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# MONTHLY LABOR REVIEW

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## LACKS IN WORKMEN'S COMPENSATION.

BY ROYAL MEEKER, UNITED STATES COMMISSIONER OF LABOR STATISTICS.

[Paper read before the American Association for Labor Legislation, Richmond, Va., Dec. 28, 1918.]

The most evident lack in workmen's compensation legislation is the absence of any compensation legislation in the District of Columbia and in 10 of the 48 States composing the Union. The 10 delinquent States are North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Missouri, and North Dakota. It would seem that the greatest improvement in compensation legislation that can be made is to induce the present Congress and the legislatures of these States, when they meet, to pass compensation acts, thus wiping the southern "black belt" off the compensation map and removing the one dark blot remaining north of the latitude of Mason and Dixon's line. If this desired result is to be accomplished, much hard work will need to be done very quickly, as the legislatures meet in all these States next month, and in only three of them is any interest being shown in the matter. Missouri will probably pass a compensation act next session, while there is a possibility that Tennessee and Georgia will also do so. It is especially desirable that Alabama be induced to act this winter, as the legislature of this State will not meet again until 1923.

I am unaware of any sentiment in the District of Columbia favoring the passage of a compensation law covering the workers of the District outside of United States Government employ. Immediate steps should be taken to bring to the attention of the whole country, and especially of the workers residing in the District of Columbia, the utter failure of Congress to provide for the District of Columbia workers either publicly or privately employed.

Quite as flagrant as the failures above alluded to is the failure to provide adequate compensation for all railroad employees either by the Federal Government or by the different States. This failure is due in part to the lack of any proper and intelligent organization of sovereignty and of governmental function under the Constitution, and in part to the opposition of the railroad brotherhoods to any legislation intended to take away their cherished right to bring lawsuits

against the employing railroads on the exceedingly slim chance of recovering large damages under employer's liability. Various remedies have been suggested for this intolerable condition. Mr. A. J. Pillsbury, chairman of the California Industrial Accident Commission, has proposed that Congress pass an act putting all railway employees engaged in interstate commerce under the laws of each of the several State jurisdictions. Mr. Alfred Thom has proposed that Congress pass a law putting all railroad employees employed in both interstate and intrastate commerce under a compensation law uniform for the whole United States. The railway brotherhoods say they are satisfied with the present employer's liability law. The Federal Employees' Compensation Commission, by a vote of 2 to 1, voted that when the railroads were taken over by the Government the employees became thereby Federal employees and consequently came under the Federal Employees' Compensation Act. The act providing for the taking over of the railroads by the Federal Government originally contained wording that expressly made the Federal compensation act applicable to the railroad employees. These words were stricken out, but, unfortunately, the words left standing are capable of at least two meanings, probably more, and nobody can say with assurance what our railroad employees are to-day. It is said that a case of an injured railroad employee will soon be brought before the Federal Employees' Compensation Commission for decision. If compensation is granted in this case, we may expect manifestations of vigorous dissent from the railroad brotherhoods. The Federal Railroad Administration has considered the question of issuing an administrative order granting compensation for industrial injuries to the employees of the railroads under Federal control.

Mr. Pillsbury's plan would produce a greater lack of uniformity than now prevails. At present railroad employees engaged in interstate commerce have no rights under State compensation laws. Much of the time of the Compensation Commission is taken up with attempts to determine when a railroad employee is engaged in interstate commerce and when in intrastate commerce. The four States of Minnesota, Indiana, Texas, and Virginia have dodged this knotty problem by specifically excluding from compensation all steam railroad employees. Interstate railroad employees are uniformly without any remedy for disabilities suffered by them unless they can prove negligence or fault on the part of the employing railroad, which it is well-nigh impossible to do. If Mr. Pillsbury's plan were adopted, it would put all railroad employees in the State of California under the California compensation law and administration. An employee of the Atchison, Topeka & Santa Fe Railroad running from St. Louis to Los Angeles, for instance, would start out under the Federal

employees' liability law, as Missouri has no workmen's compensation law. He would pass successively through five different States having compensation laws differing very greatly both in their provisions and in their administration. Mr. Pillsbury argues that the enactment of the measure he advocates would tend to bring all the States up to the level of the most liberal law. Undoubtedly the railway brotherhoods, if they can be induced to back such a bill at all, would be able to exercise some influence on the several State legislatures with the purpose of improving the compensation laws and making them more uniform. Anything that will tend to give us greater uniformity in compensation standards and administration is worthy of the most careful consideration, especially when it gives any promise of leveling all laws and administration practices up to the highest existing standard. It will be very difficult, however, to get the support of the railway brotherhoods to the proposed measure, and without their support it is very doubtful if it can be passed in Congress. Even if this measure were placed on the United States statute books, it would take many years to bring the State laws into something like uniformity, and it seems hopeless to dream of ever securing uniformity in judicial interpretation of and in administrative practices under the law.

Mr. Thom's solution is much more simple, direct, and satisfactory, if it is constitutional to put all railway employees under Federal jurisdiction. The Railroad Administration evidently assumes that no constitutional amendment is needed to enable it to take full jurisdiction over compensation matters affecting railway employees on the roads taken under Federal control. In all probability it would be found that all such railroads are engaged, directly or indirectly, in interstate commerce. In any case if the Railroad Administration issued an administrative order or framed a bill and secured its passage by Congress, the considerable body of railroad employees working on roads not under Federal control would be excluded from the order or act and we would not have accomplished the result so greatly to be desired. If the assumption of authority by the Federal Employees' Compensation Commission should be sustained, the situation would be the same. Besides, when the railroads go back to private management, as now seems inevitable, a compensation law framed by the Railroad Administration, or the extension of the Federal Employees' Compensation Act to apply to the roads now under Federal control, would be equally null and void.

In view of the large influence wielded by the railroad brotherhoods over legislation designed to affect their interests, it would seem to be highly desirable to bring every influence to bear upon public opinion in general, especially public opinion in the brotherhoods



themselves. Their national conventions meet in May and June, 1919. It is highly desirable that all the brotherhoods take positive action favorable to the compensation principle as opposed to the employer's liability principle in dealing with injuries incurred by railroad employees. I think the American Association for Labor Legislation should engage in an active campaign of education for the purpose of bringing the railroad brotherhoods to adopt the principle of compensation. At the same time I think our association should work to bring to the attention of Congress the unprotected state of the railroad workers, who are engaged in one of the most hazardous of all industries. I think a bill should be framed and introduced as soon as possible providing for the extension of the Federal Employees' Compensation Act to cover the railroads under Federal control. This would bring the matter to the attention of Congress. We could at the same time work for a bill along the lines suggested by Mr. Thom. My own opinion is that such a law would be held constitutional on the ground that all railroad transportation is directly or indirectly interstate in character, all the roads being engaged in handling freights and passengers that go beyond State boundaries and are therefore component parts of a national transportation system. If, however, the constitutional lawyers of Congress think such a law would be unconstitutional, we should begin at once to agitate for a constitutional amendment which will make it possible to include all railroad employees under one law and one system of administration. The placing of the employees under 48 distinct jurisdictions, some with no compensation laws and others with laws specifically excluding all railroad employees, does not appeal to me as being likely to produce harmony, efficiency, and good feeling.

May 21, 1917, was a fateful day to workmen's compensation. On that day the United States Supreme Court handed down four far-reaching decisions which put a stop to the practice of those States which had been granting compensation under their State laws to injured workers engaged in interstate commerce or in maritime pursuits. A maritime pursuit is any occupation which takes the worker on board a vessel in navigable waters. Two of the cases were interstate commerce cases in which the court held that it was unconstitutional for a State to award compensation under its law to an employee engaged in interstate commerce. These decisions deprived interstate railroad employees of compensation awarded by New York, New Jersey, California, and perhaps some other States, and threw them back on the very doubtful protection of the Federal employer's liability law. The other two cases were admiralty cases and took from longshoremen and maritime employees the compensation benefits granted them by the compensation administra-

tions and courts of New York, Connecticut, Minnesota, and California. The United States Supreme Court decided that the only recourse for these workers when injured was suit under the admiralty law of the United States. As a result of this backward looking decision, much unrest was immediately manifested among the longshoremens, especially in New York Harbor. To avert the possibility of a strike among longshoremens, the Federal Judicial Code was amended so as to give to those engaged in the loading, unloading, and repairing of vessels the right to accept compensation under State law. The amendment is quite inadequate as it does not include seamen, and makes no provision for employees under admiralty jurisdiction in the States without compensation laws. A Federal law should be urged at once to extend the provisions of the Federal Employees' Compensation Act to seamen and others coming under admiralty jurisdiction.

Even more important in point of numbers involved than the exclusion of railroad and maritime employees from compensation benefits are the exclusions, explicit or implicit, of farm hands, casual laborers, domestic servants, and workers in so-called nonhazardous industries or in establishments employing less than a minimum number of workers. All these workers should, of course, be included under the workmen's compensation laws. There still lingers in the minds of many the notion that workmen's compensation laws create huge financial burdens, and that therefore compensation laws must be made niggardly as to benefits and limited to the limit as to coverage so as to save the States from bankruptcy. The casualty insurance companies are not without responsibility for the persistence of this hoary-headed fallacy. Of course the fact is that the economic burdens following in the train of industrial accidents or illnesses fall with crushing force upon the workers, those least able to bear, shift, or evade them, where there is no provision for the distribution of these burdens over the industry or the whole community. The only way a compensation law could possibly increase the burden of accidents is by increasing the number and severity of accidents. As a matter of fact our very inadequate and limited compensation laws have undoubtedly decreased accidents, both in frequency and severity, thereby justifying the compensation principle and pointing to the need for extending these laws to all employments and making their provisions really adequate. If only farmers and small employers understood the principles underlying the distribution of risks under an insurance plan, they would insist that their establishments come under the workmen's compensation laws and that the State provide a State fund, preferably an exclusive, all-embracing State fund, for the cheaper and more secure insurance of their risks. I think this

association has no more important function to perform than the enlightenment of the minds of the people generally as to the necessity for including all employees under compensation laws and the economy and indispensability of an exclusive State fund.

