and workmen a means of checking up the progress of safety campaigns in their departments and of encouraging competition among departments in order to stimulate efforts to promote safety. A method of scoring is outlined.

Too little attention from the standpoint of accident prevention, declares the report, has been given in the past to the selection of men based upon qualifications fitting them for the jobs they seek. Now, however, a physician is employed in many plants to assist in the selection of workers, this physical examination having five purposes:

(1) To prevent new employees from bringing contagious diseases into the factory or workshop; (2) to keep out grossly defective men, those whose defects make them peculiarly susceptible to accidents; (3) to allow adjustments by transferring slightly defective applicants to work which they may perform safely; (4) to point out to the prospective employee his defects in order that he may cooperate with his own physician and the company physician to reduce these defects and thus increase his efficiency; (5) to introduce the prospective employee to the physician and the medical department so that he may know where to go in case of subsequent illness or accident in the plant.

Other functions of the medical department are the conducting of periodical physical examinations of workers, diagnosis of cases of illness, supervision of sanitation in the factory, and immediate attention to absentees. First-aid treatment should be provided at all factories; emergency rooms should be established and properly equipped; a first-aid corps, trained by a competent physician, should be organized. The importance of providing protection for the eyes of workmen is dwelt upon at some length.

The bulletin closes with a list and brief description of several so-called trivial causes of accidents, among which are noted loose clothing, slipping of ladders, hand tools, cleaning moving machinery, chain hazards, railroad hazards, trespassing on railroads, and horseplay. These indicate the complexity of the problem of prevention of accidents and the need for a careful study of the causes of accidents and the means of preventing them.

AWARDS IN NINE MONTHS' COMPENSATED ACCIDENTS.

The awards made under the New York workmen's compensation law on accidents occurring during the first nine months of its operation, are summarized in the table presented herewith. This table was prepared as a preliminary summary for incorporation in the annual report of the bureau of workmen's compensation. Pending the printing of that report (which will be a part of the report of the New York department of labor) the figures have been made available for public information.

In order that the precise scope and meaning of the figures may be understood, the following points need to be noted.

Cases and experience included.—The table includes all accidents which occurred in the nine months from July 1, 1914, to March 31, 1915, on which any award had been made up to December 31, 1915. It also includes for any such cases total compensation up to December 31, 1915. In other words, there is given total awards allowed up to December 31, 1915, on accidents which occurred during the first nine months under the compensation law.

Only compensation for disability and funeral expenses in death cases are included in the table. Data as to medical expenses paid by employers are not available.

Cases with more than one kind of award.—There are no duplications in the column showing the number of cases. Where there was more than one kind of award in any case, that case is placed in the second column according to the award indicating the most serious disability, the other awards in such cases being indicated in that part of the table which appears on page 117. Where there was more than one such other award, such other kinds are distinguished by means of footnotes. But in the fourth column (for amount of awards) is included, for cases with more than one kind of award, the total amount for all the awards, the amounts thus included outside of the amount for the award under which it is classed on page 116 being shown on page 117.

Death cases.—The amount of awards in death cases includes the total present value of award as computed according to the rules of the State fund. In the five cases included among those under (*b*) with dependents" at an average estimate as indicated by footnote, the claim was allowed, but pending investigation the exact amount had not been determined at time of tabulation.

Permanent total disability cases.—In amount of awards these cases also include the total present value of award computed according to the State fund rules.

Temporary total disability.—The distribution of these cases by weeks of disability is for weeks of total disability only, exclusive of partial disability where both kinds of disability were awarded, although, as explained above, the amount of awards includes the payments for both. In the weeks as given are included the two weeks of "waiting time."

Temporary partial disability.—Under this head the distribution by percentage of disability is shown in this table only for the cases in which this was the only kind of award.

Indeterminate.—Cases "settled by lump sum," as designated in the table, include only one class of lump-sum settlements. Where a definite kind of disability was awarded, but periodical payments were commuted to a lump sum, the case was assigned in the table to that class of disability. But in addition to such cases, there were others in which the ultimate nature of disability was never exactly determined, but in which, after continuance for some time, the parties came to an agreement to close the case for a lump sum, which sum was approved by the commission as being "in the interests of justice." Such cases were closed without definition of the kind of disability, and hence their classification under the heading "Indeterminate." The following description of these cases by the deputy commissioner in charge of the workmen's compensation

bureau indicates, however, that most, if not all, of them, so far as determined, were of the nature of impaired earning capacity under permanent partial disability:

> This class arises out of injuries which we call temporary partial and in which theoretically there is ability to do some work. The law measures compensation in such cases by two-thirds of the impairment of earning capacity, which is two-thirds of the difference between what the employee may now earn and what he was earning at the time of accident. There are such cases, and hundreds of them, but employees as a rule are totally disabled temporarily and when they are able to work earn full wages. But if an employee has been injured, has recovered as much as he will ever recover and has not secured employment, or if he has secured employment at the same wage has done so through the consideration of his former employer, who will not turn away a faithful employee and yet, who with any other employer could not receive so much wages, the commission in such cases knows that it is either a question of continuing payment upon an impaired earning capacity or a purely theoretical consideration of what a man is able to earn when in fact he is not earning anything. Such a case affords peculiar difficulties and endless hearings and rehearings, with some show of ill will on the part of the insurance carrier who loses all sentiment in the matter and begins to resist the claim, or a temptation to malingering in which the claimant may seek to secure advantage out of the very doubts in the matter. So when claimant and insurance carrier come before the commission with a prayer to end the case by an award for a single amount, such amount being suggested jointly by employer or his representative and employee, the commission does not hesitate to make such award and close the case if clearly "in the interest of justice." The commission is not a party to any dickering as to amount, nor does it enforce its opinion on either party. It simply approves if justice is furthered.

The cases continuing on January 1 are cases still open on that date, and hence with ultimate nature of disability uncertain. So far as known at the time of tabulation, these were being treated practically as total temporary disabilities. The amount of awards in these cases includes total payments actually made to January 1.

Other cases under "Indeterminate" are those in which at the time of this tabulation it could not be determined whether or not disability ended prior to January 1, although the last payment made was some time before January 1. In amount of awards for these cases only actual payments made are included.

In addition to the figures given in the table the following averages derived therefrom are of interest, though the precise scope of the figures should be kept in mind if these averages are used for comparative purposes:

AVERAGE COMPENSATION PER CASE.

Class of awards.	Number of cases.	Average per case.
Death with no dependents (funeral only)	96	$97
Death with dependents (including funeral)	476	3,875
Permanent total disability	14	7,475
Permanent partial disability	2,058	520
Temporary total disability	26,161	42
Temporary partial disability	36	20
Indeterminate	579	694

SUMMARY OF AWARDS MADE UNDER THE NEW YORK WORKMEN'S COMPENSATION LAW IN ACCIDENTS OCCURRING IN THE NINE MONTHS FROM JULY 1, 1914, TO MAR. 31, 1915, INCLUDING RESULTS TO DEC. 31, 1915.

Kind of award.	Cases.		Amount (or present value) of awards.	
	Number.	Per cent of total.	Amount.	Per cent of total.
I. DEATH.				
(a) No dependents (funeral expenses of $9,070.67 in 96 cases)	96	0.3	$9,339.10	0.2
(b) With dependents (including funeral expenses in 454 cases of $44,120.19)	[1] 476	1.6	1,844,356.32	39.8
(c) Pending (estimated at average death payment)	27	.1	87,499.44	1.9
Total	599	2.0	1,941,194.86	41.9
II. PERMANENT TOTAL DISABILITY.				
(a) Dismemberments: Loss of—				
Both feet	1	.0	6,083.61	.1
Both eyes	4	.0	23,368.30	.5
Any two of these	1	.0	8,524.00	.2
(b) Other	8	.0	66,675.81	1.5
Total	14	.0	104,651.72	2.3
III. PERMANENT PARTIAL DISABILITY.				
(a) Specified dismemberments: Loss of—				
Thumb	43	.2	24,728.24	.5
First finger	172	.6	69,395.93	1.5
Second finger	100	.3	29,536.01	.6
Third finger	54	.2	14,068.94	.3
Fourth finger	75	.3	12,666.72	.3
Thumb and one or more fingers	16	.1	16,881.33	.4
Two or more fingers	120	.4	78,056.49	1.7
Phalange of thumb	149	.5	38,850.59	.9
Phalange of first finger	296	1.0	56,829.78	1.2
Phalange of second finger	211	.7	27,886.69	.6
Phalange of third finger	98	.3	11,956.63	.3
Phalange of fourth finger	80	.3	5,935.10	.1
Phalange of thumb and one or more fingers, or of two or more fingers	94	.3	28,270.85	.6
Thumb or fingers and phalange of thumb or fingers	77	.3	46,818.22	1.0
Great toe	14	.0	5,707.38	.1
Other toes	25	.1	3,754.81	.1
Phalange of great toe	21	.1	3,274.21	.1
Phalange of other toes	7	.0	706.37	.0
All or phalange of more than one toe	38	.1	17,237.15	.4
Hand	[2] 65	.2	120,114.24	2.6
Arm	25	.1	72,678.77	1.6
Foot	33	.1	60,304.23	1.3
Leg	14	.0	38,082.59	.8
Eye	222	.8	279,527.42	6.0
(b) Partial dismemberments	8	.0	6,346.28	.1
(c) Impairment of earning capacity:				
25 per cent and under	1	.0	1,238.45	.0
Total	2,058	7.0	1,070,933.42	23.1
IV. TEMPORARY TOTAL DISABILITY.				
Under 3 weeks	3,530	12.0	16,902.33	.4
3 and under 4 weeks	5,779	19.6	66,301.19	1.4
4 and under 5 weeks	4,764	16.2	98,477.85	2.1
5 and under 6 weeks	2,904	9.9	86,255.55	1.9
6 and under 7 weeks	2,379	8.1	93,335.31	2.0
7 and under 8 weeks	1,344	4.6	66,489.70	1.4
8 and under 9 weeks	1,191	4.0	68,964.83	1.5
9 and under 10 weeks	674	2.3	45,461.91	1.0
10 and under 11 weeks	553	1.9	44,140.57	1.0
11 and under 12 weeks	384	1.3	34,527.15	.7
12 and under 13 weeks	405	1.4	39,290.79	.9
13 and under 26 weeks	1,689	5.7	252,280.83	5.4
26 weeks and over	565	1.9	197,135.21	4.3
Total	26,161	66.9	1,109,570.22	24.0
V. TEMPORARY PARTIAL DISABILITY.				
25 per cent and under	6	.0	78.52	.0
Over 25 to 50 per cent, inclusive	24	.1	300.73	.0
Over 50 to 75 per cent, inclusive	6	.0	339.25	.0
Total	36	.1	718.50	.0
VI. INDETERMINATE.				
Settled by lump sum	153	.5	205,776.67	4.5
Continuing on Jan. 1	313	1.1	163,862.47	3.5
Other	113	.4	32,400.49	.7
Total	579	2.0	402,039.63	8.7
Grand total	29,447	100.0	4,629,108.35	100.0

[1] Includes five cases with estimated average death loss of $3,240.72.
[2] Includes one case employer bankrupt, no insurance; claimant settled for $288.

SUMMARY OF AWARDS MADE UNDER THE NEW YORK WORKMEN'S COMPENSATION LAW IN ACCIDENTS OCCURRING IN THE NINE MONTHS FROM JULY 1, 1914, TO MAR. 31, 1915, INCLUDING RESULTS TO DEC. 31, 1915—Concluded.

Kind of award.	Awards made in combination with awards as in first column (these amounts included in totals in fourth column on page 116).					
	Temporary disability.				Indeterminate disability (lump-sum settlements).	
	Total.		Partial.			
	Cases.	Amount.	Cases.	Amount.	Cases.	Amount.
I. DEATH.						
(a) No dependents (funeral expenses of $9,070.67 in 96 cases)	2	[1] $268.43				
(b) With dependents (including funeral expenses in 454 cases of $44,120.19)	11	1,868.15				
Total	13	2,136.58				
III. PERMANENT PARTIAL DISABILITY.						
(a) Specified dismemberments: Loss of—						
Thumb	8	263.77				
First finger	30	1,398.50			1	$134.54
Second finger	33	1,554.01	[2] 2	$31.67	1	958.55
Third finger	20	756.42			2	683.24
Fourth finger	19	2,068.68	[2] 1	2.66	1	207.72
Thumb and one or more fingers	3	137.33				
Two or more fingers	31	1,688.53			2	259.55
Phalange of thumb	9	207.79				
Phalange of first finger	35	1,149.49	1	110.40		
Phalange of second finger	38	1,013.48				
Phalange of third finger	24	783.21	[2] 1	51.48		
Phalange of fourth finger	10	271.66				
Phalange of thumb and one or more fingers, or of two or more fingers	12	283.46			1	70.50
Thumb or fingers and phalange of thumb or fingers	22	665.89			1	53.00
Great toe	5	733.18				
Other toes	10	328.93				
Phalange of great toe	2	50.48				
Phalange of other toes	5	162.69	[2] 2	19.76		
All or phalange of more than one toe	14	1,156.33				
Hand	1	80.78				
Arm	4	601.53			1	496.22
Foot	3	478.40				
Leg	1	628.18				
Eye	8	716.41				
(c) Impairment of earning capacity: 25 per cent and under	1	138.45				
Total	348	17,317.58	7	215.97	10	2,863.32
IV. TEMPORARY TOTAL DISABILITY.						
Under 3 weeks			13	211.86		
3 and under 4 weeks			25	416.80		
4 and under 5 weeks			19	684.78		
5 and under 6 weeks			8	117.07		
6 and under 7 weeks			18	394.41		
7 and under 8 weeks			8	492.49		
8 and under 9 weeks			9	443.99		
9 and under 10 weeks			3	78.80		
10 and under 11 weeks			7	492.29		
11 and under 12 weeks			7	289.75		
12 and under 13 weeks			9	527.20		
13 and under 26 weeks			56	4,794.93	[3] 1	150.00
26 weeks and over			29	2,449.34		
Total			211	11,393.71	1	150.00
Grand total	361	19,454.16	[4] 218	11,609.68	[3] 11	3,013.32

[1] Includes $143.50 for loss of thumb in one case.
[2] In conjunction with total temporary disability award.
[3] Includes one case in conjunction with partial temporary disability award.
[4] Includes six cases combined with total temporary disability award.

OHIO.[1]

The report of the Industrial Commission of Ohio on industrial accidents, issued under date of March 1, 1916, contains information, largely statistical, covering the first 18 months of the operation of the Ohio workmen's compensation act as a compulsory measure, January 1, 1914, to June 30, 1915. It is the third of a series of general accident reports issued by the department of investigation and statistics of the industrial commission, the first report covering the 22 months when the workmen's compensation law was a voluntary act, March 1, 1912, to December 31, 1913, and the second covering the period January 1, 1914, to June 30, 1914, the first half year of the operation of the act as a compulsory measure. The present report, therefore, is cumulative in that it includes the period covered by the second report and an additional 12 months. The purpose of the report is briefly stated in the introduction:

> It is believed that the information concerning 100,003 industrial accidents contained in the following pages will be of great assistance in the campaign of accident prevention. Any intelligent efforts to reduce the hazards of industry will take the direction of educating both employers and employees as to the causes of injury, the loss of earning power to employees due to their disability and the cost to employers of providing compensation for injuries which could have been prevented by reasonable care and by the use of proper safety devices. Such figures as those given in the following report, which show the large number of injuries to the eye and the large number of serious injuries due to infection, should go far toward convincing both employers and employees that many industrial injuries are entirely preventable.

The workmen's compensation act of Ohio provides four types of insurance to pay compensation to employees injured or to dependents of employees fatally injured by industrial accidents:

1. Payment from the State insurance fund of claims of employees injured in establishments which contribute to this fund.
2. Payment direct to injured employees or to dependents of employees fatally injured in establishments where employers carry self-insurance under the State plan.
3. Payment from the special State fund of claims of injured public employees.
4. Payment of claims of employees injured in establishments where the employer had neither paid into the State fund nor secured permission to carry self-insurance under the State plan.

Aside from the 100,003 claims allowed by the industrial commission under the workmen's compensation act, additional allowances amounting to $32,683.21 were made on 353 claims adjudicated prior to January 1, 1914. Omitting this last item, the total amount awarded was $4,401,986.16, which does not include the cost of medical and hospital attention in establishments where the employer carried self-insurance under the State plan, and was, therefore, required to furnish medical and hospital attention to injured employees without expense to the employee.

[1] Industrial Commission of Ohio, Department of Investigation and Statistics, Report No. 21: Industrial accidents in Ohio, Jan. 1, 1914, to June 30, 1915. Columbus, 1916. 231 pp.

The following table sets forth the number of claims allowed and the amount of award, classified by each type of compensation provided by the State law:

NUMBER OF CLAIMS AND AWARDS MADE, BY NATURE OF DISABILITY, UNDER EACH SPECIFIED PLAN PROVIDED BY THE OHIO WORKMEN'S COMPENSATION ACT, FOR THE 18 MONTHS ENDING JUNE 30, 1915.

Plan.	Deaths.		Permanent total disability.[1]		Permanent partial disability.	
	Number.	Award.	Number.	Award.	Number.	Award.
First plan	429	$1,024,692.18	11	$21,474.86	1,889	$793,914.97
Second plan	136	336,090.00	5	15,896.88	468	223,539.91
Third plan	25	53,493.40	.....	.....	29	13,436.88
Fourth plan	26	71,799.03	2	7,469.58	31	18,218.35
Total	616	1,486,074.61	[2] 18	44,841.32	2,417	1,049,110.11
Claims adjudicated prior to Jan. 1, 1914.	8	494.25	4	5,735.98	62	14,848.44
Grand total	624	1,486,568.86	22	50,577.30	2,479	1,063,958.55

Plan.	Temporary disability lasting—				Total.	
	More than 7 days.		7 days or less.			
	Number.	Award.	Number.	Award.	Number.	Award.
First plan	32,334	$1,294,327.59	36,790	$130,908.74	71,453	$3,265,318.34
Second plan	11,356	337,853.60	15,339	.....	27,304	[3] 913,380.39
Third plan	745	41,952.62	225	1,597.25	1,024	110,480.15
Fourth plan	158	15,294.82	5	25.50	1,222	112,807.28
Total	44,593	1,689,428.63	52,359	132,531.49	100,003	4,401,986.16
Claims adjudicated prior to Jan. 1, 1914.	257	11,513.94	22	90.60	353	32,683.21
Grand total	44,850	1,700,942.57	52,381	132,622.09	100,356	4,434,669.37

[1] Compensation for permanent total disability continues during the lifetime of the injured employee, and the expenditure shown for cases of this kind is therefore not an aggregate, but only the amount awarded during the 18 months. Cases of other kinds are also continued and additional allowances made from time to time.

[2] The average age of 17 of these cases was 33 years.

[3] The law also requires employers carrying insurance under this plan to furnish medical and hospital attention without expense to injured employees. The medical and hospital expenses are not included in this amount, whereas such expenses are included in the amounts reported under the other methods of compensation.

The total number of claims disallowed during the 18 months was 7,986, of which 7,680 were under the first plan, 53 under the second plan, 152 under the third plan, and 101 under the fourth plan.

Including all types of compensation, the total and average awards made in fatal cases during the 18 months were as follows:

TOTAL AND AVERAGE AWARDS MADE IN FATAL CASES FROM JAN. 1, 1914, TO JUNE 30, 1915.

Kind of benefit.	Number of cases.	Award.	Average award.
Death	508	$1,385,131.31	$2,726.64
Medical and hospital expenses [1]	377	17,368.92	46.07
Funeral expenses	597	81,859.09	137.12
Compensation [2]	10	1,715.29	171.53

[1] This does not include the medical and hospital expenses of injured employees of firms carrying self-insurance under the State plan.

[2] Where accidents were not immediately fatal and death benefits had not been awarded on June 30, 1915.

In 144 cases (28.3 per cent) the death benefits totaled $3,500 or over. The number left dependent by 420 (68.2 per cent) of the 616 fatally injured whose claims were allowed was 1,147 wholly dependent and 32 partially dependent.

The average compensation award in the 2,413[1] permanent partial disability cases allowed was $399.92, and the average allowed for medical and hospital expenses was $47.14.[2] In 668 cases (27.7 per cent) the amount awarded was between $200 and $500, and in each of 259 cases (10.7 per cent) the award was $1,000 or over.