We are in danger of fooling ourselves by looking at Dr. Andrews's compensation map. The inclusion of a State in the white area does not necessarily mean that all is well in that State. According to estimates made by Mr. Carl Hookstadt, of the United States Bureau of Labor Statistics, out of the 40 jurisdictions now having compensation laws in operation, 10, including Porto Rico and Alaska, exclude more than half the workers within their borders, while 27 exclude at least one-fourth of their workers. These estimates are based on the assumption that all employers who may elect to come under the compensation laws do so elect. This gives a greatly exaggerated figure in many instances. It is probable that nearly one-half of all employees in the States having compensation laws do not come under these laws at all. It is highly desirable that all compensation laws be made compulsory and that they be extended to include all employees. With a State fund it will be feasible to provide ample guaranties for the payment of all compensation claims under such all-inclusive laws. Insurance should be sold to small employers such as farmers, cobblers, small shopkeepers, and the like, so as to entitle their employees to compensation benefits in case of disability due to industrial accident or illness.

The only way compensation benefits can be extended to all the excluded classes is by means of exclusive public or so-called "State" insurance or by State-aided or monopolistic mutual associations. We have no place in America for monopoly except a public monopoly. In justice to the workers, therefore, it becomes necessary to advocate public or "State" insurance to the exclusion of all other kinds of insurance. A "competitive" State fund which stands on the same footing as private competing casualty insurance companies seems at first glance to be the very quintessence of fairness and squareness. In reality it is never possible to put a State fund on an equal footing with private casualty companies. The private companies will take only the cream of the business and leave to the State fund the task of carrying all the more costly risks that are hardest to acquire and are most subject to great catastrophies which wipe out reserves. Just why should the community bind itself to refrain from giving the best guaranteed insurance to its workers at the lowest possible cost? It is well known that the overwhelmingly greater part of the high costs of competitive insurance is due to the expenses of acquisition, renewal, and collection of premium. The investment of reserve funds and the computation of actuarial liabilities also constitute very heavy



charges. The costs of acquisition, renewal, collection of premiums, and investment of funds are almost eliminated under an exclusive State fund in which every employer would be obliged to insure his employees. The premiums should be assessed and collected in the same way as taxes. In fact, there is no more reason for the interference of private companies in the insurance of compensation risks than in the assessing and collecting of taxes. All these enormous advantages in economy and universality are lost if private competing methods are permitted to enter. A competitive State fund is but little better than a private profit-seeking stock casualty company.

It is frequently argued that the insurance companies should be maintained because of their great contributions to human welfare in times past, and because of the enormous store of experience and wisdom which they have acquired and the vast vested interest which they have built up by their industry and integrity. I always go out of my way to call attention to the very great services performed by the insurance companies in the past. It is urged that an insurance company is different from a brewery or distillery in that it can not, when there is no further need for it, be converted to any useful purpose, such as the manufacture of artificial ice, denatured alcohol, or ginger pop. There is much force in this argument, but nothing like as much as in the case of the wagon toll roads of Pennsylvania which brought suit to enjoin the building and operation of the then newly-conceived railroads on the ground that the monopoly charters of the toll roads were violated by the charters granted to the railroad companies. The courts of Pennsylvania decided rightly against the toll roads, holding that the progress of the community could not be held up by the monopolistic claims of an obsolete system of transportation. The same principle holds true in the realm of insurance. Community insurance is much cheaper and it reaches all, therefore it must and will supersede private profit-seeking competitive insurance. If exclusive State insurance can not be obtained in any State, we should be ready to accept temporarily a competing State fund as one means of regulating and controlling private casualty companies.

The provision for adequate medical, surgical, and hospital treatment for injured workers is far more important than the allowance of money benefits. Yet four States make no provision whatever for such services. Twelve limit the cost to \$100 or less and 16 limit the period to 30 days or less. Pennsylvania, which probably contributes more fatalities and seriously disabling injuries than any other State, generously allows a maximum of two weeks' medical attention if it doesn't cost more than \$25. Only four States permit of adequate medical and surgical treatment by placing no limits in their laws upon the time or cost of such services. Massachusetts, perhaps, de-

serves to be included with these four States because, although the law limits such services to two weeks, except in special cases, the Massachusetts Industrial Accident Board makes a special case of every serious injury. Washington has no limitation either as to time or amount, but requires the injured workman to pay one-half the cost, which operates as a decided check on proper treatment. The fact that the law puts no limitation on medical services does not mean that all workmen receive all needed medical and surgical treatment of the very best quality. In my judgment, it is quite as important to make State compensation commissions, employers, insurance companies, and employees understand the economy of the best and most complete medical and surgical service as to get them to understand the justice of the compensation principle as over against the damages-for-injury principle. We ought not to pause or let up in our efforts to extend the compensation principle to the States of the "black belt" and to apply this principle more intensively in the States that have adopted some part of the compensation principle, but are as yet unwilling to give all workers the benefit of compensation, or to provide for their protection in the most effective and economical way. But at the same time we should surely devote a large proportion of our time, energy, and intelligence to teaching the great truth that it is better and cheaper to pay competent doctors and surgeons to save lives, limbs, and bodily functions than to pay compensation therefor. The plant manager, the company doctor, the insurance companies, and the public are still living in the early Middle Ages, so far as the correct view of the medical question is concerned. Alas, few of the compensation commissions are much more enlightened. The workman who suffers injury must be restored physically, mentally, and morally as quickly and as completely as possible. When he has been as completely rehabilitated as possible, he should be put back into industry. This may and generally will involve his retraining either for his old job or a new job better adapted to his particular disability. The industrial accident boards and commissions must have a voice in this work of restoration, retraining, and reemployment of injured workers. The Smith-Bankhead bill now before Congress provides for Federal aid on a fifty-fifty basis to the States which will undertake the rehabilitation and reemployment of industrial cripples. The International Association of Industrial Accident Boards and Commissions at its annual meeting last September indorsed the principle of this bill which provides that the Federal Board for Vocational Education shall have the administration of the Federal funds to be allotted to the several State boards which have been designated or created to cooperate with the Vocational Education Board in furthering vocational education in the several States.

This may not be the best form of bill to take care of the rehabilitation of those injured in industry, but the principle of Federal grants in aid to assist, stimulate, and direct the efforts of the States in dealing with important matters that involve large expenditures and affect the interests of the people generally has already been recognized by the Federal Government in the Good Roads Act, the Vocational Education Act, and the Vocational Rehabilitation Act applying to injured soldiers and sailors. The principle of Federal grants in aid promises to become one of the most useful means of bringing about much-needed uniformity and improvement in State legislation and administration in those fields where the principle is applicable. I think the American Association for Labor Legislation should appoint a committee to study the so-called Smith-Bankhead bill, suggest such changes as seem desirable, and work for its passage. Of course, the compensation commissions, especially their medical departments, will play a large part in deciding what restorative treatment is to be given and for what industries and occupations the injured workers shall be trained.

The money compensation provided in the laws of the different jurisdictions is altogether too small in amount. Twenty-one States allow but 50 per cent of wages. Porto Rico also allows only 50 per cent in case of temporary disabilities. Only three allow 65 per cent, and four allow a maximum of  $66\frac{2}{3}$  per cent of wages. The maximum allowance per week results in even greater hardship upon the workers since the period of high prices and high wages came in. Fourteen States have a maximum limitation on compensation of \$10 per week or less. Porto Rico limits the weekly rate to \$7, which may perhaps be justified on the basis of cost of living in that island, but Colorado has a limit of \$8 per week, which certainly can not be justified on the ground of low cost of living there. Nine States allow a maximum of \$12 per week, nine have a maximum of \$13 to \$15, and only two, New York and California, may grant as much as \$20 per week. At present prices it costs the typical worker's family nearly \$20 per week for food alone, so the utter inadequacy of these maximum limitations on compensation awards need not be further dwelt upon.

In view of known facts, I am of the opinion that all maximum limitations on compensation should be immediately abolished. The percentage of wages allowed should certainly be not less than two-thirds. I am in favor of three-fourths, but will be greatly pleased if we can bring the 21 States which now allow only half pay up to the  $66\frac{2}{3}$  per cent level.

The waiting period before compensation is allowed is much too long. Eighteen States, including Virginia, have a waiting period

of two weeks, while New Mexico has three weeks; 4 others have ten days, and 15 have one week. One week is a long time for a workman's family to be cut off from all or the principal part of its means of living. The malingerer is held up as the reason for the 50 per cent of wages and the two weeks' waiting period which is found in most of our compensation laws. The malingerer is for the most part a figment of an overheated imagination. He doesn't exist in the swarms and hordes that have been described to us. The old Federal Employees' Compensation Act paid full wages and had no waiting period if the injured employee were disabled for 14 days or more. Yet I am convinced that there was very little malingering in order to secure full wages during disability. If we would spend less time in speculating on the moral derelictions of the "laboring classes" and in trying to protect our pocketbooks from the more or less mythical malingerer and get down to hard work in behalf of decently adequate compensation laws for the protection of the great mass of workers, we would be able to accomplish much more good.

If we had a map showing by shadings from black toward white the actual conditions with respect to workmen's compensation, there would not be the striking contrast between the angelic snow-white purity of the northern and western States and the deep sinister, satanic black of the southeastern States. For example, Wyoming, on such a map, would not be more than one-third white, since the protection of an elective compensation law is permitted to only 42 per cent of her workers, no medical services are furnished, money benefits are limited to from \$15 to \$35 per month in case of temporary disability, and the waiting period is 10 days. New Jersey, with practically 100 per cent coverage in theory, would not appear better than a very dirty alluvial mud color, because the medical service is limited to 2 weeks and \$50, the waiting period is 2 weeks, the proportion of wages allowed during disability ranges from 35 to 60 per cent, and the amount from \$5 minimum to \$10 maximum. Even Massachusetts, so long the leader in labor legislation, would appear as a gloomy, slaty drab color, for, though she allows practically unlimited medical and surgical treatment and theoretically gives two-thirds of wages, the waiting period has only recently been reduced to 10 days, the maximum benefit is limited to \$14 per week with a minimum of \$5, and the scale of compensation for specific dismemberments and disabilities is inadequate. The maximum period during which compensation is payable is 500 weeks. Only New York, which has the most liberal compensation law in the United States, would look at all well on this map, appearing in a garb of beautiful, though dark, pearl gray. The law, which is compulsory, was amended last winter so as to include all manufacturing establish-

ments employing 4 or more. The scale of money benefits is more liberal, all things considered, than in any other State, but medical services are limited to 60 days and the amount payable for partial disability is limited to \$3,500, which permits of the maximum compensation at \$15 per week for a period of  $4\frac{1}{2}$  years. There is no reasonable reason why a one-legged or one-armed man should be compensated for two-thirds of his earning power for  $4\frac{1}{2}$  years and then be suddenly cut off from all further benefits.