Of 44,593 claims involving temporary disability for more than 7 days, the average compensation awarded was $29.80, while the average amount allowed for medical and hospital expenses was $14.50,[3] and of 52,359 claims in which disability lasted for 7 days or less, the average allowed for medical and hospital expenses was $3.58.[3]

The report classifies the causes of accidents by the primary or principal cause, for the reason, it is explained, that all preventive measures must in the last analysis be determined by this cause rather than by the immediate cause. In presenting the following table, which shows the number and per cent of accidents according to each general cause class, the report makes special reference to the causes of accidents resulting in permanent partial disability, since "a knowledge of them is necessary in order that proper steps may be taken to prevent such accidents in the future."

NUMBER AND PER CENT OF ACCIDENTS ASCRIBED TO EACH GENERAL CAUSE CLASS DURING THE 18 MONTHS ENDING JUNE 30, 1915.

Cause class.	Total number of accidents.	Number of accidents resulting in—				Per cent of accidents resulting in—			
		Death.	Permanent total disability.	Permanent partial disability.	Temporary disability.	Death.	Permanent total disability.	Permanent partial disability.[4]	Temporary disability.[4]
Machinery	25,867	112	5	1,484	24,266	0.43	0.02	5.74	93.81
Nature of material used (hot metals, corrosives, gas, etc.)	8,770	91	4	87	8,588	1.04	.05	.99	97.92
Falling and shifting objects	36,193	124	4	392	35,673	.34	.01	1.08	98.56
Carrying, lifting, or handling great weights	2,349	5	.....	1	2,343	.21	.....	.04	99.74
Falls	10,054	139	3	85	9,827	1.38	.03	.85	97.74
Transportation on tracks	1,715	61	1	75	1,578	3.56	.06	4.37	92.01
Transportation by water	15	12	.....	.....	3	80.00	.....	.....	20.00
Transportation not on tracks (trucks, automobiles, motorcycles, etc.)	1,170	26	1	20	1,123	2.22	.09	1.71	95.98
Animals	982	12	.....	20	950	1.22	.....	2.04	96.74
Hand tools and simple apparatus	9,738	5	.....	225	9,508	.05	.....	2.31	97.64
Miscellaneous causes	3,150	29	.....	28	3,093	.92	.....	.89	98.19
Total	100,003	616	18	2,417	96,952	.62	.02	2.42	96.95

[1] Four cases in which the injured employee never made final application for compensation are not included.

[2] Does not include 468 cases reported by firms carrying self-insurance under the State plan, as the law requires that they furnish medical and hospital expenses to injured employees without charge, and 165 cases in which no medical bill was reported to the commission.

[3] This does not include medical and hospital expenses for injured employees of firms carrying self-insurance under the State plan.

[4] Some of the percentages in this column have been slightly changed as they are not correct in the original table.

As suggested in the introduction, the report shows a large number of injuries to the eyes and a large number of serious injuries due to infection. Thus of the 18 permanent total disability cases, 22.2 per cent resulted in loss of vision of one or both eyes, and of the 2,417 accidents causing permanent partial disability the eyes were affected in 385, or 15.9 per cent, of the cases. Of this latter number, 69, or 17.9 per cent, were claims in which the permanent partial disability was the result of infection. Of all permanent partial disability claims allowed, 235, or 9.7 per cent, were the result of infection. Taking the entire 100,003 accident claims allowed by the commission during the 18 months under consideration, infection was reported as having occurred in 9,024 (9.02 per cent) cases.

In other words, infection occurred in almost 1 out of every 10 cases. It is obviously not possible to make any definite statement as to the proportion of cases in which adequate precautions would have prevented the infection, but it is safe to say that a reasonable effort to give injuries aseptic dressings would have saved much suffering, would have prevented a considerable number of permanent partial disabilities, and would have saved human lives.

Thirty-seven of these cases resulted fatally and 8,751 resulted in prolonged temporary disability. Of the 96,952 accidents resulting in temporary disability, 58,322 (60.2 per cent) were due to abrasions, bruises, contusions, crushes, cuts, and lacerations, most of which, 29,343, or 50.3 per cent, were of the hand, thumb, or fingers.

Owing to the fact that the analysis of the accident claims filed under the workmen's compensation act during the first six months of 1914 did not include data concerning time lost by reason of accidents, this portion of the report covers the 12 months ending June 30, 1915. During this period the average time actually lost as a result of the 71,400 accidents which caused temporary disability was 14 days; the average time lost for the 32,732 accidents which caused temporary disability for more than 7 days was 28.2 days; and the average time lost for the 38,668 accidents which caused temporary disability for 7 days or less was 2.1 days.

The following table shows the cost in time and money of accidents occurring during the 12 months ending June 30, 1915. The low compensation cost in the case of fatal accidents is noticeable, the average per case being $2,374.34 and the average per day lost being approximately 23 cents. This, however, is based upon a year of 365 days. Reduced to a 300-day year the compensation cost would be about 28 cents per day. In the case of permanent total disabilities compensation continues during the lifetime of the injured employee, and the total here shown, amounting to $26,507.03, is therefore not an aggregate, but only the amount awarded during the 12 months ending June 30, 1915.

COST IN TIME AND MONEY OF ACCIDENTS OCCURRING DURING THE 12 MONTHS ENDING JUNE 30, 1915.

Type of disability.	Number of cases.	Award.	Days lost.
Fatal	482	[1] $1,144,429.90	[2] 4,995,127
Permanent total disability	13	[3] 26,507.03	[4] 164,965
Permanent partial disability	1,646	[3] 718,986.00	492,066
Temporary disability	71,400	[3] 1,370,522.00	1,002,808
Total	73,541	3,260,444.93	6,654,966

[1] Includes death benefits, medical and hospital expenses and funeral expenses.
[2] Life expectancy according to Carlisle mortality tables. Not including five cases in which the age was not reported.
[3] Includes compensation and medical and hospital expenses.
[4] Life expectancy according to Carlisle mortality tables.

The following table shows the number and per cent of accidents, by kind of injury, for the 18 months ending June 30, 1915, as compared with the 6 months ending June 30, 1914, and the 12 months ending June 30, 1915, showing a slight increase in the accidents resulting in permanent partial disability, and a slight reduction in the accidents resulting in temporary disability.

NUMBER AND PER CENT OF EACH KIND OF ACCIDENT CLAIM ALLOWED FOR THE 18 MONTHS ENDING JUNE 30, 1915, AS COMPARED WITH THE 6 MONTHS ENDING JUNE 30, 1914, AND THE 12 MONTHS ENDING JUNE 30, 1915.

Kind of injury.	Six months ending June 30, 1914.		Twelve months ending June 30, 1915.		Eighteen months ending June 30, 1915.	
	Number.	Per cent.	Number.	Per cent.	Number.[1]	Per cent.
Fatal	128	0.48	482	0.66	616	0.62
Permanent total disability	3	.01	13	.02	18	.02
Permanent partial disability	601	2.27	1,646	2.24	2,417	2.42
Temporary disabilities terminated—						
Within first week	13,692	51.74	38,668	52.58	52,359	52.36
Within second week	4,328	16.35			15,591	15.59
Within third week	2,681	10.13			10,378	10.38
Within fourth week	1,663	6.28	32,732	44.50	6,053	6.05
Within fifth to thirteenth week	3,006	11.36			11,124	11.12
Within fourteenth week or later	290	1.10			1,386	1.39
Time not determined	71	.27			61	.06
Total temporary disabilities	25,731	97.23	71,400	97.08	96,952	96.95
Grand total	26,463	100.00	73,541	100.00	100,003	100.00

[1] Although the report under review, covering 18 months, includes the 6-month period ending June 30, 1914, and the 12-month period ending June 30, 1915, the totals given therein are not the sum of the items as given for each period standing by itself. This discrepancy is not explained. The totals in this column are taken from the report under review, as are also the totals for the 12-month period ending June 30, 1915, while the totals in the first column are taken from report No. 4, Industrial Accidents in Ohio, Jan. 1 to June 30, 1914.

During the 12-month period ending June 30, 1915, the age of 37,869 of the 73,541 injured employees was ascertained. Of this number 14,478, or 38.2 per cent, were between the ages of 20 and 30, and 10,185, or 26.9 per cent, were between the ages of 30 and 40. Only 2.1 per cent were under 18 years of age. Almost exactly nine-tenths were under 50 years. Of the employees fatally injured 56.9 per cent

were under 40 years of age, the largest per cent (27.3 per cent) being between 30 and 40; of the 13 permanent total disability cases 11, or 84.6 per cent, of the injured employees were less than 40; of both the permanent partial and temporary disability cases, the largest number of injured employees were between the ages of 20 and 30 years, being 34.5 per cent in the one case and 38.5 per cent in the other. More than four-fifths of the former and almost nine-tenths of the latter were under 50 years of age.

Eliminating accidents causing death, permanent total disability, or permanent partial disability, 96,952 accident claims were adjudicated during the 18 months ending June 30, 1915. The duration of these accidents was as follows:

DURATION OF TEMPORARY DISABILITY ACCIDENTS FOR THE 18 MONTHS ENDING JUNE 30, 1915.

Time.	Number.	Per cent.
Disability terminated—		
Within first week	52,359	54.01
Within second week	15,591	16.08
Within third week	10,378	10.70
Within fourth week	6,053	6.24
Within fifth to thirteenth week	11,124	11.47
Within fourteenth week or later	1,386	1.43
Not determined	61	.06
Total	96,952	100.00

Of the 95,567 accidents in the 18-month period, for which the hour of occurrence was reported, 50.8 per cent were during the forenoon hours, the largest proportion (12 per cent) of these being between 10 and 11 o'clock. In the afternoon the hour of most frequent occurrence was from 3 to 4 o'clock, when 10.8 per cent of the accidents are reported to have occurred.

Data on length of experience of workers were secured for 42,860 of the 47,664 claims which were allowed, each involving disability of more than 7 days. Of this number 23,662 employees (55.2 per cent) had worked 1 year or more at the time of the accident.

As to the wages received by injured employees, reports were not secured in claims against the State insurance fund where the disability did not exceed 7 days. Of the 63,213 claims of other types the weekly wages were reported for 59,870 males and 1,327 females. The weekly wages of males were between $10 and $15 in 48.1 per cent of the cases, and under $20 in 85.2 per cent of the cases. For females the weekly wages were under $10 in 83.8 per cent of the cases and under $7 in 38.7 per cent of the cases.

One hundred and eighty pages of the report are devoted to 19 tables setting forth in detail the facts here briefly outlined.

WISCONSIN.

The table which is presented herewith shows the completed experience, by industry classes, on workmen's compensation insurance policies which were issued in 1914, and on which, consequently, a full year had elapsed December 31, 1915. The pay rolls and earned premiums were determined by actual audits. The compensation incurred was determined as of February 1, 1916. About 15 per cent of the compensation incurred was reported as outstanding on that date. Hence the cost of compensation ought not to be materially affected by subsequent developments. The table was made up from individual policy reports and both compensation cost and the classifications were checked with other records of the commission.

Column 3 shows the total compensation incurred, including both the indemnity and the medical benefits paid or to be paid on account of accidents which occurred while these policies were in effect.

Column 7 shows the "pure premium"; that is, the actual cost of compensation per $100 pay roll.

Columns 6 and 8 show, respectively, the premium rate actually collected on these policies and the bureau base rate on May 1, 1915. The premiums collected average substantially less than the present bureau base rates, not only on account of merit rating reduction from base rates, but also because a large percentage of the total volume of insurance was carried by mutual and nonbureau stock companies.

The totals in each column for "all industries" and for industry groups include some minor industry classes not separately shown. The rates in columns 6, 7, and 8 for "all industries" and for industry groups are weighted averages.

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium	Bureau base rate.
	1	2	3	4	5	6	7	8
All industries	$100,757,224	$1,510,152	$872,198	7,968	114	$1.51	$0.87	$1.61
MINING AND QUARRYING.								
Lead and zinc mining	251,795	17,889	6,751	44	1	7.10	2.68	6.09
Limestone quarrying	139,469	7,189	5,272	26	1	5.15	3.76	3.32
Quarrying, n. o. c.	240,064	13,763	6,221	44	2	5.74	2.58	3.99
Sand and gravel digging	154,862	5,714	8,663	26	.....	3.70	5.60	3.99
Total—Mining and quarrying	798,685	45,334	27,202	141	5	5.68	3.41	.....

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE—Continued.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium.	Bureau base rate.
	1	2	3	4	5	6	7	8
CHEMICAL MANUFACTURING.								
Glue manufacturing	$159,314	$1,529	$777	14	.....	$0.96	$0.49	$1.33
Paint manufacturing	60,687	1,025	438	3	.....	1.69	.72	2.00
Soap manufacturing	125,121	1,425	417	6	.....	1.14	.38	1.22
Miscellaneous chemicals [1]	203,836	3,388	1,795	16	.....	1.67	.87	.....
Total—Chemical manufacturing	548,958	7,367	3,427	39	.....	1.35	.62	.....
EARTH AND STONE WORKING.								
Brick manufacturing	268,915	4,511	4,017	18	1	1.68	1.49	1.52
Concrete block manufacturing	75,291	1,014	909	12	.....	1.35	1.21	1.22
Ore crushing	149,035	3,562	4,347	28	1	2.39	2.92	3.99
Stonecutting	471,136	5,060	2,982	51	.....	1.07	.63	1.73
Stone crushing	130,148	4,336	1,242	16	.....	3.34	.96	3.99
Total—Earth and stone working	1,426,782	24,094	18,459	148	3	1.68	1.29	.....
FOOD AND BEVERAGES.								
Bakeries	567,939	4,980	1,763	23	.....	.87	.31	1.17
Breweries	3,136,904	47,167	28,207	289	3	1.50	.90	2.00
Candy manufacturing	373,412	3,396	990	13	.....	.91	.27	.71
Canneries, n. o. c	927,692	13,484	4,452	52	.....	1.46	.48	1.46
Cigar manufacturing, hand	373,211	1,518	79	2	.....	.41	.02	.28
Condensed-milk manufacturing	217,318	2,038	1,092	18	.....	.94	.51	.95
Creameries	302,885	3,591	2,248	18	2	1.18	.74	.95
Malting	307,560	5,872	4,502	15	1	1.90	1.46	2.00
Meat packing (no slaughtering)	108,166	1,763	1,041	18	.....	1.63	.96	2.00
Milling, flour	457,326	11,028	4,374	26	1	2.41	.96	2.08
Milling, n. o. c	245,920	5,201	772	12	.....	2.12	.31	2.08
Sausage manufacturing	177,955	3,184	1,347	21	.....	1.78	.76	1.22
Tobacco rehandling	249,597	1,370	60	1	.....	.55	.02	.55
Tobacco manufacturing n. o. c	159,489	1,063	22	1	.....	.67	.01	.44
Total—Food and beverages	8,436,317	115,512	60,184	569	8	1.37	.71	.....
LEATHER WORKING.								
Boot and shoe manufacturing	2,028,904	8,515	4,234	53	1	.42	.21	.68
Bag and portmanteau manufacturing	177,751	1,207	34	.....	.....	.68	.02	.68
Glove manufacturing	171,684	734	64	1	.....	.43	.04	.33
Harness and saddlery manufacturing	356,211	3,164	606	8	.....	.89	.17	.68
Pocketbook manufacturing	111,947	547	337	3	.....	.49	.30	.55
Tanneries	1,132,260	11,780	9,737	46	3	1.04	.86	1.22
Total—Leather working	4,073,595	26,902	15,145	116	4	.66	.37	.....
METAL WORKING.								
Agricultural machinery manufacturing	290,023	4,497	4,096	31	1	1.55	1.42	2.65
Brass goods manufacturing	99,858	1,221	154	1	.....	1.22	.15	1.27
Boiler making	175,967	3,797	3,567	29	.....	2.16	2.02	2.65
Cranes, electric, manufacturing	240,796	1,805	913	20	.....	.75	.38	2.65
Enamel ware manufacturing	103,206	2,982	105	1	.....	2.90	.10	2.75
Foundries, iron	462,832	7,659	5,766	33	1	1.66	1.25	1.46
Foundries, n. o. c	244,833	3,928	679	9	.....	1.60	.27	1.46
Foundries, steel	220,106	3,950	2,256	21	.....	1.79	1.03	2.75
Gas and gasoline engine manufacturing	422,249	4,225	2,662	28	.....	1.00	.63	1.46
Machine shops, no foundry	2,290,614	24,035	18,345	172	.....	1.04	.80	1.27
Machine shops, with foundry	2,522,706	34,866	14,878	204	1	1.39	.59	1.46
Malleable works	559,960	5,239	1,541	32	.....	.94	.27	1.73

[1] Includes chiefly chemicals not otherwise classified, acids, varnish, beeswax, and linseed oil.

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE—Continued.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium.	Bureau base rate.
	1	2	3	4	5	6	7	8
METAL WORKING—concluded.								
Pipes, cast iron, manufacturing	$176,655	$3,137	$3,862	30	.....	$1.77	$2.18	$3.99
Professional and scientific instruments	226,114	1,038	36	1	.....	.46	.02	.....
Plumbers' supplies manufacturing, n. o. c	302,926	2,857	1,404	18	.....	.94	.46	.68
Sheet-metal work, shop only	775,952	9,505	5,023	60	.....	1.22	.65	1.38
Spring, spring bed, and wire-mattress manufacturing	111,793	989	80	2	.....	.89	.07	1.38
Steel works, structural fabricating	215,690	7,590	4,033	32	.....	3.51	1.87	4.80
Stove manufacturing, not sheet metal	703,273	5,427	5,039	58	.....	.77	.72	1.11
Tool manufacturing	174,062	1,166	1,044	5	.....	.67	.60	.74
Total—Metal working	11,444,581	146,194	85,175	888	3	1.28	.75	.....
PULP AND PAPER MANUFACTURING.								
Paper manufacturing [1]	1,447,406	25,985	27,923	235	3	1.79	1.82	2.40
Paper boxes, folding	358,600	4,366	2,471	48	.....	1.22	.69	1.17
Paper boxes, solid	164,304	1,976	746	18	.....	1.21	.46	1.17
Paper goods, n. o. c	120,962	640	143	4	.....	.53	.12	.55
Pulp manufacturing, ground wood	655,592	14,733	7,341	126	1	2.24	1.12	2.40
Pulp manufacturing, sulphite	705,509	17,304	13,875	127	2	2.45	1.96	3.80
Saw and barking mill	178,184	5,374	3,222	28	1	3.20	1.81	3.99
Writing paper manufacturing	421,357	3,937	5,804	48	1	.94	1.37	1.27
Total—Pulp and paper manufacturing	4,357,659	78,054	66,238	674	8	1.79	1.52	.....
TEXTILE MANUFACTURING.								
Bag manufacturing, burlap	117,089	298	142	1	.....	.25	.12	.55
Clothing manufacturing	841,854	2,348	419	9	.....	.28	.05	.23
Cloth manufacturing, wool and worsted	300,788	1,562	1,010	11	.....	.52	.34	.57
Glove and mitten manufacturing, cloth	129,815	842	50	1	.....	.65	.04	.23
Grass rug manufacturing	97,285	546	587	14	.....	.56	.60	1.11
Hat manufacturing, straw	264,263	620	174	3	.....	.23	.07	.28
Horse blanket manufacturing	81,908	586	62	1	.....	.72	.08	.57
Hosiery manufacturing	196,685	763	183	3	.....	.38	.09	.63
Knit goods, n. o. c	1,186,363	4,731	1,270	19	1	.40	.11	.63
Net manufacturing, not wire	135,634	801	4,345	7	1	.59	3.18	.41
Tailoring	225,188	726	472	4	.....	.32	.21	.23
Yarn manufacturing	111,522	609	384	3	.....	.51	.32	.74
Total—Textile manufacturing	4,122,719	17,775	11,050	95	3	.43	.27	.....
VEHICLE MANUFACTURING.								
Automobile manufacturing	768,141	8,371	6,565	84	1	1.09	.86	.84
Automobile body manufacturing	433,880	4,501	1,249	20	1	1.04	.29	1.11
Carriage manufacturing	421,415	4,085	6,496	39	.....	.97	1.54	1.11
Carriage and wagon manufacturing [2]	464,249	3,273	2,950	33	.....	.71	.64	1.73
Car manufacturing, railroad, all kinds	72,490	1,980	2,645	20	.....	2.74	3.66	2.75
Wagon manufacturing	58,809	843	332	4	.....	1.42	.56	1.73
Total—Vehicle manufacturing	2,304,831	23,742	20,385	203	2	1.03	.89	.....