A great deal has been accomplished by winning recognition of the compensation principle in 38 States and 4 Territories and insular possessions of the United States. But let us not think all is well with the world and the millennium about to break upon us because a tardy, reluctant, and half-hearted acceptance has been accorded the principle that the laborer is worthy of his hire. Our workmen's compensation laws and administrations are still far from satisfactory. The correction of these defects will require the best efforts of all interested in the welfare of those who do the hard and dangerous work of the world.



## THE NEW YORK HARBOR STRIKE.

BY BENJAMIN M. SQUIRES.

An article entitled "The New York Harbor wage adjustment," appearing in the September, 1918, MONTHLY LABOR REVIEW,<sup>1</sup> set forth the efforts of the Government in preventing industrial unrest in New York Harbor and particularly the problems arising out of arbitrary intervention on the part of the Government. The most perplexing problem grew out of conflicting jurisdiction of adjustment agencies. Finally on the morning of January 9, 1919, a general strike was called, which by noon had completely paralyzed harbor traffic, including municipal ferries and boats operated by the Federal Government. Practically all of the 16,000 men employed on harbor craft responded to the strike order and 50,000 or more longshoremen were forced out of work. The strike threatened, moreover, to involve teamsters, drivers, and chauffeurs engaged in general trucking. Transports loaded with returning soldiers were unable to berth. Steamships scheduled to depart remained at their piers.

The seriousness of the strike can hardly be overestimated. Like other large cities New York City lives virtually from hand to mouth. But unlike any other city the insular location of New York makes the city absolutely dependent upon harbor traffic for daily needs. Its relation, moreover, to overseas traffic has given it such importance during the period of the war that any prolonged interruption to harbor traffic would have been an international calamity. With the urgent need of continuing the stream of supplies to European countries and, as well, bringing our troops back without delay, it is scarcely less important, now that hostilities have ceased, to keep the port of New York open. The gravity of the situation was appreciated. Municipal, State, and Federal authorities were appealed to but existing agencies of adjustment were unable to promise an adjustment. Cablegrams were sent to the President urging immediate intervention. The President replied promptly, addressing the National War Labor Board:

I have been informed by the Secretary of Labor as to the serious situation which has developed in the port of New York and the strike of marine workers which seriously crippled the movement of troops and supplies. I consider this a grave emergency and understand that it has arisen because the parties to the controversy failed to make a joint submission to the National War Labor Board.

I earnestly request that you take up this case again and proceed to make a finding. I appreciate the honesty and sincerity of the board announcing on Wednesday that it could not promise a final decision in the controversy without a formal submission from all parties, but I am sure that the War and Navy Departments, the Shipping Board, and the Railroad Administration and any other governmental agencies interested in the controversy will use all the power they possess to make your findings effective.

I also believe that private boat owners will feel constrained by every consideration of patriotism in the present emergency to accept any recommendation which your board may make, although the National War Labor Board, up to the signing of the armistice, was concerned solely with the prevention of stoppage of war work and the maintenance of production of materials essential to the conduct of the war.

<sup>1</sup> MONTHLY LABOR REVIEW, Bureau of Labor Statistics, September, 1918, p. 1.

I take this opportunity also of saying that it is my earnest hope that in the present period of industrial transition arising from the war the board should use all means within its power to stabilize conditions and to prevent industrial dislocation and warfare.

WOODROW WILSON.

The several departments named by the President immediately requested the National War Labor Board to act, agreed to accept its decision as applicable to their marine operations in the port and joined with the Secretary of Labor in requesting the men to resume work. The National War Labor Board notified employers and employees that hearings would be held at once. Under these circumstances the strike committee voted, on the evening of January 11, to order the men back to work. The strike thus came to an end approximately three days after being called.

Quite apart from the details of the strike or its adjustment is the fact that it is the first serious breakdown of the machinery set up by the Government for the adjudication of labor controversies "during the period of the war," and applies the acid test to its adaptability to readjustment problems. Viewed in this light, the circumstances which led to the inability of agencies of adjustment to prevent the tie-up of the harbor are significant.

As explained in the article previously mentioned, a threatened strike of New York Harbor employees in the latter part of 1917 led to intervention by the United States Shipping Board, and an agreement whereby during the period of the war all controversies affecting wages and working conditions of New York Harbor employees would be referred to a strictly Government board consisting of one representative each of the Shipping Board, the Department of Labor, and the Department of Commerce. This agreement was a substitute for one first proposed which provided for a representative of employers and a representative of employees, with a chairman to be chosen by the Shipping Board. Employers refused the form of arbitration thus proposed on the ground of unwillingness to deal with the Marine Workers' Affiliation, then comprising four of the six harbor unions.

An award was made establishing minimum wages and working conditions for all harbor boat employees in the port. Complaints of violation of the award on the part of employers, both private and public, multiplied rapidly, more than two hundred of the four hundred or more boat owners being complained against during the first three months of the award. To check the rapidly growing unrest, administrative machinery was set up and finally as a last resort a considerable number of recalcitrant owners were summoned to appear before the Shipping Board and were threatened with seizure of property.

In the meantime the Government had assumed control of the railroads together with the water ends of rail carriers which in the port of New York embraced approximately 40 per cent of the harbor marine equipment. The establishment of a Railroad Wage Commission to make recommendations as to wages and working condi-

tions raised at once the question of divided jurisdiction. The danger of two sets of wage rates and working conditions for identical classes of labor in the port was pointed out to the commission with the result that its recommendations excluded those employees whose wages and working conditions were the result of awards by governmental agencies created subsequent to our entry into the war. This recommendation was not approved by the Director General of Railroads and in his Order No. 27, issued in May, 1918, wage increases were announced to railroad marine employees.

Prior to this, however, four of the harbor unions appealed to the newly created National War Labor Board for a revision of the first award. The result was a modification of the original agreement so as to provide for two additional members on the board of arbitration, one representing employers and one representing employees, and for a rehearing. The rehearing before the enlarged board was held and an increase in wages agreed upon. Before the award could be issued, Order No. 27 of the Director General was announced and the harbor board withheld the promulgation of its award in order that it might seek by agreement with the Railroad Administration to avoid the confusion and unrest which it was felt would arise from divided jurisdiction. Conferences were held and an understanding reached whereby Order No. 27 was withheld in its application to railroad marine employees in the port of New York and awards of the harbor board were to be made recommendatory to the Railroad Administration. The agreement creating the harbor board was again modified to provide for two additional members, one representing the railroads and one representing employees. An award was issued July 12, 1918, effective until May 31, 1919, unless in the judgment of the board conditions warranted a change prior to the date thus fixed for expiration.

This award, like the one previously issued, provided only for minimum wage rates and working conditions. Some of the wage rates thus established were lower than railroad marine employees would have received under Order No. 27. The Director General accordingly ordered that wherever employees were entitled to more under Order No. 27 than under the harbor award, the railroad award would prevail. This at once restored differentials as between identical classes of railroad marine labor. It was brought to the attention of the harbor board that the Railroad Administration was seeking to do away with wage differentials within an occupation and that in accordance with this policy the harbor board was requested to recommend an upward standardization of wages to railroad marine employees on the basis of the highest rate paid in each occupation. The harbor board refused to make the recommendation on the ground that wages had once been standardized by an award to which the railroads both under private and public management were parties, that this standard had been upset by the Railroad Administration, and that a further differential as between the wages of employees on public and



privately operated boats would result in destructive competition for labor. The harbor board and the Shipping Board conferred with the Railroad Administration and it was agreed that no further change would be made in the wages and working conditions of railroad marine employees except on the recommendation of the harbor board.

In order to avoid a repetition in other ports and other industries of the New York Harbor situation, a conference committee of national adjustment agencies was formed to which awards touching classes of labor over which more than one adjustment agency had jurisdiction would be referred for review before being promulgated. Notices were sent to the various local boards and commissions, including the New York Harbor board, instructing them not to issue awards until the conference committee had given its approval.

About the time the conference committee was organized, the Railroad Administration began to put into effect a basic eight-hour day with wage increases to a large number of employees. The exclusion of railroad marine employees from these advantages, in the face of the previous proposal of the Railroad Administration to standardize their wages upward, led to considerable dissatisfaction. The harbor unions and the board of arbitration were criticised by railroad employees and accused of seeking to withhold from them what the Railroad Administration was anxious for them to enjoy. Committees of employees appealed to the Board of Railroad Wages and Working Conditions and were directed to apply to the harbor board. The harbor board, in turn, requested the Railroad Administration to advise whether hearings should be held and recommendations made. Several weeks elapsed before a reply was received requesting the harbor board to hear the demands of the railroad marine workers and on the same day that this request was received the harbor board was notified by the marine director of the port for the Railroad Administration that the Administration had authorized the upward standardization of wages previously proposed. The harbor board immediately placed the matter before the conference committee to ascertain whether that committee had approved the increases ordered by the Railroad Administration and was advised that the action had not been approved by the conference committee and would be taken up with the Railroad Administration.

This upward standardization of wages to railroad marine employees, together with the general trend of wage adjustments in other industries and the announced policy of the Railroad Administration of granting the basic eight-hour day to all railroad employees, added fuel to the smoldering unrest in the harbor. On November 6, 1918, unlicensed men on railroad boats refused to work until they received the eight-hour day. Two days later the Marine Workers' Affiliation, on behalf of all marine employees, presented demands for wage increases and for an eight-hour day. These demands in comparison with wages previously demanded and awarded are shown in the following table:

WAGES DEMANDED BY THE NEW YORK HARBOR EMPLOYEES AND AWARDS MADE BY THE BOARD OF ARBITRATION.