[1] Includes a small amount of wood-pulp making not separated on insurance reports.
[2] Mostly wagon manufacturing. Small amount of carriage manufacturing, not separated on insurance reports.

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE—Continued.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium.	Bureau base rate.
	1	2	3	4	5	6	7	8
MISCELLANEOUS MANUFACTURING.								
Bookbinding	$160,995	$726	$182	5	.....	$0.45	$0.11	$0.68
Boot and shoe manufacturing, rubber	182,828	914	219	4	.....	.50	.12	.41
Button manufacturing, pearl	66,978	650	277	9	.....	.91	.41	1.06
Cleaning and dyeing	65,767	1,459	422	6	.....	2.22	.64	2.40
Engraving	118,314	507	57	1	.....	.43	.05	.33
Laundries, power	618,055	8,688	4,238	31	1	1.40	.69	1.38
Lithographing	297,706	1,468	169	2	.....	.49	.06	.68
Newspaper publishing	515,867	3,539	676	12	.....	.69	.13	.68
Artists, reporters, c. o. f., etc	127,834	155	.....	.....	.....	.12	.00	.09
Printing	1,159,842	7,015	1,505	20	.....	.61	.13	.68
Publishing	242,793	1,283	395	6	.....	.53	.16	.68
Rubber mills, n. o. c	121,327	873	191	2	.....	.72	.16	1.60
Tire manufacturing, rubber	266,108	2,690	2,979	45	.....	1.01	1.11	1.06
Wall paper manufacturing	119,907	779	127	1	.....	.65	.11	.68
Total—Miscellaneous manufacturing	4,209,344	31,884	11,577	146	1	.....	.....	.....
WOODWORKING INDUSTRIES.								
Box manufacturing, wood	677,149	13,370	8,152	113	.....	1.98	1.20	2.00
Carpentry, shop only	181,600	3,634	3,033	19	.....	2.01	1.66	2.30
Cabinetmaking	275,735	3,916	1,578	26	.....	1.42	.57	.71
Chair manufacturing	667,541	9,986	3,958	95	.....	1.49	.59	1.27
Cooperage manufacturing	631,394	6,484	2,789	34	.....	1.03	.44	3.16
Excelsior manufacturing	73,358	2,204	899	22	.....	3.20	1.22	3.99
Furniture manufacturing	1,165,262	12,590	3,869	72	.....	1.08	.33	1.27
Logging and lumbering	3,621,474	123,011	96,450	947	23	3.40	2.68	4.37
Logging, railroads	167,181	12,741	5,170	28	.....	7.61	3.10	15.85
Piano and organ manufacturing	180,979	1,035	886	8	.....	.57	.49	.57
Planing mills	940,513	18,752	8,828	94	1	1.98	.94	2.30
Refrigerator manufacturing	196,998	1,834	2,110	8	1	.93	1.07	1.27
Sash, door, and blind manufacturing	1,296,982	22,671	12,059	104	2	1.75	.93	2.30
Sawmills	2,090,029	79,024	40,926	410	6	3.78	1.95	3.99
Trunk manufacturing, wood	124,877	2,687	823	15	.....	2.16	.66	2.00
Veneer package manufacturing	98,052	1,040	384	6	.....	1.06	.39	1.60
Veneer manufacturing	203,522	5,366	1,695	35	.....	2.63	.83	3.99
Wood turning, n. o. c	236,372	5,892	1,587	20	.....	2.50	.67	2.00
Total—Woodworking industries	13,294,012	332,888	200,398	2,110	33	2.51	1.50	.....
CONSTRUCTION.								
Buildings, additions, and alterations	236,415	8,419	8,291	22	2	3.56	3.52	2.51
Buildings, concrete, reinforced	154,739	8,017	7,206	36	.....	5.18	4.65	5.77
Carpentry, n. o. c	991,619	30,575	20,490	152	4	3.10	2.08	4.18
Carpentry, residences	647,666	19,035	7,457	56	1	2.94	1.15	1.73
Carpentry, interior	425,254	6,210	1,022	11	.....	1.46	.24	1.06
Concrete floors and pavements	479,468	12,756	4,535	44	.....	2.68	.95	1.60
Contractors, frame, under three stories	358,609	10,719	5,067	35	.....	2.98	1.41	.....
Contractors, masonry, under three stories	247,840	9,099	3,161	24	.....	3.68	1.28	.....
Electric equipment installation	155,125	2,313	902	11	.....	1.49	.58	1.06
Foundations, concrete	116,197	6,009	2,014	24	.....	5.20	1.73	3.64
Furnace installation	118,778	2,122	231	10	.....	1.78	.20	1.38
Gas and steam fitting	193,149	2,728	2,246	13	.....	1.42	1.17	1.38
Marble and stone setting, interior	92,705	1,465	218	10	.....	1.59	.24	1.06
Masonry, n. o. c	411,900	17,781	6,982	76	1	4.32	1.70	4.80
Masonry, residences	145,753	4,742	4,515	18	.....	3.25	3.09	2.30
Millwrighting	280,111	11,327	9,578	28	2	5.44	4.60	2.30
Painting, exterior	229,902	6,820	5,012	27	1	2.98	2.17	5.01
Painting, interior	466,163	6,959	2,455	21	.....	1.49	.53	1.17

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE—Continued.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium.	Bureau base rate.
	1	2	3	4	5	6	7	8
CONSTRUCTION—concluded.								
Paving, n. o. c.	$178,429	$4,372	$2,759	10	1	$2.46	$1.55	$1.60
Plastering	287,514	2,833	2,139	19	.....	.97	.75	1.81
Plumbing	503,668	7,789	4,901	34	.....	1.54	.97	1.38
Road and street making	390,391	10,217	8,664	54	1	2.62	2.23	2.65
Sewers, under 7 feet	69,246	4,805	647	8	.....	6.95	.94	3.32
Sewers, over 7 feet	135,066	13,625	3,081	36	1	10.10	2.28	7.60
Sheet metal erecting, exterior	135,536	7,214	5,397	30	1	5.24	3.98	5.26
Shipbuilding, iron and steel	318,536	7,378	4,455	27	.....	2.21	1.40	3.32
Water mains	52,166	2,195	551	13	.....	4.23	1.06	3.32
Waterworks, dams, etc.	392,581	10,949	3,703	29	3	2.77	.94	4.58
Total—Construction	9,605,986	303,933	155,623	1,097	20	3.16	1.62	.....
PUBLIC UTILITIES.								
Electric light and power companies	468,442	22,694	4,094	32	1	4.85	.88	4.18
Gas works, operation	66,310	1,299	2,975	13	.....	1.96	4.50	1.73
Telephone companies, operation	110,902	5,043	3,919	12	1	4.55	3.54	2.75
Telephone companies, office and exchange	130,579	701	52	1	.....	.54	.04	.09
Waterworks, operation and maintenance	126,698	2,180	496	6	.....	1.72	.39	.95
Total—Public utilities	1,073,422	37,288	14,390	83	3	3.47	1.34	.....
TRANSPORTATION.								
Chauffeurs and helpers	351,163	6,505	2,559	19	.....	1.86	.73	1.60
Coal docks	1,000,045	38,308	26,171	140	3	3.83	2.62	5.01
Drivers and helpers	2,679,624	47,131	28,002	216	5	1.75	1.04	1.81
Garages	298,524	3,855	4,050	36	1	1.29	1.35	.92
Great Lakes steamers	109,814	3,854	1,004	8	.....	3.50	.91	6.04
Grain elevators	331,509	7,798	9,307	31	.....	2.35	2.80	2.08
Livery stables	94,869	2,276	731	8	.....	2.40	.77	1.81
Stevedores, general freight	116,958	7,499	2,679	37	.....	6.42	2.29	7.95
Storage, n. o. c.	108,788	1,689	493	12	.....	1.55	.45	2.40
Truckmen	483,762	8,512	9,475	107	1	1.76	1.95	2.30
Total—Transportation	5,887,267	137,910	86,014	644	10	2.34	1.46	.....
TRADE.								
Auto salesrooms	145,934	1,984	904	12	.....	1.35	.62	.92
Coal dealers, retail	420,169	10,214	4,450	81	.....	2.43	1.06	3.02
Flour, feed, and grain dealers	192,408	3,149	2,902	18	.....	1.64	1.51	1.06
Ice dealers	314,375	7,798	10,565	79	2	2.48	3.37	2.65
Lumber, feed, and fuel dealers	361,159	5,468	2,618	51	.....	1.52	.73	1.73
Lumber dealers	1,379,802	23,477	19,105	147	3	1.70	1.38	1.73
Produce dealers	156,709	1,344	1,168	11	.....	.91	.75	1.06
Stores, butcher	203,522	1,203	5,964	39	1	.59	2.92	.84
Stores, clothing	418,725	1,442	93	4	.....	.34	.02	.17
Stores, department	1,652,435	9,253	1,997	28	.....	.56	.12	.41
Stores, dry goods, large	349,741	1,457	213	3	.....	.42	.06	.17
Stores, dry goods, small	254,032	1,067	242	3	.....	.42	.10	.28
Stores, furniture	190,505	875	648	7	1	.46	.34	.84
Stores, general	544,656	2,214	770	13	.....	.41	.14	.28
Stores, grocery	382,391	2,028	344	13	.....	.53	.09	.41
Stores, hardware	616,161	3,022	1,816	31	.....	.49	.30	.28
Stores, machinery	101,808	922	941	11	1	.90	.92	.49
Stores, retail, n. o. c.	2,114,376	8,364	5,553	36	1	.39	.26	.28
Stores, wholesale	1,021,826	5,295	3,157	35	1	.52	.31	.49
Stores, wholesale and retail	267,454	1,100	265	6	.....	.41	.10	.28
Saloons, wine and spirit merchants	222,820	1,535	1,135	18	.....	.69	.51	.66
Total—Trade	11,711,098	97,435	66,839	665	10	.83	.57	.....

WORKMEN'S COMPENSATION INSURANCE EXPERIENCE OF WISCONSIN ON AUDITED POLICIES OF 1914 ISSUE—Concluded.

Industry.	Audited pay roll.	Earned premiums.	Compensation incurred.	Number of compensable accidents.	Fatal accidents.	Premium rate collected.	Pure premium.	Bureau base rate.
	1	2	3	4	5	6	7	8
MISCELLANEOUS.								
Clerical office force	$10,320,472	$17,443	$1,669	27	.....	$0.17	$0.016	$0.09
Doctors and nurses	100,676	295	21	2	.....	.29	.02	.25
Elevator operators	252,994	2,270	5	.....	.....	.90	.00	1.11
Farming	799,540	14,518	7,497	78	.....	1.89	.94	1.52
Hotels	1,014,893	7,229	3,687	60	.....	.72	.36	.60
Ice harvesting	124,078	5,532	4,792	55	.....	4.45	3.87	4.80
Moving-picture theaters	101,199	700	14	.....	.....	.69	.01	.95
Buildings, care, custody, and maintenance	904,255	10,469	5,445	37	1	1.16	.60	1.11
Restaurants	648,551	5,026	2,056	37	.....	.78	.32	.68
Salesmen, outside	2,026,519	4,466	1,138	17	.....	.22	.06	.14
Teachers and preachers	205,769	537	319	3	.....	.26	.15	.....
Threshing	128,656	7,908	2,630	23	.....	6.10	2.04	6.30
Theaters, care and custody	196,151	1,381	219	1	.....	.70	.11	1.11

METAL-MINE ACCIDENTS IN THE UNITED STATES DURING 1914.[1]

A recent report of the Bureau of Mines (Technical Paper 129) deals with metal and miscellaneous mineral-mine (except coal-mine) accidents in the United States during 1914. It includes statistics relating to copper mines, gold and miscellaneous metal mines, iron mines, lead and zinc mines (Mississippi Valley), and miscellaneous mineral mines.

In 1914 the number of fatal accidents in these mines, as reported by 4,805 operators, was 559, and the total number of men employed was 158,115. Both of these figures represent a decrease from 1913, when the figures were 683 and 191,276, respectively. The fatality rate, however, shows only a slight decrease in 1914, being 3.54 per 1,000 men employed as against 3.57 in the preceding year. A number of States show a slight increase in the fatality rate, but most of the principal mining States show a reduction, in some cases as much as 50 per cent, and these, it is stated, "are to be accounted for largely by the introduction of safety appliances, better supervision, a stricter enforcement of rules and regulations and a close observance of State laws. Practically all of the larger companies, and many of the smaller ones, have done much in safeguarding their employees, and have helped to spread the 'safety-first' movement."

Of the 158,115 workers, 101,618 were employed underground and 56,497 on the surface. Aside from the fatalities, the record of inju-

[1] U. S. Bureau of Mines: Metal-mine accidents in the United States during the calendar year 1914. Compiled by Albert H. Fay. Technical Paper 129. Washington, 1916. 96 pp.

ries due to accidents is as follows: Serious injuries,[1] 5,073, or 32.08 per 1,000 men employed; slight injuries, 25,143, or 159.02 per 1,000. Of the 559 deaths, 466 (83.36 per cent) are chargeable to underground work, the fatality rate being 4.59 per 1,000, while 93 (16.64 per cent) were killed in surface accidents, the fatality rate being 1.65 per 1,000 men employed. The irregularity of ratio between serious and slight injuries, it is explained, is due to the lack of uniformity in State laws, or entire absence of such laws, requiring detailed records of injuries.

More than one-third (37.56 per cent) of the fatal accidents was due to falls of ore or rock from roof, wall, or bank; 16.11 per cent to falling down stope shaft, winze or bank; 10.73 per cent to explosives, and 8.96 per cent to haulage systems. Of the serious injuries 32.48 per cent were due to falls of roof, wall, or bank; 16.38 per cent to car and haulage systems; 10.97 per cent to timber and hand tools, and 7.94 per cent to machinery. Thirty-four per cent of the slight injuries were due to falls of roof, wall, or bank; 12.54 per cent to car and haulage systems; 12.29 per cent to timber and hand tools, and 7.88 per cent to machinery. Mine fires caused 10 fatalities in 1914, none in 1913, 1 in 1912, and 37 in 1911. Fatalities due to falling down shaft were 34, as compared with 26 in 1913, 40 in 1912, and 57 in 1911.

The following table summarizes the number of men employed and the number killed and injured in all metal mines (except coal mines) in the United States during 1914, as compared with the three preceding years:

NUMBER OF MEN EMPLOYED AND NUMBER KILLED AND INJURED IN AND ABOUT METAL AND MISCELLANEOUS MINERAL MINES (EXCEPT COAL MINES), CLASSIFIED BY KIND OF MINE, IN THE UNITED STATES DURING THE CALENDAR YEAR 1914, COMPARED WITH THE THREE PRECEDING YEARS.

Kind of mine.	Active operators.	Employees.	Average number of days worked.	Killed.			Seriously injured.[2]			Slightly injured.[3]		
				Number.	Rate per 1,000 employed.	Rate on 300-day basis.	Number.	Rate per 1,000 employed.	Rate on 300-day basis.	Number.	Rate per 1,000 employed.	Rate on 300-day basis.
Copper	585	44,686	287	165	3.69	3.85	2,037	45.58	47.57	11,330	253.55	264.62
Gold and miscellaneous metal	3,536	48,438	273	179	3.70	4.06	911	18.81	20.64	4,690	96.82	106.26
Iron	196	44,807	262	148	3.30	3.78	1,851	41.51	47.28	6,922	154.48	176.79
Lead and zinc (Mississippi Valley only)	248	10,935	254	40	3.66	4.32	146	13.35	15.76	1,605	146.78	173.26
Miscellaneous mineral	240	9,249	235	27	2.92	3.72	128	13.84	17.64	596	64.44	82.12
Total	4,805	158,115	271	559	3.54	3.92	5,073	32.08	35.57	25,143	159.02	176.29
1913	6,378	191,276	288	683	3.57	3.72	5,890	30.79	32.09	27,081	141.58	147.51
1912	5,967	169,199	287	661	3.91	4.09	4,502	26.61	27.85	26,232	155.04	162.26
1911	5,232	165,979	282	695	4.19	4.45	4,169	25.12	26.71	22,408	135.01	143.56

[1] In this report a serious injury is one disabling a man and keeping him from duty 20 days or more; a slight injury is one that involves a loss of time of not less than 1 day nor more than 20 days.
[2] Involving loss of 20 days or more.
[3] Involving loss of less than 20 days, but more than 1 day.

The report comments on the unfairness of making comparisons of accidents in the various States based on the actual number of men reported as working instead of reducing the number of employees in each State to the equivalent of 300-day workers. The difference in the results arrived at by each method is illustrated by a comparison of the records of two years in the preceding table. It will be seen, for example, that the fatality rate in 1914, based upon the number of men reported as working, was 3.54, and in 1913, 3.57, whereas, reduced to a 300-day basis, the fatality rate in 1914 was 3.92, and in 1913, 3.72. Thus with a longer working period in 1913 than in 1914, the fatality rate in the former year was lower on a 300-day basis than it was in 1914, while on the basis of actual number of men reported as working, the fatality rate was higher in 1913 than in 1914.

Data were gathered relating to the classification of mine accidents based on specific systems of mining, as follows: (1) Overhand stoping, confined to narrow veins; (2) overhand stoping, confined to wide veins and large ore bodies; (3) room and pillar method (without timber); (4) caving systems and their various modifications; (5) open pit, with steam shovel; (6) open pit, without steam shovel. Two hundred and fifty-eight returns, representing 361 fatal accidents, are tablulated showing that the fatality rate is highest (5.76 per 1,000 employed) where the room and pillar method is used, with the overhand stoping system responsible for the next highest fatality rate, 5.23.

Comparative data for metal mines, coal mines, and quarries covering the years 1911, 1912, 1913, and 1914 are presented. Here it is shown that the fatality rate in metal mines during 1914, as already indicated, was 3.54 per 1,000 employed, and that the fatality rate in coal mines was 3.22 and in quarries, 2.05. The comparison between metal and coal mines, says the report, "is not absolutely fair, for the reason that the metal miners worked 271 days as compared with 207 days for the coal miners. Thus the men in the metal mines were exposed to the mining risk 64 days longer than were the coal miners." If the rates be reduced to the 300-day basis, the metal mine fatality rate, as shown in the table following, becomes 3.92 per 1,000 300-day workers in comparison with 4.67 for the coal miners and 2.64 for quarries.

FATALITY RATES IN DIFFERENT BRANCHES OF MINERAL INDUSTRIES IN 1914 COMPARED ON A 300-DAY BASIS.

[Length of shift not considered.]

Branch of mineral industry.	Actual days active.	Employees.		Killed.	Number killed per 1,000 employed.	
		Actual.	On 300-day basis.		On actual basis.	On 300-day basis.
Metal mines	271	158,115	142,619	559	3.54	3.92
Ore-dressing plants	302	14,501	14,576	23	1.59	1.58
Smelting plants	349	26,960	31,384	33	1.22	1.05
Coal mines	207	763,185	526,598	2,454	3.22	4.67
Coke ovens	286	22,313	21,241	45	2.02	2.12
Quarries	233	87,936	68,187	180	2.05	2.64

Classified by part of body injured, it was found that the largest number of accidents in metal mines (12.6 per cent) resulted in broken legs, with injured fingers second (7 per cent).

The bureau collected data showing the number of men employed and the number of accidents at ore-dressing plants and smelters for the years 1913 and 1914. At ore-dressing plants in 1914, 14,501 men were employed and at smelters, 26,960. The fatality rates at the metallurgical plants are considerably lower than in the mining industry. The serious injuries at ore-dressing plants and smelting plants are also less than at the mines, while the slight injuries at smelters are slightly in excess of those reported for the mining industry as a whole. At ore-dressing plants the number killed and injured in 1914 was 1,211 compared with 1,670 in 1913, and at smelting plants 4,658 in 1914 compared with 3,507 in 1913.

In discussing the responsibility for mine accidents figures are cited from the records of the Department of Mines, Union of South Africa, and the report states that the actual responsibility for a mine accident is often a delicate question and the answer depends largely on the person making the report.

There is a natural tendency to shirk responsibility and to throw the blame on the other party whenever possible. It is difficult to obtain an unbiased report on accidents unless they are investigated by some disinterested person, and this is not always done. There is carelessness of both the miner and the management. Little information is available showing to what extent the personal character or tendency of the miner and his coworker, the mine foreman, or the superintendent and others in authority, enters into the causes of accidents. Many accidents are due to the inexperience of the miner, his failure to heed orders, a misunderstanding of instructions, and, last but not least, carelessness of himself or fellow workers. A foreman or superintendent may fail to give proper warning regarding the conditions of certain parts of the mine; he may not have inspected certain stopes, rooms, or entries on the day of an accident; the mine may not be properly equipped, or the operator may neglect to comply with the inspector's recommendations. Evidently, there is a personal equation of both the operator and the miner which must be considered.

The figures as cited in the report represent the mining industry of South Africa, where a large majority of the miners are Kaffirs and where it would be an easy matter for the inspector to shift the burden of responsibility onto the miner.

The Kaffirs in their native land are not miners, and have absolutely no knowledge of machinery, electricity, or explosives when they begin work in the mines; yet the figures show that less than one-fourth of the fatal accidents are due to the carelessness and the ignorance of these uneducated laborers. Although seemingly it would not have been difficult to shift the burden of the responsibility onto the Kaffir, the figures quoted show the responsibility of the miner to be about equal to that of the operator, and represent the unbiased result of the inspector's work. If these figures be taken as a standard, the percentage of accidents due to these causes should be less in the majority of the mines in the United States, especially in those mines where English-speaking labor is employed. Where there is an excess of inexperienced laborers that do not speak English, it would seem that conditions similar to those in mines in South Africa should prevail.

MASSACHUSETTS COMMISSION ON SOCIAL INSURANCE.

The Legislature of Massachusetts, just before ending its 1916 session on June 2, passed a resolve providing for the appointment of a special commission to be known as the commission on social insurance, "to study sickness, unemployment, and old age in Massachusetts, to collect facts as to actual experience with the several forms of insurance therefor, and to recommend such legislation as it deems practical and expedient to protect the wage earners of the Commonwealth from the burdens of sickness, unemployment, and old age or any one or more of these." This commission is composed of two members of the senate—Messrs. Farnsworth and McLane—four members of the house of representatives—Messrs. Catheron, Bowser, Woodill, and Morris—and three persons to be appointed by the governor. It is directed to submit its report to the general court, with drafts of such laws as it may recommend, not later than the first Wednesday in January, 1917. The cooperation of the State department of health and the bureau of statistics is authorized and directed and the commission is directed to give such public hearings as may be necessary.

DECISIONS OF COURTS AFFECTING LABOR IN 1915.

Legislatures write laws, but until the courts have interpreted them the real effect is often uncertain. The United States Bureau of Labor Statistics annually prints not only the labor laws enacted in the country as a whole but also a careful selection of the decisions of the various courts of superior rank showing the application of such

laws to concrete cases. Important decisions under the common law are given as well, the annual bulletin on the subject thus affording a valuable work of reference in its field.

The volume covering the year 1915 has just appeared as Bulletin 189 of this bureau, and presents in condensed form the salient points in some 270 cases. As heretofore, a summary statement of the facts in each case is given, followed by quotations embodying the vital points of the decision, the volume being prefaced by a review of the cases considered, indicating the effect of the rulings of the courts. Aliens, armed guards for work places, employers' liability and workmen's compensation, boycotts, blacklists, strikes, and injunctions, the rights of members of trade-unions to resist expulsion from membership, wage payments, and work time—these and almost every other incident of the employment relation are touched upon in one or several cases.

Most numerous are decisions relating to workmen's compensation, the scope and effect of this new type of law being not yet fixed with sufficient clearness to preclude a considerable amount of litigation. However, this represents but a fraction of the number of cases settled under these acts, many adjustments taking place almost automatically. Some attacks were again made last year on the constitutionality of such laws, but none was successful. An interesting point discussed is as to the application of the law of a State to cases of employees injured in interstate commerce. The Federal liability law applies where the employer is negligent, and the Illinois courts hold this to be the full measure of the employer's liability; while the courts of New York and New Jersey take the position that the State can add a duty to compensate cases where there is no negligence, requiring the employer to make payments under the State law.

Likewise diverse are the rulings as to whether injuries received outside the State can be compensated for under the State law, courts of New York, New Jersey, and Connecticut making awards in such cases, while those of Massachusetts hold the contrary. Questions of the inclusion or exclusion of diseases incurred by reason of occupation also lead to contrary decisions by the courts of the different States, even where the terms of the acts are practically identical.

As in all recent years (since the enactment of the Federal law of 1908), the question of what employees on railroads are engaged in interstate commerce, and therefore entitled to sue under the Federal liability law, gives rise to many difficulties, and the rulings are far from harmonious, though clarifying decisions have been rendered by the Supreme Court of the United States. The same is true of the hours of service and safety appliance acts of Congress applicable to railroads, under which several decisions appear.

Laws of Arizona, California, the District of Columbia, and New York limiting the hours of labor of women were held constitutional, while the act of Massachusetts was construed to include a woman serving as a cashier and bookkeeper as being "employed in labor." The early closing law of Utah for mercantile establishments was declared unconstitutional as not within the police power of the State in the form in which it was enacted, and also as special legislation, on account of its exceptions. This last defect was fatal also to a Louisiana statute relating to the hours of labor of stationary engineers in certain cities of the State.

Interesting decisions affirm the right of members of associations of workmen or employers to be protected against unlawful expulsion from membership in such organizations, recognizing its value as an economic asset. Laws of Ohio and Oklahoma undertaking to prevent the discharge of workmen on account of such membership were, however, held unconstitutional. Other decisions worthy of mention in this connection construe collective agreements between employers and labor organizations, the union being compelled to reimburse the employer in a case where it had reduced the union rate of wages without notice to him and he had continued to pay the higher rate fixed upon in an earlier agreement.

These are but a few of the cases noted in the 290 pages of decisions, besides which there are the analytic introduction and review and the indexes. The bulletin furnishes the most complete and indeed the only current review of the subject matter in existence, and merits the attention of all persons interested in the legal status of employer and employee.

DECISIONS OF THE SUPREME COURT AFFECTING LABOR.

The Supreme Court of the United States at its term just closed (June 12) had before it several cases of interest to labor, two or three being of special importance. By its decision in St. Louis, Iron Mountain & Southern Railway *v.* Arkansas (36 Sup. Ct., 443) it sustained the constitutionality of the full crew law of Arkansas, enacted in 1913.

Important cases that have been before the court for varying periods, but on which no decisions have yet been reached, are those involving the minimum wage law of Oregon (Stettler *v.* O'Hara and Simpson *v.* O'Hara, see Bulletin 169, pp. 172–177); and the case involving the 10-hour law of Oregon covering general employments and including male employees (Bunting *v.* Oregon, see Bulletin 169, p. 120). The first two of these cases were argued in December, 1914, and were under consideration until June 12, when they were ordered

restored to the docket for reargument at the term of court opening October, 1916, as was the Bunting case, argued in April of the current year. A short summary of the brief submitted by the attorneys for the State in the last-named case was given in the REVIEW for June (pp. 23–29). An order for reargument was also made with reference to a New York (Federal court) case involving unlawful combinations and the attempt of labor organizations to prevent the use of the product of a particular manufacturer. (Paine Lumber Co. *v.* Neal, Bulletin 169, p. 164.) This case was argued in May, 1915.

A group of cases from the New York courts regarding the application of the workmen's compensation law of that State to employees in interstate commerce (Jensen *v.* Southern Pacific Co., Bulletin 189, p. 221; Winfield *v.* New York Central & Hudson River R. R., Bulletin 189, p. 254), and one or two other cases, were argued in February of the current year, and remained under advisement at the end of the term. The importance of these pending cases and the necessity for adjusting the conflicts of jurisdiction between the Federal Government and the States having compensation laws were emphatically pointed out by Hon. A. J. Pillsbury, chairman of the Industrial Accident Commission of California, in an address delivered at the Third Annual Meeting of the International Association of Industrial Accident Boards and Commissions. This address is summarized in the June REVIEW (pp. 54 and 55).

The minimum wage cases have attracted special attention because of the effect that a decision of unconstitutionality would have on such legislation in other States. Pending a decision by the Supreme Court, no attempt is being made to enforce the minimum wage law in Minnesota, the work of the Massachusetts Minimum Wage Commission is almost at a standstill, and a similar situation prevails in Wisconsin, Michigan, California, and most of the other minimum wage States.

COURT DECISIONS ON POWER OF STATE INDUSTRIAL COMMISSIONS TO ISSUE ORDERS.

BY LINDLEY D. CLARK.

The Supreme Court of Wisconsin, on May 2, 1916, declared unconstitutional the provision of the law of that State which sought to confer upon the State Industrial Commission the power to make regulations as to the hours of labor of employed women. (State *v.* Lange Canning Co., 157 N. W., 777.) This decision opens up the whole subject of the status of such bodies, in the creation of which the State of Wisconsin was a pioneer, having established its commission in 1911, giving to it supervision of the conditions of employment, with power to issue and enforce orders affecting them,

the fixing of standards of safety to be used, and requiring the adoption of safety devices and other measures for the protection of the life, health, and security of employees.

The idea has had a rapid extension, and the importance of the decision denying the validity of the principal grants of power is evident from a consideration of the fact that commissions or like bodies with similar powers were established in the States of New York, Ohio, and Pennsylvania in 1913; and in Colorado, Kansas, and Montana in 1915. Laws establishing minimum wage boards with power to investigate and determine minimum wages are found in Arkansas, California, Colorado, Massachusetts, Minnesota, Nebraska, Oregon, Washington, and Wisconsin. In Massachusetts and Nebraska failure of the employer to adopt the findings of the minimum wage boards incurs no penalty, while in the other States violation is a misdemeanor.

There is no dispute whatever as to the status of children as being within the power of the Government to determine the conditions of their employment. The power to regulate the hours of labor of women is likewise generally conceded at the present time, though this conclusion was not reached without a prolonged struggle and some adverse rulings by the courts. Conditions of safety in work places generally are subject to reasonable regulation by the legislature, so that the only subject as to which the question remains open is that of minimum wages, and as to this but one decision of a higher court as to constitutionality has as yet been announced. In Stettler *v.* O'Hara (139 Pac., 743; Bul. No. 169, p. 173), the Supreme Court of Oregon upheld the minimum wage law of that State as constitutional. An appeal to the Supreme Court of the United States has been once argued (December, 1914), and at the sitting of the court on June 12, 1916 a reargument at the next term was ordered.

The question therefore is not one of the propriety of regulating the subjects mentioned so much as that of the method by which the regulation is to be accomplished, and it is this that is held to be at fault in the Wisconsin decision referred to. In the case in hand there was a prosecution for the violation of the State law fixing the hours of labor of women. The law prescribes 10 hours as the maximum daily service period where the work is done between 6 a. m. and 8 p. m., and 8 hours where the employment is nightwork; i. e., between 8 p. m. and 6 a. m. The employer assumed the remarkable position that by beginning employment later in the day, say at 9.30 a. m., employment might be continued to any length, since a part of the work would fall before 8 a. m. and a part after—a situation as to which the law made no provision.

The statute fixed the hours of labor above noted and also provided for other regulation by the industrial commission, the schedule fixed

by the act to be in force and effect until such time as the commission should take action. The supreme court characterized the contention of the employer as to the nonapplicability of the law as absurd if the law was itself valid. It then proceeded to determine whether or not the grant of authority to the commission to fix the hours of labor was within the power of the legislature, and the effect of such grant on the law as a whole. The power of the legislature itself to make laws for the protection of women and children by prescribing the hours of employment and the conditions under which work should be done was recognized, but the conclusion was reached that it could not be delegated to any other body, the court saying that the power to declare what classes of occupations are prejudicial to the health and welfare of women so as to warrant regulation is vested in the legislature, that it is its duty and function to declare in a general way under what conditions women should be allowed to labor, and that this is a duty which can not be delegated. "The rule forbidding the delegation of legislative power is based upon experience, and is vital to the maintenance of the integrity of our system of government." It is further said that if the people of the State desire to have vested in some constituted authority the power to make such minute regulations as to the conditions of employment of women, and the amount of wage which they shall receive, they should secure an amendment to the constitution vesting such power in an appropriate body. However, the finding that this portion of the law is unconstitutional was held not to affect the validity of that portion fixing the hours of labor until superseded by an order of the commission—which, under this decision, can never take place.

It will be observed that in this opinion the court indicated an attitude adverse to the industrial commission not only in the exercise of its powers to issue orders, but also of its power as a minimum wage board, though this, being granted by a separate law (ch. 712, Acts of 1913), was not properly before the court. It is of interest to note in this connection that Chief Justice Winslow, while concurring in the conclusion that the law fixes the hours of labor constituting a day's work in all cases to which it applies, whenever begun or ended, withheld his assent to that portion of the opinion which considered the constitutionality of the provisions granting power to make orders. The chief justice took the position that this discussion was not essential to the case, and stated that when a case should come before the court involving the necessity for a consideration of the matter of the delegation of legislative power he would wish to give it more careful examination than was then possible. As the matter now stands, however, the provision of the law under consideration is held uncon-

stitutional by a majority opinion, one justice taking no part and the chief justice withholding his assent.[1]

The recent enactment of the laws of the class under consideration precludes the possibility of any considerable number of authoritative legal opinions in the exact field. However, as the principle of the delegation of legislative powers is the real question at issue rather than the particular subject matter on which such powers are to be exercised, it will be of interest to examine the views of other courts on this point. It must not be overlooked in any case that the subject matter must necessarily be within the police power of the State, so that the legislature could properly regulate it, and with this in mind it is evident that cases relating to railways, forest reserves, or what not may be illustrative only if the question is one of the power to delegate legislative authority. Not all the decisions noted will be found to be on one side, nor are they all equally pertinent, but cross-citations by the courts and the evident inclusion of identical principles bring them within the range of profitable consideration in this connection.

Most directly in point is the case already referred to (Stettler *v.* O'Hara, 139 Pac., 743), in which the Supreme Court of Oregon took the ground that the State had power to determine both wages and hours of labor for women and children, and that granting to a commission, created for the purpose, power to fix standards after investigation was not a delegation of legislative authority. It was said that the commission was only authorized to ascertain facts that will determine where the law is to apply, and this not arbitrarily, but after a hearing. The fact remains, however, that the law itself did not establish rates to be applicable under certain conditions, but does give the commission the power to declare what hours and wages seem to it reasonable, and a failure on the part of the employer to comply with such order, is a misdemeanor.

Another case that is significant, though the question of constitutionality was not raised, is one very recently decided by the Court of Appeals of New York. (Mautsewich *v.* United States Gypsum Co., 112 N. E., 471.) The point involved was the failure of a mine operator to comply with certain rules established by the commissioner of labor of the State, the statute requiring that the commis-

[1] The view of the chief justice that the provision of the law relative to the powers of the industrial commission to issue orders was not in question in the case before the court was shared by the commission itself, and by the attorney general of the State. It is the announced purpose of the commission to secure a rehearing of the case, and steps have been taken to that end. In the meantime it is said that no modifications of the statute will be attempted by the commission, but it will endeavor to secure the enforcement of the act according to its own construction of its intent; i. e., that the law recognizes but two classes of service—night-work and daywork, 8 p. m. being the point of division; and that if a woman is employed for more than one night in the week after that hour she is to be classed as a nightworker and restricted to 48 hours of service per week.

sioner of labor shall "see that every necessary precaution is taken to insure the safety and health of employees employed in the mines and quarries and in the construction of tunnels of the State, and shall prescribe rules and regulations therefor." (Ch. 399, Acts of 1907.) The commissioner of labor, among other particulars, prescribed procedure in blasting, directing all blasting to be done by one man and his helper, designated for that specific purpose, and setting forth details as to inspection, return of workmen, etc. As already stated, no question was raised as to the constitutionality of the law delegating such authority, but the rules so formulated were held by the court to be binding upon the employer, and if not obeyed, he is to be held liable criminally, as well as being subject to the civil consequences arising from negligence. This gives to the rules issued by the commissioner the same effect, and to a considerable degree the same status, as laws formally enacted by the legislature.

Very apropos, too, is the decision of the United States courts in a case in which they were called upon to pass upon the validity of an Ohio statute (p. 181, Acts of 1914), which authorized the industrial commission of the State to fix a proper tare for impurities in coal where the amount mined was used as the basis of wage payments. This law was held to be constitutional (Rail & River Coal Co. *v.* Yaple, 214 Fed., 273), on the ground that discretion must be allowed where comprehensive automatic language is impossible—a finding which the Supreme Court affirmed (35 Sup. Ct., 359), over the direct contention that there was an unconstitutional delegation of legislative authority.

In a number of States railroad commissions have been created with authority to fix rates and otherwise regulate the operation of the roads. Thus the statute of Texas of April 3, 1891, creating a railroad commission, granted it authority to prescribe rates, fix charges, and make regulations for the government of railroad freight and passenger tariffs, with power to correct abuses and prevent unjust discrimination and extortion. The Supreme Court of the United States (Reagan *v.* Farmers' L. & T. Co. (1894), 154 U. S., 362; 14 Sup. Ct., 1047) held that such a commission was merely an administrative board to carry into effect the will of the State, citing an earlier decision of its own (1886), in which the statute of Mississippi of like effect was upheld. Similarly a Federal court of lower rank in passing upon the Oregon statute of 1907, establishing a railroad commission, said that there was no constitutional objection to the legislature fixing rates either itself directly or through a commission, subject to judicial decision as to the unreasonableness of its acts. (Oregon R. & N. Co. *v.* Campbell, 173 Fed., 957.)

The Federal Congress in the exercise of its control over interstate commerce has perhaps gone farther than any State in conferring authority upon the Interstate Commerce Commission to fix standards of safety, inquire into the management of business, regulate rates, call for reports as to the violation of the hours of service acts, etc., etc. Acting under this grant of power the commission has made rules and orders covering practically the whole field, including details of regulation impossible for a legislative body to prescribe, since they must be based on expert information and a knowledge of conditions such as are possible only to a continuing investigative body.

In all of these, as in other matters with which the commission is charged, there is practically uniform support by the courts, though some of the powers are truly legislative while others border on the judicial. Thus it is said by the Supreme Court of the United States (Prentis *v.* Atlantic Coast Line (1908), 211 U. S., 210; 29 Sup. Ct., 67), that the establishment of a rate is the making of a rule for the future and is therefore a legislative act. In another case (Interstate Commerce Commission *v.* Railway Co. (1897), 167 U. S., 479; 17 Sup. Ct., 896), the court said: "It is one thing to inquire whether the rates which have been charged and collected are reasonable—that is a judicial act; but an entirely different thing to prescribe rates which shall be charged in the future—that is a legislative act." In a later case the same court in passing upon this question said that prescribing railroad rates for the future is a legislative act in the performance of which the legislature might act directly, or, in the absence of constitutional restriction, it might commit the authority to fix rates to a subordinate body. The investigative process of hearing and determination before fixing rates was said not to be a judicial act, but merely preliminary to the legislative act (Louisville & N. R. Co. *v.* Garrett (1913), 231 U. S., 298).

The power of the Interstate Commerce Commission to fix specific rates for freight between certain interstate points for a fixed period was challenged in a case that came before the Supreme Court (Houston & Texas Ry. *v.* U. S. (1914), 234 U. S., 342), in which the court held that since Congress has power over interstate commerce, it can provide for the execution of its purposes through the aid of a subordinate body. This phase of the question was well summed up by a Federal judge in a case (Louisville & N. R. Co. *v.* I. C. C., 184 Fed., 118), in which it was said that opinions of the Supreme Court declared the power to fix rates to be legislative in its nature, while a long series of decisions by the court determined that such legislative powers concerning the administrative affairs of the Government may be delegated to an officer or a board and when so delegated may be as

fully exercised as by the legislature itself, subject to any limitations imposed by the legislature.

In considering the provision of the act to regulate commerce which authorizes the Interstate Commerce Commission to prescribe forms of accounts, records, and memoranda relative to earnings, receipts, expenditures, balances, movement of traffic, etc., the contention was made that a distinction should be drawn between form and substance, and that the commission might not interfere with the internal affairs of the corporation. The Supreme Court held (Kansas City Southern Ry. *v.* U. S. (1913), 231 U. S., 423), that the power of supervision is full and no system would be complete without requiring uniformity of details; that the law lays down general rules of action and the commission applies those rules to situations and circumstances by establishing and enforcing administrative regulations, and in this there is no unconstitutional delegation of legislative powers. It was pointed out in a later case (United States *v.* Louisville & N. R. Co. (1915), 236 U. S., 318) that the power to make such inquiries into questions of management as the law prescribes did not extend beyond the boundaries fixed by the statute itself, so that a mere resolve of one House of Congress did not give authority for further investigation, and no writ would lie from a court to secure the carrying out of any such proceeding.