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MONTHLY LABOR REVIEW.

Occupation.	Wages demanded.							Wages awarded.					
	Oct. 24, 1917.		May 24, 1918.		Per cent of increase.	Nov. 9, 1918. <sup>2</sup>		Per cent of increase.	Nov. 16, 1918.		July 12, 1918.		Per cent of increase.
	Monthly wage rate.	Additional for board.	Monthly wage rate.	Additional for board. <sup>1</sup>		Monthly wage rate.	Additional for board. <sup>3</sup>		Monthly wage rate.	Additional for board. <sup>1</sup>	Monthly wage rate.	Additional for board. <sup>3</sup>	
Tugs, steamers, lighters, floats, and other towing vessels.													
Captains:													
Class I.....	\$150.00	\$0.60				\$225.00			\$125.00	\$0.60	\$140.00	\$0.75	11.6
Class II.....	150.00	.60				225.00			135.00	.60	150.00	.75	10.9
Class III.....	150.00	.60				225.00			145.00	.60	160.00	.75	10.2
Mate or pilots, required to navigate.....	130.00	.60				200.00			125.00	.60	140.00	.75	11.6
Mates on transport work.....	100.00	.60				150.00			100.00	.60	115.00	.75	14.0
Mates, not required to navigate.....	100.00	.60				150.00			100.00	.60	115.00	.75	14.0
Engineers:													
Class I.....	140.00	.60				225.00			115.00	.60	130.00	.75	12.5
Class II.....	140.00	.60				225.00			125.00	.60	140.00	.75	11.6
Class III.....	140.00	.60				225.00			135.00	.60	150.00	.75	10.9
Assistant.....	140.00	.60				200.00							
Oilers, licensed.....			\$110.00			150.00							
Oilers, unlicensed.....	65.00	.60	110.00	\$0.80	61.5	145.00	\$1.00	27.7	65.00	.60	80.00	.75	19.2
Firemen, only one employed.....	65.00	.60	110.00	.80	61.5	140.00	1.00	23.9	65.00	.60	80.00	.75	19.2
Firemen, two or more employed.....	60.00	.60	110.00	.80	71.8	135.00	1.00	20.2	60.00	.60	75.00	.75	21.2
Deck hands, first.....	65.00	.60	100.00	.80	49.4	132.50	1.00	27.9	65.00	.60	80.00	.75	19.2
Deck hands, second.....	60.00	.60	95.00	.80	52.6	127.50	1.00	29.0	60.00	.60	75.00	.75	21.2
Cooks, required to handle lines.....	60.00	.60	95.00	.80	52.6	132.50	1.00	33.3					
Cooks, not required to handle lines.....	60.00	.60	95.00	.80	52.6	127.50	1.00	29.0					
Cooks, on boats with single deck hand.....	60.00	.60	95.00	.80	52.6				62.00	.60	77.00	.75	20.7
Cooks, on boats with several deck hands.....	60.00	.60	95.00	.80	52.6				60.00	.60	75.00	.75	21.2
Floarmen on car or cattle floats.....	60.00	.60	95.00	.80	52.6	30.00	1.00	31.5	60.00	.60	75.00	.75	
Shore men:													
Boat dispatchers, railroad.....						200.00	1.00						
Bridge masters, railroad.....						170.00	1.00						
Bridge motormen, railroad.....						165.00	1.00						
Bridgemen.....						150.00	1.00						

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Ferryboats.											
Captains or pilots.....	\$150.00	\$0.60	-----	-----	\$225.00	-----	-----	\$160.00	-----	\$175.00	9.4
Wheelmen.....	72.00	.60	-----	-----	145.00	-----	-----	80.00	-----	95.00	18.8
Engineers.....	140.00	.60	-----	-----	225.00	-----	-----	150.00	-----	165.00	10.0
Oilers, licensed.....	100.00	.60	-----	-----	150.00	-----	-----	85.00	-----	100.00	17.6
Oilers, unlicensed.....	65.00	.60	\$110.00	\$0.80	160.00	-----	19.3	80.00	-----	95.00	18.8
Firemen, only one employed.....	65.00	.60	110.00	.80	61.5	-----	-----	150.00	-----	95.00	18.8
Firemen, two or more employed.....	60.00	.60	110.00	.80	71.8	-----	-----	80.00	-----	95.00	18.8
Deck hands, first.....	65.00	.60	100.00	.80	49.4	-----	-----	8.9	70.00	-----	21.4
Deck hands, second.....	60.00	.60	95.00	.80	52.6	-----	-----	13.4	70.00	-----	21.4
Porters.....					125.00	-----	-----			85.00	
Covered barges and lighters.											
Captains: <sup>4</sup>											
On barges and hand-winch hoists.....	<sup>1</sup> \$4.00		<sup>1</sup> \$4.50	-----	12.5	<sup>1</sup> \$5.50	-----	22.2	\$77.00	<sup>1</sup> \$3.50	18.6
On steam or gasoline hoisters.....				-----	-----		-----	-----		<sup>1</sup> 3.75	15.2
Less than 10-ton capacity.....	<sup>1</sup> 4.00		<sup>1</sup> 4.50	-----	12.5	<sup>1</sup> 6.00	-----	33.3	85.00	<sup>1</sup> 4.00	15.9
10 tons or more capacity.....	<sup>1</sup> 4.00		<sup>1</sup> 4.50	-----	12.5	<sup>1</sup> 6.50	-----	44.4	90.00		
Mates of all above classes.....				-----	-----	<sup>1</sup> 4.00	-----				
Engineers:											
On gasoline hoisters.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 6.00	-----				
On single drum and boiler.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 6.00	-----				
On double drum and boiler.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 6.50	-----	8.5			
On four drums and boiler.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 7.00	-----	16.7			
On coal, sand, and cargo hoisters.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 7.00	-----	16.7			
On clam-shell and orange-peel buckets.....	<sup>1</sup> 5.00		<sup>1</sup> 6.00	-----	20.0	<sup>1</sup> 8.00	-----	33.3			
Less than 15-ton capacity.....				-----	-----		-----		95.00	<sup>1</sup> 4.25	16.7
15 tons and over capacity.....				-----	-----		-----		100.00	<sup>1</sup> 4.50	14.9
Heavy steam hoisters.....				-----	-----		-----		110.00	<sup>1</sup> 5.00	30.4
Coal boats, grain boats, deck scows, dumpers, and canal boats.											
Captains:											
Deck scows.....	\$70.00		\$100.00	-----	42.8	\$125.00	-----	25.0	\$70.00	\$85.00	21.4
Dumpers.....	70.00		100.00	-----	42.8		-----		70.00	85.00	21.4
Canal boats.....				-----	-----	125.00	-----				
Coal boats.....	70.00		100.00	-----	42.8	125.00	-----	25.0	70.00	90.00	28.6
Grain boats.....	70.00		100.00	-----	42.8	125.00	-----	25.0	70.00	90.00	28.6

<sup>1</sup> Per day.<sup>2</sup> Demands for Nov. 9, 1918, are for an 8-hour day.<sup>3</sup> For 6 days per week.<sup>4</sup> Demands for captains were based on following classes: Class I, covered barges and hand-winch hoisters; Class II, steam or gasoline hoisters of less than 15-ton capacity; and Class III, heavy steam hoisters of 15-ton capacity and over.

In the hope of averting what seemed to be a rapidly approaching crisis, the harbor board notified the Railroad Administration of the situation and advised that hearings must be held at once, but that unless the future policy of the Railroad Administration was known, the harbor board could not proceed safely or intelligently to make recommendations in the case of railroad marine employees. Telegraphic reply was received to the effect that the Railroad Administration had decided to adjust the wages of its marine employees through its own agencies. In fact the case of the railroad men on strike was then being heard, and shortly thereafter it was announced that a wage increase and the basic eight-hour day had been granted.

The harbor board was thus faced with the alternative of adopting the settlement made by the railroads or of adding to the confusion by proceeding to make an award applicable only to employees on other than railroad-operated boats. The harbor board, however, announced a hearing for November 15, 1918. Private boat owners now took the position that they would not consent to a reopening of the case until May 31, 1919, the date of expiration of the award, and refused to appear. The railroad representative on the board advised that he had been directed to withdraw from the board. In view of this attitude of private owners and the Railroad Administration the harbor board met and in a lengthy resolution recited the conflict of jurisdiction concluding that—

Whereas the board now has before it demands from harbor employees presented through the Marine Workers' Affiliation of the port of New York and asking that the decision of the board on these demands be made applicable to all harbor employees, and

Whereas in view of the action taken by the Railroad Administration the board is without authority to act for all harbor employees, yet with the interest of the entire port in mind can not take any action not applicable to the entire port, and

Whereas the board feels that the situation has at no time justified a departure from the policy of standardizing wages and working conditions of all harbor marine employees and that such departure has not only created dissension within the ranks of labor and led to competition for labor contrary to governmental policy, but has brought governmental agencies of adjudication into disrepute, destroying their effectiveness, and now bids fair to create an uncontrollable situation, and

Whereas the problems of reconstruction make it immediately imperative that action be taken to protect the marine interests of the port by making effective a policy comprehending all interests, and

Whereas all efforts of the Board of Arbitration in this direction have been set at naught by the unwillingness of the railroads to concede an identity of interests or to consider the general interests of the port, and

Whereas the continuance of this board under the circumstances set forth apparently will not lead to a reestablishment of the principles upon which the board feels the entire marine interests of the port depend, and may conceivably prevent the restoration of such principles by means of other agencies: Therefore be it

*Resolved*, That this board recommend its own dissolution and that concurrently with such dissolution an agency be set up vested with authority to review the entire situation and to make recommendations which when approved in the light of a national

labor policy shall be issued as an award applicable to all harbor marine employees and interests.