The act in question authorizes compulsion to secure the attendance of witnesses, orders being secured from the circuit courts to this end, and refusal to obey such orders constitutes contempt of court. On this point it was said (Interstate Commerce Commission *v.* Brimson (1894), 154 U. S., 447; 14 Sup. Ct., 1125) that—

> It was clearly competent for Congress to invest the commission with authority to require the attendance and testimony of witnesses, etc. The method of compelling attendance is within the power of Congress to prescribe, and that chosen is not an unconstitutional delegation of judicial power.

It was further said that—

> All must recognize the fact that the full information necessary as a basis of intelligent legislation by Congress from time to time upon the subject of interstate commerce cannot be obtained, nor can the rules established for the regulation of such commerce be efficiently enforced otherwise than through the instrumentality of an administrative body representing the whole country, always watchful of the general interests, and charged with the duty not only of obtaining the required information, but of compelling by all lawful methods obedience to such rules.

In delivering this opinion the court cited the well-known early opinion, McCulloch *v.* Maryland (1819), 4 Wheat., 316, where it was said:

> A sound construction of the Constitution must allow to the National Legislature the discretion with respect to the means by which the powers it confers are to be carried into execution, which will enable that body to perform the high duties assigned to it in the manner most beneficial to the people,

the limitations being that such procedure must be within the scope of the Constitution and consistent with its letter and spirit.

The Interstate Commerce Commission is authorized to fix a standard height for drawbars of freight cars, which was done in consultation with the railroads themselves, and when a determination was reached the order was fixed, and has been enforced as an absolute requirement resting upon the railroads, to which they must conform. This action was held not to amount to an unconstitutional delegation of legislative power. (St. Louis & I. M. Ry. *v.* Taylor (1908), 210 U. S., 281; 28 Sup. Ct. 616). The specific order as to couplers was cited as valid in a later case (Pennell *v.* Philadelphia & Reading Ry. (1914), 231 U. S., 675; 34 Sup. Ct., 220); while the orders requiring all overtime to be reported have been enforced in recent cases before federal courts of lower rank, sustaining entirely the authority of the commission in these details (United States *v.* B. & O. R. R. (1915), 226 Fed., 220; Same *v.* Yazoo & M. V. R. R. (1913), 203 Fed., 159).

Powers conferred in a somewhat different field, but still applicable to public utilities, were involved in a West Virginia case (Manufacturers' Light & Heat Co. *v.* Ott, 215 Fed., 940), in which the power of the public service commission of the State to investigate and ascertain what are reasonable charges for public utilities (natural gas, in the present instance) was passed upon. It was held that to create a board with such powers was not unconstitutional as conferring legislative, executive, and judicial powers upon one body, as was contended, the court saying that it was merely an agency for carrying out the legislative scheme with respect to public-service corporations. Appropriate in this connection is the statement of the Supreme Court of Illinois (Sheldon *v.* Hoyne, 261 Ill., 222; 103 N. E., 1021), to the effect that while the legislature can not divest itself of the power to determine what the law shall be, it may authorize others to do those things which practically it can not do itself, since the government could not be carried on if nothing could be left to the judgment and discretion of administrative officers.

The State Board of Health of Indiana is authorized (p. 189, Acts of 1899) to make regulations as to minimum standards for food products, adulterations, etc. This was held by the Supreme Court of that State not to be an unconstitutional delegation of legislative authority. (Isenhour *v.* State, 157 Ind., 517; 62 N. E., 40.) In this case the court quoted from its opinion in an earlier case (Blue *v.* Beach, 155 Ind., 121; 56 N. E., 89), in which it was said that—

> In order to secure and promote the public health, the State creates boards of health as an instrumentality or agency for that purpose and invests them with the power to adopt ordinances, by-laws, rules and regulations necessary to secure the objects of

their organization. While it is true that the character or nature of such boards is administrative only, still the powers conferred upon them by the legislature in view of the great public interest confided to them, have always received from the courts a liberal construction, and the right of the legislature to confer on them the power to make reasonable rules and regulations is generally recognized.

A Massachusetts statute gave to commissioners provided for by the act the power to fix the height of buildings in the city of Boston. This act was challenged as an unconstitutional delegation of legislative authority, whereupon the Supreme Court of the State ruled that—

> The power to make rules and regulations in the nature of subsidiary legislation may be delegated by the legislature to a local board or commission; such rules being subject to be tested in the courts to determine whether they reasonably are directed to the accomplishment of the lawful purposes of the statute under which they are made. (Welch *v.* Swasey, 193 Mass., 364; 79 N. E. 745.)

A similar view is taken in the case of an Illinois statute giving an inspector power to decide as to the location, number, materials, and construction of fire escapes. (Arms *v.* Ayer, 192 Ill., 601; 61 N. E. 851.) A Pennsylvania statute confers on a prescribed committee the duty of determining the necessary width of boundary pillars to be left in coal mines. The Supreme Court of the United States held (Plymouth Coal Co. *v.* Pennsylvania (1914), 232 U. S., 531; 34 Sup. Ct., 359) that it was competent for the legislature to lay down a general rule and to establish an administrative tribunal with authority to fix the appropriate width or thickness in the particular conditions. "It has become entirely settled that powers and discretion of this character may be delegated to administrative bodies, or even to a single individual;" citing In re Kollock (165 U. S., 526), in which it was held proper to authorize the Commissioner of Internal Revenue to make regulations as to marks, stamps, and prints for oleomargarine; and Jacobson *v.* Massachusetts (197 U. S., 11), in which the grant of authority to city boards of health was upheld where they were authorized to prescribe and enforce regulations for vaccination if in their opinion vaccination was necessary to public health and safety.

It may be noted in this connection with this last citation that the Supreme Court of Wisconsin declared invalid the action of a city board of health in undertaking to enforce vaccination regulations of its own prescription, where it was shown that there was no impending danger of an epidemic of smallpox. (State *v.* Burdge, 95 Wis., 390; 70 N. W., 347.) This same tribunal, however, sustained the civil service law of the State, which permits a commission to make rules to regulate the exercise of its own powers and confers on it the authority to classify offices, places, and employments, to determine exemptions, suspend the operation of the rules, etc. It was said that there was here no arbitrary and uncontrolled discretion, and that

the action was not legislative in character, but was the performance of an executive and ministerial duty within the regulations provided in the act. "Only such rules are authorized as serve to provide the details for the execution of the provisions of the law in its actual administration, to fix the way in which the requirements of the statute are to be met, and to secure obedience to its mandates" (State *v.* Frear, 146 Wis., 291; 131 N. W., 832).

Not quite so directly suggestive of the conditions presented in the particular subject of discussion, but nevertheless involving its principle, are rulings on various acts of Congress conferring power on the Secretary of War to decide when a bridge is an unreasonable obstruction to free navigation, to make orders relative to any changes desired, and fix a time for compliance therewith; authorizing the Secretary of the Interior to determine what irrigation system shall be built and maintained for the purpose of reclaiming arid lands, and the amount to be expended thereon; authorizing the Secretary of the Interior, and later the Secretary of Agriculture, to make rules for the regulation and government of forest reserves, regulating their occupancy and use and securing their preservation; and authorizing the Secretary of the Treasury to fix and establish standards as to importations of tea on findings and recommendations of a board of experts. In all these cases the power conferred has been sustained by the United States courts. In referring to the first case noted it was said (Monongahela Bridge Co. *v.* U. S. (1910) 216 U. S., 177), that instead of exerting its power by direct legislation in each case, Congress charged the Secretary of War with the duty of ascertaining whether a particular bridge came within the general rule prescribed, and that any other method was impracticable. With reference to the forest reserves it was said that the rules to be prescribed were administrative and not legislative, that Congress can not delegate legislative power, and that while it is difficult to set exact bounds, administrative rules will not be called legislative from the mere fact that their violation involves punishment (United States *v.* Grimaud (1911), 220 U. S., 506; 31 Sup. Ct., 480); while in the establishment of standards for tea it was said that there was no delegation of legislative authority, since Congress had acted as far as reasonably practicable, and then left with executive officials the duty of bringing about the result pointed out by the statute (Buttfield *v.* Stranahan (1904), 192 U S., 470).

The following cases either deny the powers above approved, or hold that the proper bounds of such powers had been transgressed. A statute of Missouri undertook to provide that insurance companies might agree on a uniform fire insurance policy, which, when approved by the State insurance commissioner, would thenceforth be binding,

no standards or limitations being prescribed. This was held by the supreme court of that State to be an unconstitutional delegation of legislative powers, and in so far void (Nalley *v.* Home Insurance Co., 157 S. W., 769). A similar statute of Pennsylvania was held unconstitutional because the act did not fix terms or conditions of the policy, and because it delegated the power to prescribe forms and conditions of the policy and restrictions to be added to or made a part of it to a single individual without reporting, review or publication, but to be binding upon a mere filing (O'Neil *v.* Insurance Co., 166 Pa. 72, 30 Atl. 943).

Another Missouri statute that was declared unconstitutional was one that proposed to authorize the Board of Railroad and Warehouse Commissioners to establish a State system of grain inspection when and where it should be thought necessary, with no indication of the legislative intent beyond the mere grant of power (Merchants' Exchange *v.* Knott, 212 Mo., 616; 111 S. W., 565). A similar objection was made to an Ohio statute which undertook to provide a board for the examination and licensing of steam engineers without fixing any standards of attainment or specifications as to wherein the applicant should be "trustworthy and competent," as the act declared he should be (Harmon *v.* State, 66 Ohio St., 249; 64 N. E., 117). Similarly, it was declared that the legislature of Colorado could not delegate to the courts the power to classify occupations and employments to which a law fixing the hours of labor of women should apply. Certain occupations were named which it was said might be held unhealthful, "in the discretion of the court," so as to make the prescribed limitations apply, and the supreme court of the State held that such discretion rested in the legislature alone (Burcher *v.* People, 93 Pac., 14).

To this list may be added the case of Schaezlein *v.* Cabaniss (135 Cal., 466; 67 Pac., 755), in which a law was held to attempt an unconstitutional delegation of legislative powers where the installation of such mechanical contrivances as it appeared to a factory inspector would to a great extent alleviate injurious conditions was put in the power of such inspector without establishing any standards, but leaving all to his discretion; and the New York case (People *v.* Klinck Packing Co., 214 N. Y., 121; 108 N. E., 278), where the commissioner of labor was authorized to exempt certain occupations in his discretion from the operation of a weekly rest law, without statutory guidance for his decisions.

It is not intended, however, to exhaust possible illustrations on either side, but it seems evident from the weight of authority so far as discovered that administrative or executive bodies or persons may legally be intrusted not only with the determination of facts as to

when specific provisions of law are operative, but that, as in the exercise of powers of the Interstate Commerce Commission or the commissioner of labor (now industrial commission) of New York as to mines, there may be a drafting of rules and regulations that accord with the legislative intent, but go far beyond its expression as to details and specific requirements. The New York statute just referred to has stood as valid law since 1907 and the principle therein contained would appear to be broad enough to sustain the grant of power to the existing industrial commission in drafting its "industrial code."

While the question of the distribution of powers between the three principal branches of government—executive, legislative, and judicial—is set forth in the Constitution of the United States, it is also contained in the State constitutions, and it is the constitution of Wisconsin that is cited by the court in the Lange case as preventing the enactment of such a law as that therein declared unconstitutional. It does not seem probable, therefore, that the State can bring the question of constitutionality before the Supreme Court of the United States under the new legislation (act of Dec. 23, 1914, 38 Stat., 790) which authorizes the review by the Supreme Court of cases decided by State courts where there is a decision against the validity of a State statute claimed to be repugnant to the Constitution or laws of the United States. So far as appears from the decisions above noted, there is a very considerable field open for the activities of commissions and executive officials in the matter of supplying details of regulation and the application of law, without transgressing the boundaries usually set for such bodies in the exercise of legislative or quasi-legislative powers.

PRINCIPLES OF LABOR LEGISLATION.

One of the most important books on labor of the year is Prof. John R. Commons and Dr. John B. Andrews' "Principles of Labor Legislation." The scope of this work is indicated by the chapter headings: The basis of labor law, Individual bargaining, Collective bargaining, The minimum wage, Hours of labor, Unemployment, Safety and health, Social insurance, and Administration.

The philosophical and economic bases for labor legislation, as developed in the United States, are presented, and considerable attention is given to foreign countries. The development of the present status of the employed person is traced from primitive conditions, emphasizing the growth of the idea of legislative action to secure a more approximate equality of bargaining capacity between the parties to the labor contract. Naturally, the ideas of the common law occupy but a small portion of the work, merely enough to serve as a back-

ground for the development of the laws that have undertaken to secure conditions of health and safety, to prevent unemployment, to provide social insurance, and secure efficient and intelligent application and administration of the laws enacted. The economic aspects of labor legislation and the function of the courts in interpreting the law are brought out and the worthlessness of labor legislation without adequate provision for enforcement is strongly emphasized.

The recognition of the inequality of bargaining power between the employer and the employee—developed by the Supreme Court in the case of Holden *v.* Hardy (169 U. S., 366)—forms the basis of labor legislation.

> It is by recognizing this inequality of bargaining power, coupled with a public purpose, that the courts pass over, in any particular case, from the theory of class legislation to the theory of reasonable classification. The two are identical in one respect; all classification is class legislation, but the kind of class legislation which the courts condemn is that which they consider to be "unreasonable" classification. Class legislation benefits or burdens one class against others where there is no real inequality or no public benefit. "Reasonable" classification benefits or burdens a class where there is real inequality to be overcome and a public benefit to be attained. That which is class legislation at one time may become reasonable classification at a later time, if the court perceives that what it once thought was equality is really inequality, and what it once thought was merely private benefit is also public benefit (p. 30).

Thus it is maintained that "the history of the constitutionality of labor legislation in the United States has been a history of the theory of classification" (p. 30), as applied in the interpretation of the police power before the courts.

"Collective bargaining" is treated fully and with originality. The view of the authors is indicated by the following quotation:

> Viewing the situation from the point of view of the practical results, the conclusion is reached that the law to-day seriously restricts labor in its collective action, while it does not interfere with the parallel weapons of the employers. Is this result socially desirable? Fundamentally the question is whether collective bargaining by labor should be encouraged or discouraged. If collective bargaining is desirable, organized labor must be conceded the free use of the methods through which it can secure and maintain trade agreements. The right of organization is valueless unless it is accompanied by the right to make the organization effective (pp. 115, 116).

The underlying theory justifying this point of view in the minds of the authors is the distinction made between the price bargain and the wage bargain, between the merchant function and the employer function. The price bargain and the merchant function, it is noted, have been the object of restraint under conspiracy laws, but the employer function has been more or less unrestricted, and, therefore, as a matter of even-handed justice, the wage bargain from the side of the employee should likewise be free from the restriction of the conspiracy laws. Although the bargaining power of the employee has been maintained by strikes, boycotts, and picketing, these have frequently been held as illegal.

These are the weapons through which labor secures and maintains collective bargains with employers. Collective agreements are worthless without a strong union to back them up. They are not enforceable in courts of law. The unwilling employer is kept from violating them only through fear of a strike. Real collective bargaining implies equal strength upon both sides. It results only when each side is aware of the strength, ability, and willingness of the other. Then a joint conference is held and a compromise is effected. Neither will violate the agreement while the other party maintains its strength. Thus, it will be seen that restrictions upon the weapons which labor may employ in trade disputes are in fact limitations of its right to bargain collectively (pp. 111, 112).

The chapter on "Administration" is perhaps the most important contribution to the history and theory of legislation. By "Administration" is meant the fourth ultimate class into which the general theory of government may be divided. To this new branch of government—

is coming to be assigned the function of investigation of those economic and social conditions upon which the several branches of government base their decisions. While these functions can not be separated in practice, yet they stand out as characteristic of each branch of government. Execution, discretion, interpretation, and investigation are the four great divisions in the functions of officials, and the executive, the legislature, the judiciary and the administration are the four branches that are specialized for these functions (p. 20).

Administration is more than mechanism. It is a method of legislation. It is the means of investigating, drafting, and adopting enforceable laws. It is the means of getting and keeping competent officials. It is the method of determining what authority or powers the officials shall have, how they shall execute the laws, what procedure they shall follow in court, what facts they shall investigate for the use of the court in its duty of interpretation. Administration is legislation in action (p. 415).

PUBLICATIONS OF THE NATIONAL CHILD-LABOR COMMITTEE.

The February number of the Child-Labor Bulletin, the first issue for 1916, appears in two parts, Part I of which is devoted to editorial comment and items of interest, but the bulk of which is an article on child labor in the sugar-beet fields of Colorado, written by Edward N. Clopper and Lewis W. Hine. The article deals with working and housing conditions, earnings, and hours of labor, while particular attention is given to the effects upon school conditions of labor of children in the beet fields.

Part II of this bulletin is a brief on the constitutionality of the Keating-Owen bill by Thomas I. Parkinson. This bill, which passed the House on February 7, 1916, aims to prevent the shipment in interstate commerce of articles in the manufacture of which child labor has been employed. This brief contends—

That the commerce clause of the Constitution authorizes Congress to prohibit the transportation in interstate commerce of specified persons or things; that Congress possesses power similar to the State's police power to regulate or prohibit commerce in the

interest of public health, safety, welfare, or morals; that in the exercise of this police power under the commerce clause Congress is limited only by the provision of the fifth amendment to the Federal Constitution, which prohibits the taking of property or liberty without due process of law; and that despite the fifth amendment Congress may enact valid police regulations if they be reasonably necessary to remedy existing conditions detrimental to the public good.

"Cutting Down the Waste of Child Labor" is the title of a pamphlet published in April, issued jointly by the New York and the National Child-Labor Committees, presenting the facts about the employment of children in New York and other leading industrial States. It was prepared in support of amendments to the child-labor law of New York, proposing the raising of the age of employment from 14 to 16 years. The brief aims to show the social waste that is claimed to result necessarily by permitting thousands of children to leave school at 14 years of age to commence a period of unprofitable toil and intermittent idleness. It is pointed out that generally speaking only low-grade positions are open to child workers; that as a consequence there is frequent changing of jobs by child workers; that juvenile delinquency is aggravated by working conditions; and that industrial life impairs the health of child laborers. Poverty can not be said to be a valid reason for the employment of children, it is declared, because as a matter of fact the additional earnings of child workers are very insignificant and their equivalent can and should be supplied by other agencies. Finally, typical cases are cited to show that many employers condemn child labor.

Other pamphlets issued by the National Child Labor Committee, being Nos. 250 to 260, are in some instances reprints from the bulletin. No. 260, March, 1916, however, is a brief monograph on the child in the cotton mill, presenting a survey of working conditions, wages, hours, accidents, etc., as disclosed by the Federal investigation of the Bureau of Labor Statistics in 1907–1908. The brief is issued in behalf of the Keating-Owen bill, to which reference has already been made.

A list of recent publications of the National Child Labor Committee, New York, including those mentioned above, follows:

The Child Labor Bulletin, February, 1916. 2 parts.
Contents: Part 1: Editorial notes; "Aged 12, has worked two years"; Child labor in the sugar-beet fields of Colorado; court decisions affecting child labor. Part 2: A brief for the Keating-Owen bill.

Pamphlet No. 250. Constitutionality of a Federal child-labor law. House Bill No. —; Senate bill No. 1083. Thomas I. Parkinson, Nathan William MacChesney. (Reprinted from Child Labor Bulletin, Vol. IV. No. 1, May, 1915, and Vol. IV. No. 3, November, 1915.) January, 1916. 20 pp.

Pamphlet No. 251. Do you know why the Keating-Owen bill to regulate child labor demands your active support? December, 1915. 7 pp.

Pamphlet No. 252. Who made what you buy? December, 1915. 4 pp.

Pamphlet No. 253. Program for Child-Labor Sunday. December, 1915. 4 pp.

Pamphlet No. 254. Program for Child Labor Day. December, 1915. 4 pp.

Pamphlet No. 255. Eleventh annual report of the general secretary of the National Child Labor Committee for the fiscal year ending September 30, 1915, Owen R. Lovejoy. (Reprinted from the Child Labor Bulletin, Vol. IV, No. 3, November, 1915.) January, 1916. 12 pp.

Pamphlet No. 256. Supporters of the Keating-Owen bill. January, 1916. 8 pp.

Pamphlet No. 257. Keating-Owen bill, Senate 1083. In the Senate December 7, 1915. H. R. 8234. In the House of Representatives January 7, 1916. A bill to prevent interstate commerce in the products of child labor, and for other purposes. January, 1916. 2 pp.

Pamphlet No. 258. What the newspapers say about the Keating-Owen bill. January, 1916. 4 pp.

Pamphlet No. 259. Child labor in the sugar-beet fields of Colorado, by Edward N. Clopper and Lewis W. Hine. (Reprinted from the Child Labor Bulletin, Vol. IV, No. 4, February, 1916.) March, 1916. 36 pp.

Pamphlet No. 260. The child in the cotton mill. March, 1916. 10 pp.

Pamphlet (unnumbered). Cutting down the waste of child labor. Facts about child employment in New York and in other leading industrial States. Compiled by the New York and the National Child Labor Committees. April, 1916. 15 pp.

CONDITIONS PREVAILING IN THE COAL MINING INDUSTRY IN GREAT BRITAIN.

The coal mining organization committee of the Home Department, appointed to inquire into conditions prevailing in the coal mining industry due to the war, recently presented its second report. The first report of the committee, which was noted in the Monthly Review of July, 1915 (Vol. 1, No. 1, p. 56), dealt with the effects of the war on the industry during the first six months of its continuance; the second report covers the first 12 months of the war and notes the results achieved by the remedial measures suggested in the first report of the committee.

The loss of coal output, the committee estimates, has amounted to about 30,000,000 tons for the year commencing at the outbreak of the war; yet this loss in output it now appears is 6,000,000 tons less than the committee had expected at the time of their first report. This is a decrease of about 11 per cent on the output of a like period before the war. Nor is this loss in output as great as it would have been if it had been proportional to the decrease in the numbers employed in the industry, as the loss of labor due to enlistments amounted to nearly 16 per cent.

The increased efficiency of output is explained as due to less avoidable absenteeism on the part of the men and greater regularity of employment, and it is noted that if there had been no avoidable absenteeism, which seems to continue to some extent, the output would have been increased, the committee estimates, from 13 to 14 million tons per annum. At the same time, in considering the question of absenteeism and the productive capacity per man employed,

it is noteworthy that the new accession of labor to the mines which has taken the place of the enlisted labor is probably not as efficient as the labor displaced.

As reports were not received covering all mines, and as some operators in reporting stated that until recently no record of enlistment of their employees had been kept, data relative to the extent of enlistment are not complete, but it has been possible to prepare an approximately accurate statement of the extent of enlistments of coal-mine workers.

The following table based on returns from operators shows the number of persons on the pay rolls in July, 1914, number and percent of enlistments for the first 13 months of the war, and for the 6 months period March to August, 1915:

PERSONS ON PAY ROLLS JULY, 1914, NUMBER AND PER CENT OF ENLISTMENTS, JULY, 1914, TO AUGUST, 1915, AND MARCH TO AUGUST, 1915.

Items.	Persons on pay rolls July, 1914.	Enlistments, August, 1914, to August, 1915.		Enlistments, March to August, 1915.	
		Number.	Per cent.	Number.	Per cent.
Returns received	1,009,157	235,332	23.3	52,058	5.2
Estimated total number	1,116,648	250,750	22.5	56,850	5.1

Absenteeism, the committee found, was lowest in Scotland and highest in England. The districts having the thinnest seams of coal and where the coal is hardest to get show, generally speaking, the best results as to regular attendance at work.

The actual gain in the number of days worked per week during the 6 months period, March to August, has been a trifle less than 2 per cent in 1915 as compared with 1913. Thus the average number of days worked per week during the period in question was 5.54 in 1913, 5.23 in 1914, and 5.62 in 1915.

The committee took up the question of the suspension of the 8-hour act, but suggested that the question should be discussed by representatives of the workmen and of the employers, and felt that the suspension should not be considered until it was seen how far the joint efforts of owners and workmen to increase output had been successful.

Labor disputes were considered by the committee and the form of agreement which had been entered into between the mine owners and the workmen at the mines in Lancashire was recommended. This agreement would bind both parties to continue existing contracts during the period of the war and six months thereafter. Provision is also made for the orderly settlements of disputes by conciliation and arbitration.

Considerable work in maintaining the level of output has been accomplished by postponing developments and renewals ordinarily necessary, and by concentrating the work of getting coal in the easier places in the mines.

The problem of transportation, both railway and shipping, seems to have been particularly bothersome. Facilities of transportation have been affected by lack of available locomotive power and rolling stock. As a remedy the committee suggests the possibility of some system of pooling among the railroad managers.

The committee notes that the price of pit timber has increased so considerably as materially to affect the industry unless some check be interposed.

The first table which follows shows the disposition made of the output of coal in the United Kingdom during the first year of the war and the corresponding year preceding the war.

The second table is a summarized table of the amount of coal produced, the number of persons employed and the amount of absenteeism at coal mines in the United Kingdom during March to August, 1914 and 1915.

DISTRIBUTION OF THE COAL OUTPUT OF THE UNITED KINGDOM, AUGUST, 1913, TO JULY, 1914, AND FROM AUGUST, 1914, TO JULY, 1915.

Tons.	August, 1913, to July, 1914.	August, 1914, to July, 1915.
Exported	76,065,000	46,458,000
Used in foreign bunkers	21,162,000	14,934,000
For home use and admiralty	183,849,000	188,965,000
Total output	281,076,000	250,357,000

Month and year.	Tonnage raised.[1]	Number employed—		Number of shifts—		Per cent. of loss.
		Below ground (A).	Above ground (B).	Which could have been worked by (A) and (B).	Actually worked by (A) and (B).	
1914.	*Tons.*					
March	21,542,288	834,702	182,381	23,841,916	21,238,371	10.9
April	23,027,943	831,554	182,254	20,585,308	18,515,633	10.1
May	24,426,206	834,885	182,407	23,502,145	21,166,919	9.9
June	20,488,321	833,604	182,414	21,332,444	19,098,915	10.5
July	19,150,568	827,764	181,393	22,884,756	20,451,388	10.6
August	16,030,858	801,667	178,300	18,692,837	16,595,658	11.2
Total	124,666,184	4,964,176	1,089,149	130,839,406	117,066,884	10.5
1915.						
March	19,075,189	702,629	168,032	21,783,497	19,537,585	10.3
April	22,613,382	696,007	167,441	19,868,113	17,836,430	10.1
May	22,558,183	691,015	167,552	20,131,992	18,161,432	9.8
June	18,556,001	687,578	166,788	20,843,148	18,894,940	9.3
July	17,218,149	685,511	166,440	20,055,030	18,144,260	9.5
August	17,549,892	682,440	166,207	19,803,317	17,799,911	10.1
Total	117,570,796	4,145,180	1,002,460	122,485,097	110,404,558	9.9

[1] The tonnage of coal raised was furnished independently of the other particulars and relates to the following periods: Four weeks ended Mar. 27, 5 weeks ended May 1, 5 weeks ended June 5, 4 weeks ended July 3, 4 weeks ended July 31, and 4 weeks ended Aug. 28, in the year 1915 and corresponding periods of the year 1914.

PUBLIC EMPLOYMENT OFFICES IN QUEENSLAND, AUSTRALIA.[1]

The establishment of public employment offices was brought about in Queensland, Australia, by an act dated October 25, 1915. Hitherto the Government had operated an employment bureau under administrative orders without formal recognition or establishment by law.

The labor exchanges act of 1915 provides for the establishment and maintenance in Brisbane, the capital, and in other places, of free employment offices under the direction of the Department of Public Works. The functions of these State exchanges are not only to secure employment but also to encourage wage earners to insure themselves against distress from unemployment. Other duties may be prescribed by the competent minister, who is given large powers of administrative discretion. The State exchanges may cooperate with existing private exchanges which, under this act, are henceforth required to be licensed and subject to Governmental inspection.

Any State labor exchange is authorized to make advances by way of loans toward meeting the expense of persons seeking employment who are required to travel to places where employment has been found for them through an employment office.

Every employer under the act is required to make an annual statement of the names, addresses, occupations, periods of service, and apparent ages of persons employed by him during the preceding calendar year on or before such day as directed by the competent minister. Employers who are already making such returns under existing acts as, for instance, the factories and shops act of 1900, are exempt from this requirement. The required report need not include persons employed less than 30 days during the year.

For private licensed offices the responsible minister in charge of the administration of this act is authorized to prescribe a scale of fees chargeable by private employment offices; this scale of fees must be kept posted in a conspicuous place in the private office. The registration fee is to be repaid, less any net expenses incurred by the office in attempting to secure any particular position, if employment is not secured through the office within 30 days after registration. The private employment office is prohibited from sharing the fee with the employer. It is likewise prohibited from keeping as lodgers any persons seeking employment or to have any interest in the keeping of a lodging house for such persons.

[1] The Queensland Industrial Gazette, issued by the Department of Labor. Brisbane, Vol. 1, No. 2 (Apr. 10, 1916), p. 106.

False statements or entries of licensed offices relating to work or employment to any one who registers for employment are penalized. Punishments for infraction of the act do not exceed a fine of £10 ($48.67) or imprisonment not exceeding two months; but every conviction against a licensed employment office must be indorsed on the license by the court before which such conviction is secured, and upon a third conviction within three years the license must be canceled.

IMMIGRATION, APRIL, 1916.

The number of immigrant aliens admitted into the United States during each of the first five months of 1916 has been in excess of the number admitted during the corresponding months of 1915, thus showing a recovery, as it were, since the war began, in the influx of immigration to this country. There has also been an increase from month to month in 1916. These facts are brought out in the statement following:

IMMIGRANT ALIENS ADMITTED INTO THE UNITED STATES IN SPECIFIED MONTHS 1914, 1915, AND 1916.

Month.	1914	1915	1916	
			Number.	Per cent increase over preceding month.
January	44,708	15,481	17,293	8.5
February	46,873	13,873	24,740	43.1
March	92,621	19,263	27,586	11.5
April	119,885	24,532	30,560	10.8
May	107,796	26,069	.....	.....

Classified by races, the immigrant aliens admitted into and emigrant aliens departing from the United States during April, 1915 and 1916, were as follows:

IMMIGRANT ALIENS ADMITTED INTO AND EMIGRANT ALIENS DEPARTING FROM THE UNITED STATES, APRIL, 1915 AND 1916.

	Admitted.		Departed.	
	April, 1915.	April, 1916.	April, 1915.	April, 1916.
African (black)	256	287	111	119
Armenian	29	92	4	13
Bohemian and Moravian	102	45	3	1
Bulgarian, Servian, Montenegrin	248	317	104	2
Chinese	142	100	137	111
Croatian and Slavonian	107	44	9	3
Cuban	97	185	569	69
Dalmatian, Bosnian, and Herzegovinian	8	6		
Dutch and Flemish	605	481	52	54
East Indian	1	2	8	3
English	2,902	3,006	717	471
Finnish	238	453	25	37
French	1,114	2,581	216	136
German	1,176	1,162	64	60
Greek	989	4,194	558	107
Hebrew	585	1,036	19	11
Irish	2,075	1,472	194	81
Italian (north)	1,087	390	417	293
Italian (south)	5,480	4,554	2,165	655
Japanese	882	893	80	49
Korean	7	21	1	2
Lithuanian	23	49	13	
Magyar	33	59	19	32
Mexican	686	1,504	16	43
Pacific Islander				
Polish	167	305	108	16
Portuguese	799	1,187	121	91
Roumanian	50	126	19	10
Russian	160	316	856	420
Ruthenian (Russniak)	117	129		4
Scandinavian	2,236	2,219	191	185
Scotch	1,010	1,176	197	121
Slovak	27	44	17	6
Spanish	469	1,038	375	130
Spanish American	157	169	39	23
Syrian	45	70	13	7
Turkish	7	20	2	4
Welsh	76	79	24	10
West Indian (except Cuban)	60	94	41	59
Other peoples	280	655	76	63
Not specified			751	581
Total	24,532	30,560	8,331	4,082
Per cent increase 1916		24.7		[1] 51.0

[1] Decrease.

OFFICIAL REPORTS RELATING TO LABOR.

UNITED STATES.

CALIFORNIA.—*Industrial Accident Commission. Rules, procedure, form, workmen's compensation, insurance, and safety act. (Effective January 1, 1916.) [Sacramento], 1916. 40 pp.*

This pamphlet contains the rules of practice and procedure of the industrial accident commission, an itemized statement of facts to be established at the hearings before the commission in connection with any case and other information relating to the termination and settlement of claims under the act. The printed forms include the employers' written acceptance, notice of claim for compensation, application for adjustment of claims, the release, and final receipt.

—— —— *Tentative elevator orders, prepared by a subcommittee representing various interests, relating to the manufacture, use, and inspection of elevators, at the request of the industrial accident commission of the State of California for the criticisms or suggestions of employers, employees, and others interested. [Sacramento], 1916. 37 [1] pp.*

As stated, these orders are tentative, and announcement is made of the fact that public hearings will be held at San Francisco and Los Angeles on April 27 and May 11, 1916, respectively. The final determination as regards these orders is not yet known.

ILLINOIS.—*State Board of Arbitration. Report, March 1, 1916. [Springfield, 1916.] 112 pp.*

This volume gives the history of various labor disputes occurring in the State during 1915, and of the proceedings in those disputes in which the board was called upon to institute arbitration processes; also the results of such interventions, together with resulting agreements entered into. No statistical or text summary is presented. The Federal and the Illinois arbitration laws are reproduced.

LOUISIANA.—*Bureau of Agriculture and Immigration. Seventeenth biennial report of the commissioner of agriculture and immigration for the years 1914 and 1915. Baton Rouge, 1916. 92 pp.*

This is not strictly a combined biennial report but two separate annual reports contained within one cover. The data relate mainly to agricultural conditions and production in Louisiana.

—— *Bureau of Labor and Industrial Statistics. Report of the commissioner of labor and industrial statistics. New Orleans, 1916. 30 pp.*

In submitting this, my biennial report for the department of labor and industrial statistics, I beg to present at the outset a series of nine recommendations which my investigations of labor conditions in this State have suggested for the betterment of the masses of our working people:

1. Amending of the workingmen's compensation insurance act, so that the insured will receive a benefit the first week, instead of the third week, as now provided; the average workman, if injured, needs aid immediately and not three weeks hence.

2. Further legislation to prevent the payment of wages in coupon books which are only redeemable at the company's commissary; this is an evil which is working great hardship on a large army of industrial workers.

3. An act to prohibit the payment of wages in barrooms, as is frequently the case now, the checks given being redeemable over the bar and the holder being expected to purchase drinks to secure their cashing.

4. An eight-hour shift for the New Orleans police force.

5. Amending of Act 271 of 1908 so as to require "skilled and unskilled labor," as well as mechanics employed on all State or public buildings or public work in cities or parishes of the State of Louisiana, to be citizens of the State and to have one paid poll tax.

6. An act to prevent factories and corporations retaining a portion of the salary for one year in order to insure that the employed will become skilled. This is a form of "peonage" and is being practiced in the city of New Orelans, without there being any law to prevent it. This department undertook the prosecution of such cases, but found no statute by which the practice could be stopped and punished.

7. Better labor regulations for steam laundries, particularly as to the women and girls employed.

8. State enactment for the improvement of sanitary conditions in many of the lumber camps, which I found deplorable.

9. An act requiring that every accident in the State must be reported to the department of labor and industrial statistics by the corporation, association, mill, factory, workshop, railroad, etc., by which the injured is employed.

From September 1, 1914, to April 30, 1916, this office has received and handled over 4,000 complaints of one kind or another, and as a direct result of our investigations and efforts this department has brought about the adjustment and payment of $23,785.60 in wages and claims, without cost to the labor which had earned this vast sum.

——— ———,
Commissioner.

MARYLAND.—*Bureau of Immigration. Report, November 1, 1915. Baltimore, 1916. 30 pp.*

The tenth biennial report of the Maryland Bureau of Immigration for the two years ending October 31, 1915. The work of the bureau consists very largely in attempting to settle immigrants upon Maryland farms.

MASSACHUSETTS.—*Joint Board, State Board of Labor and Industries, and Industrial Accident Board. General safety rules and regulations (tentative draft). [Boston, 1916?] 9 pp.*

As stated, this is a tentative draft of general safety rules for the construction of machine guards, and safeguards for ladders, stairs, railings, platforms, passageways, etc. Before the final adoption of the rules, hearings were held before the joint board January 4, 1916.

—— *State Board of Labor and Industries. A new method of gathering statistics. Report of subcommittee of the relief agencies' committee of the Massachusetts State committee on unemployment. April, 1916. Boston, 1916. 13 pp.*

This pamphlet is published by the State Board of Labor and Industries of Massachusetts and distributed under its authority for the Massachusetts committee on unemployment, connected with the American section of the International Association on unemployment. It will be reviewed in a future number of the REVIEW.

—— *Teachers' Retirement Board. Second annual report of the Teachers' Retirement Board for the year ending December 31, 1915. Boston, 1916. 22 pp.*

On December 31, 1915, 8,612 teachers in Massachusetts were members of the retirement association. Sixty-six members were retired during the year; 8 at the age of 60, 11 at the age of 61, 21 between the ages of 62 and 65, 11 between the ages of 66 and 69, and 15 teachers were retired who had attained 70 years, the age of compulsory retirement.

On December 31, 1915, there were 186 members on the retired list and the amount of retiring allowances in force was $70,719.92.

NEW YORK.—*Bureau of Statistics and Information. Industrial accident prevention, prepared by the Bureau of Statistics and Information. [Albany, 1916.] 54 pp. (Department of Labor. Special bulletin, issued under the direction of the Industrial Commission, No. 77.)*

This bulletin, consisting of two parts—experience in accident prevention, and a discussion of the means by which results have been obtained—will be found summarized on pages 107 to 113 of this number of the REVIEW.

NEW YORK.—*Department of Foods and Markets. Second annual report of the Department of Foods and Markets for the year ending December 31, 1915. Albany, 1916. 33 pp.*

Among the work accomplished by this department during the year 1915 the report notes the following: Forcing of the large bakeries to restore the 5-cent price for a loaf of bread after they had increased it to 6 cents; and the reduction in the retail price of cold-storage eggs which are frequently sold in October and November as strictly fresh eggs at from 45 to 60 cents a dozen. The issue of a regulation by the department requiring jobbers and retailers to place signs on cold-storage eggs and to display the cost price led to their sale at from 30 to 35 cents a dozen.

WISCONSIN (MILWAUKEE).—*Citizens' Committee on Unemployment. Fourth annual report of the citizens' committee on unemployment and the public employment bureau of Milwaukee to the common council, city of Milwaukee, board of supervisors, county of Milwaukee, and the Industrial Commission of Wisconsin, year ending October 31, 1915.* [*Milwaukee, 1915.*] *9 pp.*

The report states that last year was the busiest in the history of the employment office. It placed over 3,000 more applicants in positions than in the year 1913, which was a prosperous year. During 1915 it secured 18,911 positions out of a total of 26,090 persons referred to positions. The number of applicants for work during the year was 35,658. Therefore, the number placed in positions was 53 per cent of the number of applicants for work.

In 1914 applications for work numbered 33,750 and positions secured 15,080; and in 1913 corresponding numbers were 29,282 and 15,660.

UNITED STATES.—*Bureau of Mines. Coal-mine fatalities in the United States, 1870–1914, with statistics of coal production, labor, and mining methods by States and calendar years. Compiled by Albert H. Fay. Washington, 1916. viii, 370 pp.* (*Bulletin 115*).

A summary of this volume will be used in connection with an article on coal-mine fatalities in the United States in a future number of the REVIEW.

—— —— *Effects of atmospheres deficient in oxygen on small animals and on men. Washington, 1915. 12 pp.* (*Technical Paper 122.*)

Atmospheres that are deficient in oxygen begin to affect men when the percentage of oxygen is about as low a that affecting canaries and mice. Canaries are slightly more susceptible to "oxygen want" than are mice. In mixtures of air and nitrogen containing about 7.6 to 7.8 per cent oxygen, canaries show pronounced distress. When the oxygen content is about 7 per cent, mice show considerable distress, and a man is in grave danger of dying; hence canaries and mice should not be used by exploring parties in mines to show when men unequipped with breathing helmets should retreat, because the atmosphere is low in oxygen.