In the meantime, however, dissatisfaction on the part of some of the railroad employees with the proposed settlement made for a delay in the issuance of the formal order announcing the terms of the settlement and suggested the possibility of some arrangement whereby further conflict of jurisdiction might be avoided. To this end the Shipping Board called a conference at Washington, November 29, 1918, of representatives of employers and employees and of all Government departments interested in the operation of harbor craft in the port of New York. At this conference boat owners repeated their objection to a reopening of the case but did not refuse absolutely to arbitrate. The Railroad Administration signified its willingness to cooperate, agreed to withhold its decision in their proposed adjustment until the harbor board could make recommendations, and offered to detail a representative to sit with the harbor board in an advisory capacity.

As a result of the conference with the Shipping Board and other interests, the harbor board called a hearing for December 6, 1918. Boat owners appeared by counsel and gave notice that they considered the board no longer existent, it having been created for the period of the war which had terminated with the signing of the armistice; denied the jurisdiction of the board and refused to be bound by any decision it might make. They signified their willingness, however, to permit the board to determine whether there had been an increase in the cost of living and to grant wage increases in accordance therewith. The board refused to be restricted in its determination and proceeded to hold a conference with the Shipping Board and the Railroad Administration for the purpose either of making an award on ex parte testimony or of deciding upon some other course of action. A new agreement was proposed as a compromise, providing for the establishment of a new board of arbitration made up of two representatives each of harbor boat owners and employees and an umpire to be chosen by these four or, in case of failure, to be selected by the National Adjustment Commission of the Shipping Board. It was further provided that if the board thus created did not effect a settlement, the National Adjustment Commission would hear and determine the case. This proposition was accepted by employees but refused by employers who based their refusal on an unwillingness to arbitrate the question of the eight-hour day.

This refusal of employers to accept a new agency of arbitration was followed by the withdrawal of the employer member of the harbor board, so that the board was left in the position that if an award was made it would be without evidence from employers and without



employer representation on the board. In view of this, and faced with the knowledge of an impending strike, the harbor board appeared before the National War Labor Board, stating its inability to act under the circumstances and requesting that body to assume jurisdiction. The War Labor Board called a hearing, citing employers and employees to appear and show cause why they should not proceed under the arbitration agreement. The boat owners stated their position practically as before. The Railroad Administration signified its willingness to cooperate but would not agree in advance to be bound by the decision. The War Labor Board ruled, however, that the agreement was binding on all parties, upheld the jurisdiction of the harbor board, directed that any vacancies on the board should be immediately filled by the appointing powers and that if either employers or employees wished a revision of the award they should seek such revision in accordance with the provisions of the award.

In accordance with this ruling of the War Labor Board the signatories to the agreement or modifications thereof creating the harbor board were requested to fill vacancies on the board. A hearing was announced for December 27, 1918. Neither the Railroad Administration nor boat owners had named representatives on the board in place of those withdrawn, and boat owners now took the position that they would follow the lead of the Railroad Administration and reserve the right to accept or reject any finding that might be made. This position was modified the following day so as to constitute a refusal to arbitrate the eight-hour day or to name an employer member on the board, regardless of what action the Railroad Administration might take.

Under these circumstances the remaining members of the harbor board met and adopted the following resolution:

Whereas, certain signatory parties have refused or failed to reappoint members to fill vacancies on this board in accordance with their agreement and its modifications constituting this board, and it is therefore impossible to reconstitute this board in accordance with the rulings of the National War Labor Board and to properly arbitrate the present demands of the signatory employees; it is

*Resolved*, That this board declines to act in this case and that the demands presented to it by the employees be referred to the National War Labor Board and recommends that that board hear these demands.

Representatives of employees sent a telegraphic appeal to the National War Labor Board stating that the harbor board had refused to act and requesting that the War Labor Board assume jurisdiction. The Secretary of Labor and the Shipping Board joined in the requests thus submitted and declared a grave emergency to exist. A hearing was called by the War Labor Board, January 7, 1919. Boat owners and the Railroad Administration refused to accept the jurisdiction of the board or to agree in advance to be bound

by its findings. Boat owners, however, proposed a new board of arbitration made up of three representatives each of employers and employees and an impartial chairman. This board should have power to arbitrate wages. In the matter of hours and conditions of employment they proposed a committee of 24 members; each side to choose six representatives of employees and six representatives of employers. This committee should make a thorough investigation for a period of not less than 30 days and recommend by majority vote to the arbitration board, which board had the power to accept or to reject. After a brief public hearing, the board went into executive session with representatives of employers and employees. The sessions were continued the following day but no agreement was reached. Employees refused the kind of arbitration proposed by employers, objecting particularly to the stipulation that the investigation into hours and conditions of employment should extend over a period of 30 days or more. When it became apparent that the deadlock could not be broken either by creating a local agency or by securing a submission from employers, the War Labor Board announced its inability to act in the following decision:

The National War Labor Board finds itself unable to secure a settlement of the controversy with reference to the New York Harbor situation, for the following reasons:

1. Private boat owners and the Railroad Administration failed to comply with the order of the board of December 21, 1918, to fill the vacancies existing on the New York Harbor Wage Adjustment Board.

2. The private boat owners and the Railroad Administration refused to submit the case to the National War Labor Board and to agree to be bound by its decision.

3. The private boat owners refused to submit the question of an eight-hour day to any other proposed form of arbitration, except after an investigation for a period of not less than 30 days by a specially created conference committee supplementary to the Arbitration Board.

Under the principles and policies of the National War Labor Board, we can not proceed further and give assurance of rendering a definite and binding decision, except in face of joint submission.

This case, which was instituted on November 8, 1918, by the employees, has already been subjected to long delay, and we feel that it would not be just to the parties to the controversy further to prolong consideration by this board.

We further take this means of notifying the parties to the controversy—the employees, the private boat owners, and the Railroad Administration—and the various governmental departments at whose instance we took up this case, viz, the Department of Labor, the Shipping Board, and the War and Navy Departments, that we have been unable to effect a settlement of the case, either by mediation or conciliation.

In making this declaration, the National War Labor Board earnestly appeals to the parties to this controversy, the employers and employees in New York Harbor, to immediately organize a local board of arbitration and conciliation for the adjustment of all controversies.

This decision was followed by a public statement issued by the labor section of the War Labor Board exonerating employees if a strike should occur and placing the onus on employers, public and pri-

vate, for violating their agreement and refusing to submit to the War Labor Board. Representatives of employees arranged immediately for a meeting of the strike committee and announced a strike for the morning of January 9. The strike was called with the result, as stated previously, that the port was completely tied up, the President was appealed to and only upon his request that the War Labor Board proceed to make a finding, with the intimation that the finding would be backed up by all the power of the Government, were the employees persuaded to return to work.

Although not specifically directing governmental agencies to accept the jurisdiction of the National War Labor Board, the request of the President could not be interpreted in any other way and representatives of the Railroad Administration, the Shipping Board, and the Departments of War and Navy immediately requested the War Labor Board to act and agreed to accept its findings. The board announced hearings beginning January 13, 1919. Boat owners refused again to submit to the War Labor Board, and took exception to the personnel of the labor section of the board, declaring that a scurrilous attack had been made upon owners in the public statement issued by the labor section. The objection to the personnel of the board was overruled and, after an executive session, the board announced that it would hear the case on the joint submission of public owners and their employees, making a decision with respect to the wages and hours of such employees and that in the case of private boat owners and their employees which did not come to the board on joint submission, a recommendation would be made.

Under these circumstances it is difficult to predict what action may be necessary to prevent interruption of harbor traffic. It is scarcely conceivable that private employers will continue to refuse to accept the instrumentality set up by the President or to ignore its findings. Certainly the Government can not permit its interests to be jeopardized or the safety and well-being of millions of people to be threatened by the recurrence of a strike in the port. Whether or not the employees are justified in their demands, they have for the time being placed themselves in an impregnable position by agreeing to accept the decision of the War Labor Board and in agreeing previously to continue under the harbor board or to submit all issues to any other impartial board.

Quite apart from the interest of the public in the present emergency is the effect of the settlement upon the future relations of harbor boat owners and employees. Apparently Government intervention in the port, although preventing any cessation of work during actual hostilities, has not done away with prewar methods of settling labor controversies. The nearest approach to peaceful self-adjustment



were the several proposals to create a local agency upon which the Government was not represented. Had the proposals as finally submitted to this effect been made when the question of reopening the award first came up, they would doubtless have been accepted, but repeated jurisdictional "squabbles" gave rise to unrest and lent little encouragement to employers and employees to get together. The attitude of employers in refusing to arbitrate and the tardiness of their proposal to create a local board strengthened the conviction of employees that any settlement suggested by employers must be viewed with suspicion. This feeling was aggravated in large measure a few weeks before the strike by employers advertising for strike-breakers and offering positions to returning soldiers and sailors. The feeling was further intensified during the strike through circulars issued by employers discrediting the leaders of the unions and proposing a form of welfare association.

#### A NEW DECLARATION OF INDEPENDENCE.

We, the undersigned, hereby constitute ourselves and our successors a voluntary association to be known as

##### NEW YORK HARBOR CONCILIATION BOARD.

First. The purposes of the association are to adjust wages and working conditions in the port of New York, to hear and redress grievances of all kinds between employer and employee, to recognize and reward acts of heroism and self-sacrifice by marine workers, to restore and maintain the former authority and prestige of the captains of floating equipment, to encourage employers and employees to devise and put into effect suitable systems for the payment of sick benefits, old-age pensions, as well as for the sharing of profits and for the promotion of thrift, to provide an open forum for the discussion of all questions relating to the commerce and welfare of the port of New York, and generally to create and uphold a spirit of understanding and cooperation between the members.

Second. The duration of the association shall be perpetual.

Third. The association shall be governed in all things by a board of 20 members, to be elected annually, 10 of whom shall be chosen by employers and 10 by employees, and like equal representation shall be had upon every committee elected or appointed. The undersigned shall constitute the board until the selection of their successors.

Fourth. All owners and operators of boats and all employees thereon, and all other persons interested in the commerce of the port of New York, shall be eligible to membership.