Mice and canaries, especially the latter, are chiefly of value for indicating to exploring parties the presence of dangerous proportions of carbon monoxide. In an atmosphere in which oil-fed lamps will not burn, an exploring party should not depend upon canaries for further guidance, but should use breathing apparatus in advancing into the atmosphere.

—— —— *Report of the territorial mine inspector of the Government of Alaska for the year 1915.* [*Juneau, Alaska, 1916.*] *35 pp.*

Contains a statement of the value of the production of different forms of ore mined in Alaska and of the activities of the mine inspector. Inspections for the year 1915 included 168 placer mines, 31 quartz mines, and 30 dredges, employing altogether approximately 3,000 men. There were reported 23 fatal accidents, 92 serious ones, and 387 slight ones. The figures for serious accidents are considered very defective, due to the lack of reports. Estimating the number of men employed in and around the mines in 1915 to be 5,000, the fatal rate per thousand would be 4.6.

The inspector notes that more interest is being taken in the matter of making the mines safer for employees.

Wages are reported at about the same level as last year—$5 per day.

UNITED STATES.—*Congress. House. Committee on Labor. Commission to study social insurance and unemployment: Hearings before the Committee on Labor, House of Representatives, Sixty-fourth Congress, first session, on H. J. Res. 159, a resolution for the appointment of a commission to prepare and recommend a plan for the establishment of a national insurance fund and for the mitigation of the evil of unemployment. April 6 and 11, 1916. Washington, 1916. 306 pp.*

Those who submitted testimony to the committee were the following: Dr. John B. Andrews, Joseph P. Chamberlain, James L. Cowles, Miles M. Dawson, Samuel Gompers, Dr. Royal Meeker, Charles F. Nesbit, Rufus M. Potts, Miss Juliet Stuart Poyntz, Dr. I. M. Rubinow, Dr. N. I. Stone, and James W. Sullivan.

Five appendices were submitted in connection with these hearings, containing extracts from the preliminary report to the Social Insurance Committee of the National Convention of Insurance Commissioners by Mr. Rufus M. Potts, insurance superintendent, State of Illinois, chairman; Recent trend of real wages; Unemployed insurance, British act; Unemployment insurance, present status; Social benefits provided by trade-unions; Immigration, speech by Hon. Meyer London.

—— —— —— —— *Convict labor bill: Hearing before the Committee on Labor, House of Representatives, Sixty-fourth Congress, first session, on H. R. 6871, a bill to limit the effect of the regulation of interstate commerce between the States in goods, wares, and merchandise wholly or in part manufactured, mined, or produced by convict labor, or in any prison or reformatory. Washington, 1916. 24 pp.*

—— —— —— —— *Method of directing the work of Government employees: Hearings before the Committee on Labor, House of Representatives, Sixty-fourth Congress, first session, on H. R. 8665, a bill to regulate the method of directing the work of Government employees. March 30–31, April 1 and 4, 1916. Washington, 1916. 368 pp.*

This volume contains the hearings on the so-called Tavenner bill punishing the use of a stop watch in connection with making or establishing a standard time in which work must be done for the purpose of fixing premiums and bonuses in Government workshops and arsenals. It contains an extended discussion of scientific management in its relation to the employment of labor.

—— —— —— —— *Minimum wage bill * * * Report to accompany H. R. 11876.* [*Washington, 1916.*] *17 pp. (64th Cong., 1st sess., House of Representatives, Report 742.)*

As a part of this report by Mr. Nolan from the Committee on Labor, accompanying the bill providing for a minimum wage for Federal employees, there is a statement of the estimated minimum cost of living during a year for a family of five, a statement of the average retail prices of certain specified articles of food in Washington, D. C., in each year from 1890 to 1915, and a statement of the purchasing power of a dollar in each of the years 1890 to 1915 in terms of various commodities.

The bill under consideration proposes to establish a minimum wage of $3 a day for all Government employees.

—— —— —— —— *Products of convict labor in interstate commerce. Report (to accompany H. R. 6871).* [*Washington, 1916.*] *5 pp. (64th Cong., 1st sess., House of Representatives, Report 75.)*

The bill here under consideration aims to remove the impediment to the effective operation of the local laws of the several States upon the subject of the sale within their borders of convict-made goods, an impediment imposed by the construction of the interstate commerce clause, so long as Congress does not legislate on the subject.

It provides that convict-made goods shall be subject to the laws of any State in the same manner as other goods are; and that they shall not be exempt from such laws by reason of being introduced in the original package or otherwise; it is proposed to permit the States to prohibit the sale of convict-made goods within their limits, if they so desire.

UNITED STATES.—*Congress. House. Committee on Reform in the Civil Service. Retirement of employees in the Federal classified service: Hearings before the Committee on Reform in the Civil Service, House of Representatives, Sixty-fourth Congress, first session. April 28, 1916. Washington, 1916. 171 pp.*

This volume constitutes the hearings on the so-called Tavenner bill (H. R. 14302) to provide for the retirement of employees in the classified civil service of the United States and the establishment of a civil superannuation and disability pension system. Among other information submitted by different individuals who appeared before the committee there is found a statement of the principal features of the pension plans of large corporations and business concerns; a list of such corporations and business concerns known to have old-age pension schemes in operation; a list of countries having some form or other of civil-service retirement legislation; a tabular statement of the principal features of civil-service retirement legislation in Argentina, Australia, New Zealand, Canada, Great Britain, Austria, Belgium, France, and the German Empire, together with four of its federated States; a tabular statement of the pension or retirement systems of certain industrial corporations in the United States; extracts from the annual reports of the Secretary of War for the years 1904 to 1906 and 1908 to 1911, and 1913, on the subject of civil-service retirement; statement by Mr. George L. Cain, president of the National League of Government Employees, submitting data collected and compiled by that league relative to the Saturday half-holiday throughout the country.

—— —— —— *Committee on the District of Columbia. Authorizing and directing the Department of Labor to make an inquiry into the cost of living in the District of Columbia: Hearings before the Committee on the District of Columbia, House of Representatives, Sixty-fourth Congress, first session, on H. J. Res. 91, a resolution authorizing and directing the Department of Labor to make an inquiry into the cost of living in the District of Columbia, and to report thereon to Congress as early as practicable. Washington, 1916. 29 pp.*

—— —— —— *Inquiry into the cost of living in the District of Columbia. Report to accompany H. J. Res. 91.* [*Washington, 1916.*] *4 pp.* (*64th Cong., 1st sess., House of Representatives, Report 310.*)

The joint resolution in question proposed the expenditure of $6,000 for an inquiry into the cost of living in the District of Columbia to be undertaken by the Department of Labor. At the hearings there was discussed the practical use of such an inquiry in the event of the probable establishment of a minimum wage for the District as well as the purely economic or theoretical value in ascertaining information as to expenditures in American workingmen's families.

—— *Department of Labor. Division of Publications and Supplies. Publications of the Department of Labor available for distribution. May 15, 1916. Washington, 1916. 11 pp.*

FOREIGN COUNTRIES.

ARGENTINA.—*Departamento Nacional del Trabajo. División de Estadística. Anuario estadístico del trabajo. Año, 1914. Buenos Aires, 1916. 516 pp., 12 charts.*

Yearbook containing labor statistics for the fiscal year 1914, with comparative data for the five semiannual periods, February, 1912, to January, 1915.

AUSTRALIA.—*Court of Conciliation and Arbitration. A report of cases decided and awards made in the Commonwealth Court of conciliation and arbitration, including conferences convened by the president, during the year 1914. Melbourne* [*1916*], *xxvi, 510 pp.* (*Commonwealth Arbitration Reports, vol. 8.*)

Contains a report of cases decided by the court during 1914 under the arbitration and conciliation act, 1904–1911. Among the cases decided is that of the Australian Telegraph and Telephone Construction and Maintenance Union against the public service commissioner and the postmaster general involving the establishment of a minimum wage for telegraph and telephone linemen. It was urged by the Government that the cost of living, as stated by the Commonwealth statistician, refers only to food and rent, and that the great increase in the cost of living during recent years does not apply to all

the expenditures of an employee. It was contended that the claimant union had not shown the extent to which clothes had risen in price; but the Government admitted that there had been some increase. The court held that the burden lay on the Government, as represented by the public service commissioner and the postmaster general, to show "that the same force as depreciates the value of gold against food and rent does not depreciate its value as against clothes and other commodities also" (p. 130).

In this same case it was also urged that the court should not apply to public employment its principle of looking for a basic wage in the cost of living primarily, because the cost of living may go down and there will then be a practical difficulty of a political nature in reducing the rates of wages established at a time of high cost of living. The court pointed out in reply that there would be little consolation to the public employee to say that if he gets too little for necessaries this year his successor will get more than sufficient in 20 or 30 years. The court declined to accept the two assumptions involved in the argument, namely, that Government employees will fail to perceive that if wages are raised for them at a time of abnormal increase in the cost of living, wages may be lowered upon a fall in price, and that Parliament would refuse to do its duty when the occasion arose.

In the case of the Federated Tanners and Leather Dressers Employees' Union of Australia against Alderson & Co. and others, the question of the capacity of any industry to pay wages arose. It was held in conformity with preceding cases that a living wage can and should always be allowed, but that the court must consider such a defense, if it is raised, as to allowances beyond a living wage.

AUSTRIA.—*Ministerium fur öffentliche Arbeiten. Die Bergwerks-Inspektion in Österreich. I. Teil. Berichte der Berghauptmannschaften und Revierbergämter. Vol. 20, 1911; Vol. 21, 1912. Vienna, 1914, 1915. 2 vols.*

These two volumes contain the reports of the Austrian mine inspection service for the years 1911 and 1912. Each volume is made up of the reports of the individual superior mine offices (*Berghauptmannschaften*) and of the district mine offices (*Revierbergämter*) under the jurisdiction of each superior mine office. These individual reports give (1) general statistics as to number of establishments and workmen subject to the mine office in question, (2) an account of measures for accident prevention, (3) accident statistics, and (4) data as to working conditions. There is no general summary.

—— —— *Statistik des Bergbaues in Österreich für das Jahr 1913. Vol. 1: Die Bergwerksproduktion. Vienna, 1914. 231 pp.*

Volume 1 of the annual statistics of the Austrian mining industry, published by the ministry of public works, gives data for the year 1913.

EGYPT.—*Statistical Department. Annuaire Statistique de l'Egypte, 1915. 7me Année. Cairo, 1916. xxxiii, 388 pp.*

This is a general statistical yearbook for Egypt. The only data of interest to labor contained therein are those relating to wholesale and retail prices (monthly averages).

GREAT BRITAIN.—*Board of Trade. Railway accidents; reports to the Board of Trade of inspecting officers of the railway department of inquiries into certain accidents which occurred during the three months ending 31st December, 1915. London, 1916. 13 pp.*

Contains a descriptive account of five railway accidents occurring during the period indicated.

—— *Home Department. Shops Committee. Reports of the committee appointed by the secretary of state for the Home Department to consider the conditions of retail trade which can best secure that the further enlistment of men or other employment in other national services may not interfere with the operations of that trade. London, 1915. 10 pp.*

This committee was organized for the purpose of devising means to secure as large an enlistment as possible of employees in stores and shops. Under the pressure of actual conditions it appeared that the vacancies left by employees enlisting were being filled generally by men over military age and by women, although in some

instances vacancies were not filled at all due to a slackness in trade, or because, in some instances, the employing personnel was in excess of the actual needs.

The work was carried on by the committee through circular letters directed to employers and through public meetings of representative associations of employers in the retail and wholesale trades. The committee obtained replies from 85,591 employers who reported 123,739 men of military age in their employ of which number, they stated, 33,809 could be released. The information thus obtained in regard to the men of military age in employment was communicated by the labor exchanges to the recruiting authorities.

To further encourage enlistment, the committee secured from over 50 per cent of the employers concerned a definite promise to reinstate enlisted men.

Realizing that disorganization to some extent must occur in the selling trades as a result of considerable enlistment among the men, the committee nevertheless felt that great reliance could be placed upon female labor; "the scope of female labor is increasing daily; and there are many instances in the distributing trades as in other trades where women have been introduced into new kinds of work and are acquitting themselves creditably, in many cases altogether beyond expectation." The committee notes the successful employment of women in the work of delivery from motor trucks.

The London County Council has established a practical training course for women in grocery salesmanship.

It has also attempted to relieve the situation by organizing joint delivery among different firms, but this is a matter which only the trades themselves can settle properly. An appeal is also being made to the general public to exercise some consideration in their shopping so as to relieve the situation. Early closing of shops is also being advocated and should be met generally by voluntary agreement among the firms themselves acting in cooperation with the local authorities.

GREAT BRITAIN (LIVERPOOL).—*Enquiry and Employment Bureau for Educated Women. Eighteenth annual report, 1915. Liverpool [1916]. 2 leaves.*

This bureau aims to collect and file information with regard to the training and employment of women; to induce the unprepared to train; to assist training financially by means of a loan training fund which has been established; to act as a connecting link between employers and those seeking work; and to endeavor to adjust the demand and supply of labor.

During the year 662 employers made use of the bureau, 1,390 persons sought work through it, and 1,135 made use of the bureau through inquiries for information. Among 343 persons placed in situations during the year 68 were clerks and secretaries, the highest single portion of all occupations.

INDIA.—*Department of Statistics. Wholesale and retail (fortnightly) prices: Returns showing the wholesale and retail prices of cereals, pulses, oilseeds, sugar (raw), salt, etc., in India by districts for the fortnight ending March 31, 1916. Calcutta, 1916. 21 pp.*

ITALY.—*Ministero di Agricoltura, Industria e Commercio. Direzione Generale del Credito e della Previdenza. Provvedimenti in materia di economia e di finanza emanati in Italia in seguito all guerra Europea. Part II: August 1 to December 31, 1915. Rome, 1916. 620 pp. (Annali del Credito e della Previdenza. Series II, vol. 10.)*

The present volume gives the text of all economic measures—laws, decrees, ordinances, circular orders, etc.—enacted in Italy between August 1 and December 31, 1915, and is a continuation of a previously issued volume giving the measures enacted between August 1, 1914, and July 31, 1915.

—— *Direzione Generale della Statistica e del Lavoro. Annuario Statistico Italiano, anno 1914. Rome, 1915. x, 502 pp.*

A statistical yearbook for the year 1914, grouped in 24 chapters, giving the same data as in previous issues of this publication. Of interest to labor the volume contains statistical data as to employers' and workmen's organizations, periodical, migrations of workmen within Italy, repatriation of workmen on account of the war, wages and hours of labor in selected industries, convict labor, strikes, and data from the industrial courts.

NORWAY.—*Statistiske Centralbyraa. Fabriktællingen i Norge, 1909, fjerde hefte: Produktionsstatistik. Christiania, 1915.* [447] *pp.* (*Norges officielle statistik, VI, 50.*)

This volume constitutes the fourth volume of the census of manufactures of Norway for 1909. Volume 1 comprised an enumeration of establishments, wage earners, and proprietors; volume 2 was a statistical presentation of wages; volume 3 dealt with hours of labor, while the present volume contains statistics of production.

The census reported 3,831 establishments in the country in 1909 [the exact day of the census does not appear]. These establishments employed 106,574 workmen. The total value of the product, exclusive of raw material consumed in the process of manufacture and partly manufactured material, was 246,349,556 crowns ($66,021,681).

ONTARIO.—*Workmen's Compensation Board. Report for 1915 of the Workmen's Compensation Board, Ontario, including also report for 1914 covering organization. Toronto, 1916. 46 pp.*

This report covers the calendar year 1915, the first year of actual operation under the compensation act. The act has worked smoothly and satisfactorily, the report states.

There were collected during the year in premiums, based upon the employers' estimates of pay roll made the previous year, and to be adjusted according to the actual pay roll as subsequently ascertained, the amount of $1,539,493; interest, penalties, etc., brought the total receipts to $1,581,248.

The actual amount of compensation paid other than sums paid for continuing pensions amounted to $323,242.29, and administration expenses equaled $77,436.27. These and other items of expense were as follows:

Compensation paid, other than pensions	$323,242.29
Transferred for pensions awarded	349,939.33
Special advances of compensation	1,685.00
Special medical treatment	250.30
Paid to safety associations	24,820.81
Administration expenses	77,436.27
Deferred payments of compensation other than pensions	17,272.17
Compensation estimated for pending claims and unreported accidents	208,041.80
Held as disaster reserve	15,910.01
Compensation estimated for claims partially dealt with	167,623.64
Total	1,186,221.62

The total number of accidents compensated during the year was 9,829, of which number 8,544 resulted in temporary disability, 1,034 in permanent disability, and 251 in death.

QUEENSLAND.—*Chief inspector of machinery and scaffolding. Annual report of the chief inspector of machinery and chairman of the board of examiners (the inspection of machinery and scaffolding acts, 1908–1912), for the year ending 30th June, 1915.* [*Brisbane, 1915.*] *9 pp.*

Contains a report of the inspector for the year ending June 30, 1915, under the inspection of machinery (including boilers) and scaffolding acts, 1908–1912.

SWITZERLAND (BASEL-STADT—CANTON).—*Oeffentliches Arbeitsnachweisbureau. 25.*—[*26.*] *Bericht und Rechnung über das Oeffentliche Arbeitsnachweisbureau (mit Dienstbotenheim) des Kantons Basel-Stadt und Statistik der Vermittlungstätigkeit im,* [*1915. Basel, 1915–1916.*] *2 vols.*

These two volumes comprise the twenty-fifth and twenty-sixth annual statements of the public employment bureau of the canton of Basel-Stadt. They contain reports not only of the public employment bureau but also of private agencies which are required to make periodical reports.

The number of places filled in 1915 by the public employment bureau, by bureaus not conducted for profit, and by commercial agencies was 16,539 out of a total of 29,407 applicants for work; in 1914 these offices filled 17,658 positions, for which there were 44,809 applicants.

OFFICIAL PERIODICAL PUBLICATIONS RELATING TO LABOR.

LABOR DEPARTMENTS AND BUREAUS.

AUSTRALIA.—*Commonwealth Bureau of Census and Statistics. Labor and Industrial Branch. Labor Bulletin (published quarterly). Melbourne.*

October-December, 1915.—Industrial conditions, fourth quarter, 1915; Unemployment, fourth quarter, 1915; Retail prices, house rents, and cost of living, 1915; Investigation into cost of living in 150 towns in Australia, November, 1915; Wholesale prices, 1915; Strikes and lockouts, 1915; Changes in rates of wages, 1915; Current rates of wages, 1915; Operations under arbitration and wages board acts, 1915; Assisted immigrants, 1915; Report of State free employment bureaus, 1915; Industrial accidents, 1915; Proceedings under the Commonwealth conciliation and arbitration acts, third and fourth quarters, 1915; Reports of labor departments and other labor bureaus and societies in Australia; Imperial and foreign publications received.

CANADA.—*The Labor Gazette issued by the Department of Labor by order of Parliament. Ottawa.*

May, 1916.—Notes on current matters of industrial interest; Industrial and labor conditions, April, 1916; Reports of local correspondents; Proceedings under the industrial disputes investigation act, 1907, during April, 1916, and for the year ending March 31, 1916, with summary for the nine years 1907–1916; Trade disputes, April, 1916; Tabular statement showing state of the labor market during April, 1916; Reports from employment bureaus; Employment in the building trades; Immigration, emigration, and colonization in Canada, first quarter, 1916; Prices (wholesale and retail) in Canada during April, 1916; Prices in Great Britain, United States, Australia, and New Zealand; Fair wages schedules in Government contracts, April, 1916; Changes in rates of wages and hours of labor, first quarter, 1916; Industrial accidents, April, 1916; Distribution of labor in Canada, April, 1916; Report on conditions of woman and child wage earners in the United States; Publications reviewed; Recent legal decisions affecting labor.

DENMARK.—*Statistiske Efterretninger udgivet af det Statistiske Departement. Copenhagen.*

May 1, 1916 (vol. 8, No. 7).—Unemployment, 1915; Population of Denmark, February 1, 1916; Births, marriages, and deaths, 1915; Deaths by accident and suicide in Denmark, 1915; Index number of the Economist.

FRANCE.—*Bulletin du Ministère du Travail et de la Prévoyance Sociale. Paris.*

January–February, 1916 (vol. 23, Nos. 1, 2).—Volume of employment in industrial and commercial establishments, January, 1916; Strikes, January and February, 1916; Coal-mine labor, December, 1915, January, 1916; Reports from the mixed departmental commissions on unemployment, etc.; Reports from the public employment bureaus; Subsidies to workmen's cooperative societies and credit unions; Aliens in Paris, March 5, 1911; Minimum wage rates established under the law of July 10, 1915, relating to minimum wages in the clothing industry; The economic situation expressed in index numbers, fourth quarter, 1915; Retail prices and cost of living in cities of over 10,000 inhabitants; Reports from foreign countries, including Germany, Austria, Great Britain, and the Netherlands, relating to the labor market and the cost of living; Reports from the councils of conciliation, fourth quarter, 1915; Foreign commerce of France, January, February, 1916; Wholesale prices at Paris, January-February, 1916; Revenues of railroads, August 15, 1914, to December 31, 1915; Laws and decisions of courts relating to labor, etc.

GREAT BRITAIN.—*The Board of Trade Labor Gazette. London.*

May, 1916.—Employment chart; The labor market; Special articles: Employment in Germany; The war and employment in France; Retail food prices (United Kingdom, Berlin, Vienna, Switzerland); Rise in the cost of living in Christiania. Reports on employment in the principal industries; Labor in the British Dominions over-sea and in foreign countries: Canada; Queensland; New Zealand; Austria-Hungary; Holland; United States. Board of trade labor exchanges; Statistical tables: Prices of wheat, flour, and bread; Trade disputes; Changes in rates of wages; Diseases of occupations; Fatal industrial accidents; Pauperism; Unemployment insurance; Foreign trade. Legal cases, official notices, etc.; Recent conciliation and arbitration cases; Statutory rules and orders under the munitions of war (amendment) acts, 1916; Trade boards act, 1909; National insurance acts, 1911–1915; Publications relating to labor received during April.

ITALY.—*Bollettino dell Ufficio del Lavoro. Ministero di Agricoltura, Industria e Commercio. Rome. (Monthly.)*

January-February, 1916.—Activities in 1915 of the employment bureau of the Società Umanitaria in Milan; Labor disputes in Italy, fourth quarter, 1915; Labor disputes in Sweden, 1914; Statistics of employment on public works, third quarter, 1915; Retail prices of foodstuffs and other articles of general consumption sold by cooperative stores, November and December, 1915; Cases of industrial poisoning in the chemical industry reported by factory inspectors in Germany, Austria, England, and Switzerland; Hygiene of establishments for the preparation of tripe and casings, and for the extraction of fats from animal refuse; Cost of insurance against industrial diseases in England and in the State of New York; Sanitary investigations of the American Museum of Safety (results of an investigation among cooks and waiters in New York); Work of the chambers of commerce in improving conditions of employment, etc., of salaried employees; Italian section of the International Association on Unemployment (model forms of by-laws and regulations for a public employment office); Collective agreements in Sweden, 1914; Work of the industrial courts, first half, 1915; Court decisions affecting labor.

—— —— —— —— (*Semimonthly*).

May 1, 1916.—Labor market, by localities and industries; Labor disputes, March and first half of April, 1916; Retail prices and index numbers of foodstuffs in Italian cities, first six months, 1914, and March, 1916; Retail prices of foodstuffs in foreign countries—Great Britain (increase in April, 1916, over July, 1914), Germany (increase in February, 1916, over July, 1914); Employers' and employees' association; Congresses and conventions; Parliamentary review; Activities of the labor office; Decree, April 6, 1916, authorizing extraordinary appropriations during the war for the relief of unemployment, and for compensation to Italian subjects injured by industrial accidents in foreign countries whose accident pensions have been suspended during the war.

NETHERLANDS.—*Manndschrft van het Centraal Bureau voor de Statistiek. The Hague.*

March, 1916.—Review of the labor market (building trades, clothing, cleaning and laundries, and coal mining), February, 1916; Fisheries and dock labor, March, 1916; Conditions among interned soldiers; The building trades in 1914 and 1915; Unemployment and unemployment insurance, February, 1916; Reports from the labor exchange, February, 1916; Strikes and lockouts, February, 1916; Labor conditions in public works; Collective agreements, etc.; Trade-union reports, number organized, disbanded, etc.; Prices (wholesale and retail), March, 1916; Passports issued, February, 1916; Court decisions affecting labor; Miscellaneous reports of social and economic import; War measures in foreign countries; Industrial conditions in foreign countries (the labor market, employment bureaus, strikes and lockouts, prices, etc.);

Statistical tables on the labor market, employment bureaus, factory inspection, housing and building inspection, occupational diseases, and State finances; Laws, regulations, and ministerial orders.

April, 1916.—Review of the labor market, first quarter, 1916; Employment of fishermen, dock workers, and interned soldiers, March, 1916; Unemployment and unemployment insurance, March, 1916; Reports from employment exchanges, March, 1916; Strikes and lockouts, March, 1916; Labor conditions on public works, March, 1916; Collective agreements, etc.; Trade-union reports, number organized, disbanded, etc.; Prices (wholesale and retail), April, 1916; Passports issued, March, 1916; Court decisions affecting labor; Miscellaneous reports of social and economic import; Reports of savings banks in foreign countries; War measures in foreign countries; Industrial conditions in foreign countries (the labor market, employment bureaus, strikes and lockouts, prices, emigration, etc.); Statistical tables on the labor market, employment bureaus, factory inspection, housing and building inspection, occupational diseases, and State finances; Laws, regulations, and ministerial orders, etc.

NEW YORK.—*The Bulletin Issued Monthly by the New York State Industrial Commission. Albany.*

May, 1916 (vol. 1, No. 8).—Accident prevention; Amendments to the workmen's compensation act; Report of the Bureau of Industries and Immigration; A story without words (pictures of fire destruction and the use of fire-resisting material); Decisions of the Legal Bureau in compensation cases; Decisions of court of appeals in compensation cases; Summary of first annual report of the State industrial commission; Work of the Bureau of Mediation and Arbitration; Rulings of the commission under the industrial code; The labor market in April; Reports from the Bureau of Inspection.

QUEENSLAND.—*The Queensland Industrial Gazette, issued by the Department of Labor. Brisbane.*

March 11, 1916 (vol. 1, No. 1).—Introductory matter; Facsimile registration and application cards; Recent legal decisions, from January 1, 1916; Reported factory accidents; Placement of labor; Workers placed in employment; Industrial awards; agreements, etc., and the divisions of the State in which they operate; Helping returned soldiers; Detailed statement of operations, etc., of the female labor exchange; Wages and working hours; Summary of operations of State labor exchange; Supply and demand for labor as shown by exchanges for week ended February 21, 1916; Licenses to work for less rates of wages than fixed by an award; Arrears of wages secured by department since January 1, 1916; List of unions registered under "The trades-union act"; New awards for February; Trade agreements (holidays, etc.); Shearing dates for March.

April 10, 1916 (vol. 1, No. 2).—Introductory; Industrial awards for January; Answers to correspondents; The problem of unemployment; Return showing trans actions of labor exchanges during February, 1916; Excess supply of and demand for labor—totals for February, 1916; Excess supply of and unsatisfied demand for labor, weekly statements for March, 1916; Operations of female labor exchange; The agricultural bank of Queensland; Professional costs may be saved; Important legal decision; Recent legal decisions; Provision for fair wages in Canadian Government contracts; Employment, wages, prices, etc., in United Kingdom, 1915; Operations of Queensland war council (employment subcommittee); Reviews of awards, etc.; Extract for industrial peace act; Lists of licenses to aged and infirm workers and improvers; Norway's first law for official mediation in labor disputes; Inspectors' reports upon accidents; Accidents reported to the chief inspector of machinery; Arrears of wages secured by department; Need for care in the wording of industrial awards; Awards for March; Prices fixed by control of trade board; Advertising State labor exchanges; Trade agreements; Half-holiday poll at Esk; Acts passed, bills declared lost, etc., during 1915 session of Parliament; List of matters dealt with by

Commonwealth conciliation and arbitration court; The labor exchanges act of 1915; Regulations under labor exchanges act; Awards for January; Shearing dates, April to August, 1916; List of publications received by the department.

SPAIN.—*Boletin del Instituto de Reformas Sociales. (Publicacion Mensual.) Madrid.*

April, 1916 (No. 142).—Administrative reports of the secretary's office and the technical divisions; Reports of the factory inspectors on the effect of the European war on Spanish industry in 1915; Strikes in 1914 and first quarter 1916; Cost of living; Conventions and congresses; Labor welfare; Laws, decrees, etc., affecting labor; War measures in Austria; Strikes and lockouts in Great Britain, January, 1915.

MISCELLANEOUS.

ARIZONA.—*State Bureau of Mines. State Safety Bulletin, prepared by the University of Arizona. Tucson, Arizona.*

January, 1916 (Bulletin No. 9, Safety Series No. 1).—Finances of the bulletin; Best way to prevent accidents; Progress of the Calumet & Arizona Mining Company; Safety organization of the Copper Queen Consolidated Mining Co.; The busy safety inspector; New Zealand Mining Journal on safety; First-aid and rescue contest; Men in charge of mine safety in Arizona; Safety maxims, etc.

February, 1916 (Bulletin No. 13, Safety Series No. 2).—Preventable accidents; Cultivating the safety-first idea; Welfare of the Calumet & Hecla Co.; The unclinched nail; The Southwestern Mining Safety Association; First-aid work at the Old Dominion Mine; Mine rescue and first-aid work at the University of Arizona; Safety work on the Rand (South African Mining Review); Safety in using explosives.

AUSTRIA.—*Amtliche Nachrichten des k. k. Ministeriums des Innern, betreffend die Unfall— und Krankenversicherung der Arbeiter. Vienna.*

April, 1916.—General part: Imperial decree, February 29, 1916, providing for continuance during the war of all contracts subject to the mercantile employee's act. Accident insurance: Changes in the personnel of the workmen's accident insurance institutes and the courts of arbitration; Decisions of the administrative court relating to workmen's accident insurance; Decision of May 7, 1915, as to subsequent payment of accident insurance premiums; Decisions of the courts of arbitration of workmen's accident insurance institutes. Sickness insurance: Changes in the plan of organization of district sick funds; Decree of the ministry of the interior of March 28, 1916, relating to the submission of annual reports by the sick funds for 1915. Decisions of the administrative court relating to sickness insurance.

ITALY.—*Bollettino della Emigrazione. Commissariato della Emigrazione. Rome. (Monthly.)*

March, 1916.—Repatriation of Italian war refugees coming from Switzerland; Aid to Italian war refugees; Discussion of the Burnett bill and other bills on immigration; Inspection of second-cabin passengers arriving in New York; State insurance against old age and invalidity in Canton Glarus; Compensation to survivors of Italian victims in the mine disaster in Dawson, N. Mex.; Mining centers and Italian settlements in the State of Arizona; Lack of employment for seamen in Christiania; Emigration statistics, February, 1916; Steamship companies licensed to transport emigrants; Decree, March 16, 1916, suspending the issuance of passports to male persons between 16 and 17 years of age; Budget for the Emigration Fund for the fiscal year 1916–17.

April, 1916.—Labor market in Italy with special reference to agricultural labor; Discussions in the House of Deputies, April, 1916, relating to emigration and labor; Monthly statistics of transoceanic emigration, March, 1916; Current news relating to emigration and labor in foreign countries; Maximum rates of transportation for emigrants, May 1 to August 31, 1916; Current publications relating to emigration and labor.

RECENT UNOFFICIAL PUBLICATIONS RELATING TO LABOR.

Amalgamated Association of Iron, Steel, and Tin Workers. Journal of proceedings of the national lodge, held in Louisville, Ky., 1915. pp. 10843–11328.

—— Western scales of prices governing wages in rolling mills for the year ending June 30, 1916. 52 pp.

American Federation of Labor. Railway employees department, official proceedings of third biennial convention, April 10–21, 1916, Kansas City, Mo. 202 pp.

—— Colorado branch. 1916 official yearbook, State labor directory and 1915 convention proceedings. [1915] 128 pp.

American Iron and Steel Institute. Directory of the iron and steel workers of the United States and Canada. Eighteenth edition corrected to January 1, 1916. New York, 1916. 437 pp.

American Museum of Safety. Harriman fund for industrial betterment. First semi-annual report, June 1, 1915, to December 31, 1915 (In Safety, February, 1916).

British Steel Smelters, Mill, Iron, Tinplate Association. Annual report for 1915.

Butter Industry in the United States, by Edward Wiest. New York. Columbia University Press, 1916. 264 pp.

Casualty Acturial and Statistical Society of America. Proceedings. v. 2, pt. 2, No. 5, February 25, 1916.

Contains papers on the following subjects: Mortality from external causes among industrial policyholders of the Metropolitan Life Insurance Co., 1911–1914, by Louis I. Dublin; Analysis of the cost of 10,307 accidents arising under the New York workmen's compensation law, by Joseph H. Woodward; Statistics necessary for computing net compensation rates, by Edward Olifers; The compensation cost of occupational disease, by James D. Maddrill; Work of the statistical committee of the bureau of personal accident and health underwriters, by Benedict D. Flynn; American methods of compensating permanent partial disabilities, by I. M. Rubinow; and Cost accounting in casualty insurance, by Claude E. Scattergood.

City planning, a series of papers presenting the essential elements of a city plan. John Nolen, *ed.* New York, Appleton, 1916. 447 pp.

Cleveland Foundation. Survey committee. Publication Nos. 1 to 25.

These publications comprise the report of the Education Survey of Cleveland conducted in 1915. There are 15 monographs on the regular work of the public schools, with a larger volume summarizing the findings and recommendations relating to such work, the subjects of which are as follows: Child accounting in the public schools, by Leonard P. Ayres; Education extension, by C. A. Perry; Education through recreation, by G. E. Johnson; Financing the public schools, by Earle Clark; Health work in the public schools, by L. P. and May Ayres; Household arts and school lunches, by Boughton; Measuring the work of the public schools, by C. H. Judd; Overcrowded schools and the platoon plan, by S. O. Hartwell; School buildings and equipment, by L. P. and May Ayres; Schools and classes for exceptional children, by David Mitchell; School organization and administration, by L. P. Ayres; The public library and the public schools, by L. P. Ayres and McKinnie; the school and the immigrant, by H. A. Miller; The teaching staff, by W. A. Jessup; What the schools teach and might teach, by Franklin Bobbitt; The Cleveland school survey (summary), by L. P. Ayres.

There are eight monographs on industrial education and a summary, the subjects of which are as follows: Boys and girls in commercial work, by Bertha M. Stevens; Department store occupations, by I. P. O'Leary; Dressmaking and millinery, by Bryner; Railroad and street transportation, by R. D. Fleming; The building trades, by F. L. Shaw; The garment trades, by Bryner; The metal trades, by R. R. Lutz; The printing trades, by F. L. Shaw; and Wage earning and education (summary), by F. L. Shaw.

Conference of State and Government officials regarding the standardization of mining statistics, Washington, D. C. February 24–25, 1916. Washington, 1916. 85 pp. (Issued by the Bureau of Mines.)

Effects of physical fatigue on mental efficiency, by Floyd C. Dockeray. 1915. pp. 197–243. (Kansas university science bulletin, v. 9, No. 17. September, 1915.)

Garino-Canina, A. I prezzi delle merci in Italia nel 1914. (Reprinted from La Riforma sociale, Febbraio-Marzo, 1916.)

A report on prices of commodities in Italy in 1914.

General Electric Co., West Lynn, Mass. Apprentice system of the General Electric Co. West Lynn, [1916]. 32 pp.

History of coal mining in Illinois, including a discussion of the causes and frequency of mine and other occupational accidents and plans for their prevention, by David Ross. Springfield, 1916. 11 pp.

Immigrants' Protective League. Chicago. Seventh annual report for 1915.

Indiana, a social and economic survey, by F. D. Streightoff and F. H. Streightoff. Indianapolis, 1916. 261 pp.

In addition to other material relating to conditions in Indiana chapters are included on manufactures, transportation, labor and labor legislation, charities and correction, and education, including vocational education.

Labor party, Great Britain. Report of the annual conference of the Labor party; Bristol, January 26–28, 1916. [London, 1916] 149 pp.

Massachusetts savings bank life insurance. Miscellaneous pamphlets.

Milwaukee Citizens' Committee on Unemployment. Fourth annual report of the Citizens' Committee on Unemployment and the Public Employment Bureau of Milwaukee * * * year ending October 31, 1915. 9 pp.

Mortality from cancer throughout the world, by Frederick L. Hoffman. Newark, The Prudential Press, 1915. 826 pp.

An exhaustive compilation of statistical material relating to the prevalence of cancer. An important feature is a chapter on "Mortality from cancer in different occupations." An analysis of this work will appear in a subsequent number of the Monthly Review.

National Federation of Women Workers. Eighth annual report and balance sheet. [August, 1914, to July, 1915.] London, [1916] 46 pp.

Oliver, Sir Thomas. Occupations from the social, hygienic, and medical points of view. Cambridge University Press, 1916. 110 pp.

Treats of air pollution by street dust, smoke, and poisonous gases; ventilation of factories and work places; efficiency and fatigue; provisions for health, safety, and comfort of workers; relation of age to occupation; mortality in various occupations; dusty occupations; poisonous gases; the chemical trades; injuries caused by electricity; and occupational skin diseases.

Philadelphia Housing Commission. Fifth annual report, 1915. Philadelphia, 1915. 29 pp.

Public Education Association of the City of New York. Bulletin No. 28. (A Gary school's success in New York City. Mar. 7, 1916.)

—— Bulletin 29. ("Evaluating" the Gary plan in New York City. Apr. 20, 1916.)

Shoe industry, by Frederick J. Allen. Boston, Vocational bureau of Boston, 1916. 327 pp.

A study of the history, nature, magnitude, operations and processes, and employment opportunities and demands of the shoe industry. Contains statistical material compiled from various official sources, and a number of charts, diagrams, and illustrations; also an explanation of terms used in shoemaking.

Social survey of Fargo, N. Dak. * * * under the direction of M. C. Elmer * * * for the Associated Charities of Fargo, N. Dak. June, 1915. 46 pp.

A study of municipal problems and how to meet them. Among the subjects treated are housing conditions and sanitation, infant mortality, and the work of the free employment bureau.

Textiles, a handbook for the student and the consumer, by Mary S. Woolman and Ellen B. McGowan. New York, Macmillan, 1916. 428 pp.

A comprehensive treatise on the history and development of the textile industries, with chapters on ancient and modern processes of spinning and weaving; the woolen and worsted, cotton, and silk industries; linen and minor fibers; consumers' methods of testing textiles; microscopic and chemical study of fibers; dyeing processes and materials; hygiene of clothing; economic and social aspects of textile purchase; and clothing budgets.

Textiles; prepared in the extension division of the University of Wisconsin, by Paul H. Nystrom. New York, Appleton, 1916. 335 pp.

A study of the sources of raw material, methods of manufacture and distribution, and economic aspects of the textile industries. Contains chapters on the production and manufacture of cotton, woolen, linen, mohair, and silk textiles; dyeing and printing; cloth finishing processes; tests to determine quality; and the care and preservation of textile fabrics.

Thimme, F., und Legien, C. Die arbeiterschaft im neuen Deutschland. Leipzig, Hirzel, 1915. 232 pp.

This volume is a collection of 20 separate articles by as many different authors on the present and probable position of labor in Germany as affected by conditions arising from the war. It is edited by Friedrich Thimme, Librarian of the Prussian House of Lords, and Carl Legien, a member of the Reichstag and president of the Federation of Social Democratic Trade Unions in Germany. Contents: Hermann Oncken, Germany on the road to a united and free nation; Gustav Noske, The war and social democracy; Friedrich Meinecke, Social democracy and Machtpolitik; August Winnig, The war and the workmen's international organization; Gerhard Anschütz, The hopes for political reform of the future; Philipp Scheidemann, A new departure in domestic politics; Paul Hirsch, Municipal reorganization; Ernst Francke, Participation of the workman in the public affairs of the Empire; Carl Legien, The socialistic trade unions; Edgar Jaffé, Representation of the interests of labor in the public affairs of Germany; Hugo Heinemann, Labor legislation after the war; Waldemar Zimmermann, The economics of consumption and the labor movement after the war; Paul Lensch, The reorganization of economic life; Ferdinand Tönnies, Social politics after the war; Robert Schmidt, New departures in social politics; Ernst Troeltsch, The church and the social democracy; Paul Umbreit, Unemployment and the war; Paul Natorp, The rebirth of our nation after the war; Heinrich Schulz, The school system after the war; Friedrich Thimme, Cooperation, the way to domestic peace.

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