Fifth. An employee member shall pay dues of \$1 per annum, and an employer member shall pay annual dues equal to \$1 for each person in his employ; provided, that employer members who do not own or operate marine harbor equipment shall pay but one fee of \$5 per annum.

Sixth. The board shall have full power to adopt, enforce, and modify wage scales and working conditions and to penalize any failure to observe the same, and to provide for the arbitration of differences between members.

Seventh. The board shall have power to elect and remove a president, vice president, secretary, and treasurer. It is also empowered to adopt and amend by-laws

and to amend this constitution by the affirmative votes of seven board members representing employers and seven representing employees.

In witness whereof, we have hereunto set our hands this 9th day of January, 1919.

EMPLOYERS.  
(10 signatures.)  
EMPLOYEES.  
(10 signatures.)

The letter accompanying the above plan stated in part that—

We suggest this agency for the adjustment of all present and future differences. We shall be glad to have you join and to cooperate with us in an effort to make the port of New York a model for other ports to follow. We do not ask you to quit your unions. Under the plan we now propose you will be free, as you always have been, to carry a union card or to remain outside.

For your information we want to tell you that this "fifty-fifty" proposition is the fairest one that we ever can or ever will make. You should know also that the so-called leaders of your unions have refused to consider it. We want you to know also that they have refused to arbitrate our differences before any Federal judge or any person appointed by such judge, or before any military officer who has fought for us in the war with Germany. We are done with those leaders for good. We shall be glad to negotiate again with your unions as soon as they select new representatives who really speak for the enlightened sentiment of the members, but not before.

Thus in respect to the willingness of employers and employees to compose their own differences through collective bargaining, the situation in the port is very nearly the same as when the Shipping Board first intervened and secured an agreement to submit to a board of arbitration. That board, for all practical purposes, is now out of existence. Employees are more thoroughly organized, however, than when the case first went to arbitration and they realize their strength. If the strength is used wisely it will be directed toward providing adequate means of self-adjustment. Until this can be accomplished there seems to be no other way but for the Government to continue to intervene.

The foregoing brief history of the labor situation in New York Harbor is a forcible illustration of the lack of a uniform policy in dealing with the question of wages and working conditions. This absence of a definite labor program stands out most conspicuously in a retrospective view of our efforts to secure maximum production of war materials. It still gravely confronts us in our readjustment problems. At the outset of our entry into the war we had two Federal agencies of adjustment: The railroad board of mediation and the Division of Conciliation of the Department of Labor. Realizing the imperative need of uninterrupted production, numerous boards and commissions were set up. Each proceeded in its own way and according to its own notions. Most of these agencies were created, in effect at least, for the period of the war. Had the war continued another six months or a year it is possible that a system

of coordination could have been worked out. An indication of this is found in the conference committee of national adjustment agencies which theoretically was constituted to review wage awards but which apparently did not have the authority to prevent divided jurisdiction and confusion of wage rates in the port of New York.

The most widely heralded of adjustment agencies was the National War Labor Board, proposed by a joint conference of leading representatives of capital and labor and created by proclamation of the President. Its jurisdiction, as the name implies, was limited to war industries, though in practice jurisdiction over other industries was taken by joint consent of employers and employees. An award could be made only by unanimous vote. Failing in this, the points at issue went to an umpire. No provision was made for the enforcement of awards of the board, though the manner in which the board was constituted as well as its representative character placed squarely behind the board the force of public opinion. Moreover, the large war powers of the President gave whatever of force was necessary apart from moral suasion or public opinion.

With the cessation of hostilities came a sudden relief from the tension of the preceding months. Although technically the war had not come to an end, no one expected that hostilities would be resumed. The compelling realization of a war emergency that had previously forced all other considerations into the background was now lacking. Thus before employees and employers fully appreciated the stabilizing influence of an adjustment tribunal like the War Labor Board, they were faced with the knowledge that its continuation was but a matter of a few months. The board undoubtedly considered this and that from thenceforth its usefulness would be predicated in even larger measure upon the willingness of employers and employees to accept its jurisdiction. The joint chairmen recommended to the President the dissolution of the board, stating that since it had been created to secure maximum production of war materials, and that need having been met, the board should not be continued. The Secretary of Labor, however, requested that the board continue to function in order to assist in the problem of readjustment. The board acceded to this request, but adopted as a rule of procedure that it would act only in cases where joint consent was secured and referred several hundred pending cases to the Department of Labor to be handled by the Division of Conciliation. All rules of procedure, however, were to be set aside upon the direct appeal of the Secretary of Labor or the heads of other governmental departments.

When the War Labor Board stepped into the New York Harbor situation just prior to the strike, it did so by the direct request of the

Secretary of Labor and the Shipping Board. The board was therefore not estopped from action by the technicality of failing to secure joint consent. That technicality had been set aside by the declaration of the Secretary of Labor that an emergency had arisen with which existing agencies were unable to cope. The board did not act, because it felt that a final decision could not be promised and that any prolonged delay would simply precipitate a strike. A final decision was deemed doubtful for two reasons: One of the principles governing the action of the board provides that decisions of the board must be unanimous. Failing in this, the case goes to an umpire. The main issue in the New York Harbor case was the reduction in hours from twelve to eight. The question of the eight-hour day had made for a difference of opinion in previous cases and had made it necessary to refer the case to an umpire. In order to refer the case to an umpire, however, the board must sit as an arbitration board and not as a board of finding. Without joint submission the board regarded itself as simply a board of finding unable to make a finding except by unanimous vote and unable to call in an umpire because it was not an arbitration board. The request of the President virtually directs the board to make a finding in the New York Harbor case and presumably might set aside any rules of procedure that stood in the way of such finding. As stated previously, however, the board will arbitrate the question as submitted by joint consent of public owners and their employees and thus if a unanimous decision is not reached can refer the case to an umpire.

The President further requests that the board "use all means within its power to stabilize conditions and to prevent industrial dislocation and warfare" during "the present period of industrial transition arising from the war." This would seem to indicate that the period during which the board may conceivably continue to function does not necessarily end with the declaration of peace. There should be no further delay, however, in determining how long the board is to continue to function and in establishing by legislative action an agency to replace it at the proper time. There are many features in the constitution and procedure of the National War Labor Board that may well be incorporated in a permanent National Adjustment Board. Such a board should be made up of say three representatives each of employers and employees. The members should be selected, as the need arises, from a larger number chosen to represent the different industries, so that it will be possible to have on the board at least one representative each of employers and employees with a practical knowledge of the particular industry in question. The board should have full power to investigate and to make findings. It does not appear from the experience of other

countries that it is feasible to attempt to deny the right to strike or lock out or to impose penalties for such action.

Such a plan does not contemplate a lessening of the mediation and conciliation activities of governmental agencies or a substitution of arbitrary authority for the trade agreement. On the contrary, peaceful self-adjustment should receive first consideration. Failing in this, adjustment should be sought by mediation and conciliation. It seems desirable, however, that the work of mediating and conciliating should be done by an agency other than the one with authority to make an arbitrary investigation and to hand down findings. Representatives should be stationed at least in the large industrial centers and charged with the responsibility of keeping in such close touch with the situation that signs of industrial unrest can be detected and the cause sought before the danger of a strike or lockout arises. These representatives may quite properly act as mediators and conciliators. If adjustment by these means seems impossible, the National Adjustment Board will be readily available as a tribunal in which both sides have equal representation and before which both may come if they choose, but which in any event has the power on its own initiative to determine the facts, to bring them to the attention of the public, and to make findings. Before the pressure of public opinion, enlightened by the findings of such a tribunal, neither side would be able long to stand opposed.



## NEXT STEPS IN SOCIAL INSURANCE IN THE UNITED STATES.

BY SAMUEL M'CUNE LINDSAY, PRESIDENT, AMERICAN ASSOCIATION FOR LABOR LEGISLATION; PROFESSOR OF SOCIAL LEGISLATION IN COLUMBIA UNIVERSITY, NEW YORK CITY.

[Address delivered before the American Association for Labor Legislation, Richmond, Va., Dec. 27, 1918.]

This is not a bad time but indeed a very good time for members of the American Association for Labor Legislation and their friends, who have been interested during the past 12 years in maintaining the American branch or section of the International Association for Labor Legislation, to reexamine and restate their aims. These were stated briefly in the constitution adopted February 15, 1906, at the time the association was organized, to be: (1) To promote uniformity of labor legislation in the United States, and (2) to encourage the study of labor conditions in the United States with a view to promoting desirable labor legislation.

It would be interesting also to review the various activities of the association during the past 12 years, which have been fruitful in important legislative results in many directions. I shall, however, address myself to neither of these attractive and desirable tasks on this occasion, though perhaps, by implication, to both of them, in a brief consideration of some of the problems of social insurance in the United States.

Social insurance is fundamental and vital to the aims and even to the very existence of this association and of the larger body of which it is a part—the International Association for Labor Legislation. Social insurance also seems to me to lie at the heart of the most promising solution of the great task of social and industrial reorganization and reconstruction which the marvelous changes throughout the world during the recent months and years of unprecedented upheaval, destruction, and ravages of war have forced upon us. If the fruits of victory are to be worth what they have cost, they will constitute, as the thinking men of the entire civilized world believe and hope to make them, a new basis of international or world security for the democratic and self-governing institutions of all peoples. Within national and local units of government to what chapter of experience in social organization shall we turn if not to social insurance to bring about a corresponding sense of security for the individual in his economic and industrial life?

It may be well at the outset to make it clear that in speaking of social insurance we are not dealing with a new or untried or vague and visionary scheme of social reform but rather with a very simple, practical, definite, and well-understood principle of business and social organization capable of varied application and experimental only to the extent and degree of variation in its application.

Americans have had an extensive and varied experience with private insurance of all kinds, and the business and national instincts of the American people have accustomed them to make the widest possible use of the principle of insurance in all sorts of business affairs. Social insurance simply means the application of the same principles to matters in which there is an insurable interest on the part of the community or society or the State. The essence of the principle of insurance consists in the pooling of the risks and the resources of a group of persons, whether that group be large or small, and the spreading of the costs of carrying the risks over a certain period of time and over as many persons as may be properly called upon to bear a share of the cost. That is another way of stating the general principle of mutuality. In social insurance the application of this principle of mutuality to matters in which the public has an insurable interest means that the direct or incidental benefits to the public are such as to justify the Government: (1) In making use of its power to compel persons to insure against specific risks, and (2) in paying, when necessary, part of the cost of such insurance or its expenses of administration and assessing through taxation part of the cost on all of the people. Dr. Gurdon R. Miller, in a very excellent, brief, and cogent treatise on social insurance in the United States, recently published, estimates the benefits to society from social insurance largely in terms of its incidental or inherent preventive value, such as the reduction in the number of industrial accidents through greater precautions for "safety first" being taken by employers when compelled to compensate for such accidents and to insure such compensation, or the better use and development of public health agencies both by employers and workers if they should be compelled to pay the costs of insurance benefits, which would vary with the amount of sickness or lack of attention to health on the part of individual workers. Other writers have usually followed the same course. It is natural that those who argue for health or sickness insurance, old-age and invalidity insurance, accident insurance, or unemployment insurance should think of society's insurable interest chiefly in terms that would secure the use of governmental compulsion in order to get maximum results in dealing with each specific problem and to put the cost upon the industry or group of persons concerned. I have no fault to find theoretically with this attitude by which social insurance has been developed to a very considerable extent in the leading countries of Europe. Since 1881, when Germany did the pioneer work, and since 1911, when Great Britain took the leadership through its old-age pension and health and unemployment insurance legislation, it is questionable whether that view of social insurance goes far enough or coincides sufficiently with the facts in the United States at the present time.

A little over a year ago we should have said that social insurance was one of the bulwarks of the industrial security and prosperity of the peoples of Europe which had been fostered by their Governments through a feeble but growing appreciation of a general public insurable interest, and something that had been systematically neglected by the Governments of the great American industrial States and by the Federal Government of the United States. Indeed, Mr. William F. Willoughby, in his analysis of the problem of social insurance at the First American Conference on Social Insurance, held in Chicago June 6 and 7, 1913, spoke of the First International Congress on Accidents to Labor and Workmen's Insurance, held in Paris in 1889, and said: "We in the United States now stand practically where the States of Europe stood 25 years ago when that congress was organized." It is true that in the 5 years since 1913 great progress has been made in the development of workmen's compensation legislation, and now such laws are in force in 38 States in addition to Porto Rico and the two Territories of Alaska and Hawaii, and there is a Federal law applicable to over a million civil employees of the Federal Government. This progress was the result of investigation and study on the part of 27 State commissions appointed during the 5 years preceding 1913. Probably two-thirds of the industrial workers of the Nation are now protected by this legislation and exactly half of the States that have adopted it have also adopted the commission form of administration, which is essential in securing the fullest benefits to the workers and to society.

It is also true that during these years very considerable progress has been made along the same lines through the appointment of State commissions to study ways and means of establishing health insurance. When two States, as widely separated geographically as well as in the character of their problems as Massachusetts and California, have State commissions reporting favorably upon the inauguration of health insurance and when other State legislatures are considering well-formulated plans for legislation on this subject, it will not be long before health insurance will be an established fact and its benefits made applicable to the great body of American workmen. This will come about as the direct result of a new concept of Governmental duty and opportunity growing out of our recent experiences in preparing the Nation for the part which it took in the war and as a result of the great military and industrial victory which has been won. A generation of ordinary industrial experience could not have brought home to the American people any realization of the insurable interest which the people of any State or of the Nation have in the security of their industrial workers, in their health and the prolongation of their lives, in the regularization of industry and pro-



vision for old age, invalidity, and unemployment, comparable to the lessons taught by the War Risk Insurance Act under which 4,000,000 American soldiers and sailors were insured in an amount aggregating over \$38,000,000,000, averaging approximately \$9,000 per individual, against death and total and permanent disability. It is true that this insurance is not compulsory and that all the insured pay the peace-rate cost, which is from two-thirds to three-quarters of the average commercial rate for similar term insurance, the Government having no overhead loading of its rate for commissions on getting the business, advertising, etc. The Government contributes the cost of administration, and the insurance on these attractive terms and under the extraordinary need for protection in military service has sold itself. This insurance has valuable conversion rights, which means that the Government will restore a man's insurability if that should be lost by reason of his military service. He may carry the term war risk insurance at the present rate for a period of five years after the termination of the war and may then convert his insurance without medical examination into any of the ordinary forms of insurance, which will be Government insurance at established Government rates, which again should be much lower than the corresponding commercial rates. The Government carries the full burden of the excessive mortality due to the war service to which it has called these men.

It is a remarkable fact that through the operation of this law the Government in a single year added to the outstanding life insurance of the world more life insurance than was written by all the private life insurance companies of the United States in that year, and thereby the Government of the United States has become the largest single life-insurance organization, as well as the safest and cheapest, in the world. The insurable interest of the Nation, for which the Nation pays the cost of the war risk and which constitutes the largest and most notable application of the principles of social insurance in the history of the world, consists in the protection, additional to be sure to that of compensation for injury or death incurred in the line of duty, which has been given to the families and dependents of its armed forces. This single experiment, successful beyond the fondest hopes of its proponents, constitutes so striking a forward step in social insurance that it may almost be said to atone for our previous backwardness and to place the United States abreast of European countries in the development and use of this modern method of social organization. Those who believe in social insurance will do well to see that our next step shall be to hold this gain. We should see to it that every legitimate pressure is brought to bear upon the Government to make it easy and possible for every discharged and demobilized soldier and sailor to hold every dollar of this insurance until it

must be converted and then to convert it on the most liberal terms possible into permanent protection for themselves and their families.

The value of this protection to the community ought to be widely appreciated from the recent experience of the families and dependents of the 18,000 insured soldiers and sailors who lost their lives in the recent influenza epidemic alone, and for whom the Government will now distribute in monthly payments extending over the next 20 years the enormous sum of \$175,000,000.

The stabilization of industry and the development of an efficient public health service in every State and nation are problems now confronting practically every country in the world. They confront us here in America as they never have before. Every agency and instrumentality of government from the Peace Conference at Versailles to the local councils of national defense are wrestling with some phase of the question of how to define and express community concern and responsibility for the unavoidable risks of sickness and disability through accident, invalidity, old age, or unemployment. This may be summed up in the age-old question of how we are to bear one another's burdens. There is only one simple, direct, and practical way in which these problems can be met. Some recent silly twaddle about the failure of social insurance in Germany on the part of those whose patriotism needed advertising during the war, and on the part of misguided defenders and apologists for the crimes, errors, and mistakes of private insurance companies, has served to confuse the public mind.

The average level-headed American business man, when he recovers his mental equilibrium after the startling experiences of recent months and becomes somewhat adjusted to the new conditions under which we must now work, will have no doubts that the sort of safe democracy he wants in the Government under which he lives must consist in the full exercise of governmental powers of compulsion and the resources of Government to assure that every contract of employment, whether under the Government itself in its military or civil service or under private employment, shall contain ample insured provision against loss through sickness, invalidity, old age, and industrial displacement or fluctuation in employment. Whether this is done through a rapid development of Government operated and controlled insurance or through better supervised, less extravagant, and safer private insurance, or through a combination of both will make little difference. The experience of the first year of war risk insurance or Government insurance for soldiers and sailors has demonstrated that the legitimate interests of private life insurance companies have been strengthened and fostered by this experiment in Government insurance. Some of the insurance companies doubt-

less feared that the contrary would be the case and many of them were prepared from patriotic motives to sacrifice their own business interests, just as other lines of business did, to help win the war. The leaders of private life insurance business throughout the country cooperated very generally with the Government in encouraging the military and naval forces to take this war risk insurance to the fullest extent. But it is significant that most of them were apprehensive of expected resultant losses to private insurance business and fearful of any extension of such Government insurance beyond the limits set in the original War Risk Insurance Act. There is now every reason to believe that the 4,000,000 men insured under this act have given an enormous impetus to life insurance throughout the country, the incidental effect of which will more than offset any loss which the private companies may have suffered by reason of the operation of this act.

I have no doubt that if the Government were to enter upon the larger field of social insurance along the lines that I have just indicated, and make provision for the extension of something similar to the war risk insurance to all civilian employees of the Government, and also make provision for sickness, old-age, and possibly unemployment insurance for industrial workers, there would still be room for further development of private insurance either in competition with the Government or along lines that would supplement the limited field which the Government would occupy for a long time to come. The insurance companies might be admitted to a participation with the Government in the new forms of social insurance, but judging from the general experience of the past and the attitude of some private insurance companies and their authorized spokesmen such participation or partnership in Government social insurance would have to be granted in somewhat the same way that the German Empire may or may not be admitted to a place in the family of nations; that is, when and only when they give evidence that they realize the wastefulness and social iniquity of the methods that they have hitherto pursued, not in all cases, to be sure, but in the majority of cases having to do with this type of insurance, in getting their business and in political and legislative activities contrary to public interests, and when they are willing to abandon those methods and give evidence that they have abandoned them finally and without reservation.

It will be anything but satisfactory evidence of such change of heart if they covertly, as some of them are now doing, oppose the next practical steps in social insurance, which are: (1) The provision for the most liberal conversion of war risk insurance for soldiers and sailors on terms equitable to the public interest and their ability to

carry the maximum of such insurance as permanent protection against death and total and permanent disability; (2) the extension of similar insurance protection to all civilian employees of the Government; (3) the development of health insurance for all governmental employees and its extension as rapidly as possible to all citizens as an essential element in the development of a public health service; (4) the establishment of State-administered mutual health insurance and insurance against accident, invalidity, and old age, as well as death, for all industrial workers, compulsory for those whose incomes will not permit of their being relied upon to make equivalent provision for themselves and their families on a voluntary basis.

These steps must be taken regardless of whether they favor or retard the private fortunes of any single industry in the land, because they concern too vitally the private fortune, be it large or small, of every citizen, and the general welfare of the body politic. I congratulate the members of the American Association for Labor Legislation and those who have cooperated with it and have been interested in its work in recent years upon the new tasks that confront you and the new opportunities that await you in the new political and industrial era upon which we are just entering.

In the effort to interpret the significance of some of the recent experience of the Bureau of War Risk Insurance in its administration of the War Risk Insurance Act I have ventured to suggest some necessary implications in matters of public policy which seem to me to follow logically from the various acts of Congress and administrative decisions under those acts which have a bearing upon unsettled questions of public policy. Of course, any opinion so expressed is purely personal and has no official significance whatever. It is interesting, however, to note that the late Secretary of the Treasury, Mr. William G. McAdoo, who was the first statesman in America to grasp the significance of social insurance in the possibilities of its application to our military problem in safeguarding the morale of the Army and Navy and their dependents at home, is quoted as saying to the California Social Insurance Commission on July 17, 1918:

In my opinion there is no doubt about the principle of social insurance. We have substituted the justice of insurance for the charity of pensions in the Army and we shall undoubtedly come to a consideration of the whole field of social problems to which the principle of insurance can be applied. Insurance against sickness, old age, and unemployment, as they have it in England and other European countries, may be the next social step for the United States.

## NEED FOR SYSTEMATIC DEVELOPMENT OF SOCIAL STATISTICS.

BY WESLEY C. MITCHELL, PRESIDENT AMERICAN STATISTICAL ASSOCIATION.

[Address delivered before the American Statistical Association, Richmond, Va., Dec. 28, 1918.]

The war revealed with startling suddenness the defects of the Federal machinery for collecting statistics; for war imposes a strain upon statistical offices quite as much as upon steel mills, or shipyards. As Prof. Young said in his presidential address last year, "War has come to be a conflict of directed masses—of aggregates. Men, money, munitions, food, railways, shipping, raw materials, and manufactured products in great variety are impressed into the service of the Nation. The problems of the effective control and use for war purposes of these varied national resources is intimately dependent upon a knowledge of their quantities; that is, upon statistics. \* \* \* Just as this war is our largest national undertaking, so its statistical demands constitute, in the aggregate, the largest statistical problem with which we have had to deal."

We were not prepared to cope with this problem. It is not to be expected, of course, that the statistical output of peaceful years will include all the data required for waging war. But it is to be expected that a governmental organization for gathering statistics will grasp a new statistical problem promptly and prepare plans for treating that problem with vigor. This test our Federal bureaus failed to meet.

The fault was emphatically a fault of organization rather than of individual officials. Whatever charges of incapacity are made against the officials themselves properly should be made against the system under which Federal statisticians are chosen and rewarded. For they are not chosen with an eye single to technical skill and administrative capacity; they are not paid salaries sufficient to attract and retain men of uncommon ability and ambition; the inadequate salaries are not compensated by public recognition of efficient service. We had indeed many Federal statisticians better than our treatment deserved—men who served the country with zeal and intelligence. But, scattered through numerous small bureaus, prescribed a set routine of departmental duties, granted scanty appropriations, these men had little chance to consider the vast new



problems of the war. They certainly did not, perhaps they could not, come forward with an efficient war program.

For this shortcoming of our statistical organization we paid a heavy penalty. The time we spent in framing our war organization and getting it started might have been substantially shortened had anybody in Washington been able to put before the responsible authorities promptly the data they needed concerning men and commodities, ships, and factories.

What did happen made an admirable exhibition of national energy and patriotism, but not a good exhibition of national intelligence. The war boards which the Government set up to supplement the regular departments faced stupendous tasks. They were led and manned for the most part by men inexperienced in public administration, and unacquainted with the duties and resources of the Federal departments. While these men were in the throes of laying their plans and forming their staffs they had also to find out that they needed statistics, what statistics they needed, and how to get them. Although the Federal Government entered the war with 20 or more statistical agencies, the Council of National Defense, the Food Administration, the Fuel Administration, the Shipping Board, the War Trade Board, the Railway Administration, and the War Industries Board, sooner or later set up each a new and independent statistical agency to meet its special needs. The War Department and the Navy Department followed suit. And these agencies, like the war boards which created them, had to be manned with people inexperienced in Government work and unfamiliar with Washington.

Although I was one of the raw recruits pressed into emergency work for the Government, I can not forbear speaking of the fine qualities which the new statistical staffs showed. Each group studied the particular needs of the board which it served, and threw itself ardently into the task of collecting data.

Yet the statistical work of the war boards as a whole showed precisely the same defect in organization as the work of the old statistical bureaus, and showed that fault in an aggravated degree. Each new agency worked by itself for a separate board. Hence there was much duplication of effort, and at the same time many important fields remained unworked; the results reached by different agencies could not be readily compared or combined; and the cost was needlessly great. Further, the energy of the new statistical agencies and the haste in which they worked magnified a minor fault of the old system to large proportions. These new agencies wanted to get their fundamental data from the original sources; so they sent

out questionnaires to business men in a veritable flood. Many manufacturing plants got elaborate papers which they were asked to fill out and return by the next mail in tens and in dozens. Frequently, different questionnaires covered nearly the same ground, and usually they required not a little investigation within the plant to collect the data asked for. Considerable expense was incurred and serious irritation was caused throughout the country by this obvious failure of organization in Washington.

This questionnaire evil brought back a flood of complaints, echoes of which reached the responsible heads of the war boards. The efficiency of economic mobilization seemed threatened; that was a more serious matter than the waste of public funds. The men who were most keenly aware of the lack of coordination in statistical work now had a strong talking point. Steps were presently taken to remedy a fault which had been patent for a generation or more on a peace basis. The head of the Division of Planning and Statistics of the Shipping Board was put in charge of the Bureau of Research of the War Trade Board and then of the Division of Planning and Statistics of the War Industries Board. Thus three of the new statistical agencies were brought under a single direction. Later the same man became chairman of the statistical committee of the Department of Labor, and finally he was authorized to form a Central Bureau of Planning and Statistics. The Central Bureau set up a clearing house of statistical activities, appointed contact men to keep in touch with the statistical work of all the war boards and certain of the old departments, and began to supervise the issuing of questionnaires. When the armistice was signed we were in a fair way to develop for the first time a systematic organization of Federal statistics.

For the first few weeks after the fighting stopped it seemed as if what had been gained in statistical organization might be lost almost at once. The rapid demobilization of the war boards threatened to sweep with it their statistical bureaus, or to scatter the new statistical bureaus among the old departments and leave us again in statistical confusion—making figures in abundance but having no general statistical plan. But at a critical moment President Wilson approved a plan by which the Central Bureau of Planning and Statistics was made the single statistical agency to serve the American conferees at the peace table. Thus, the Central Bureau was granted a reprieve of some months. It still remains to be seen whether this bureau or some successor serving the same centralizing functions will be made permanent.

In speaking next of our hopes for the future, I am speaking merely as one member of the American Statistical Association. Yet I

believe that most members of our association believe that the social sciences in general and social statistics in particular have a great service to render to government and through government to mankind.

The episode in statistical organization which I have sketched, the effect of the war upon our attitude toward the use of facts for the guidance of policy, links the present stage of civilization with man's savage past. Anthropologists have come to recognize that catastrophes have played a leading rôle in advancing culture. The savage and the barbarian are such conservative creatures that nothing short of a catastrophe can shake them out of their settled habits, make them critical of old taboos, drive them to use their intelligence freely. In physical science and in industrial technique, it is true, we have emancipated ourselves largely from the savage dependence upon catastrophes for progress. For in these fields of activity we have developed a habit of criticizing old formulations, of testing what our fathers accepted, of experimenting. We keep discarding the good for the better, even when not under pressure. The result is a fairly steady rate of advance—advance so regular that we count upon it in laying plans for the future. To-day we are sure that 10 years hence our present scientific ideas and our present industrial machinery will be antiquated in great part. In science and in industry we are radicals—radicals relying on a tested method. But in matters of social organization we retain a large part of the conservatism characteristic of the savage mind. A great catastrophe may force us for a little while to take the problems of social mobilization seriously. While under stress we make rapid progress. But when the stress is past we relapse gratefully into our comfortable faith in the thinking that has been done for us by our fathers.

I know that there are ardent folk who will challenge these contentions, at least for the present. They trust that the outburst of patriotic fervor brought by the war will carry us triumphantly forward for a generation. They count on the generous self-sacrifice which all classes have shown, the fine discipline that our soldiers and war workers have maintained, to solve the problems of peace as they solved the problem of war. Certainly we shall never be again precisely what we were before the war. But just as certainly we shall not remain what we have been during the war. We are all subject to emotional reactions, and, as John Dewey has pointed out, the state of mind produced by the return of peace differs from that produced by the outbreak of war just as widely as peace itself differs from war. No; we can not depend on any carry-over of "war psychology" to organize democracy in peace.

The "social reformer" we have always with us, it is true. Or rather most of us are "social reformers" of some kind. And we all

admire the qualities that go to make the leaders in social reform—warm sympathy for the oppressed, courage to face ridicule, flaming zeal in the face of indifference, tact and energy in conducting crusades. But an indefinite succession of campaigns to secure this, that, and the other specific reform is what we have been having for a long, long time. Many of the reforms on which the hearts of our grandfathers, our fathers, and our youthful selves have been set have been achieved. Yet the story of the past in matters of social organization is not a story that we should like to have continued for a thousand and one years. Reform by agitation or class struggle is a jerky way of moving forward, uncomfortable, and wasteful of energy. Are we not intelligent enough to devise a steadier and more certain method of progress?

Most certainly we could not keep social organization what it is even if we wanted to. We are not emerging from the hazards of war into a safe world. On the contrary, the world is a very dangerous place for a society framed as ours is, and I for one am glad of it. The dangers are increased by our very progress in industry and in democracy. Not long ago an English physicist reemphasized the fact that modern Christendom is using up at an ever-increasing pace the energy stored during long ages in the coal fields, and pictured the doubtful fate of human kind as hanging on the race between science and the atom. Has not the time come to apply our intelligence to taking stock of the resources that the earth still holds and to developing methods of utilization that will protect our future? As for democratic progress, we know that men who can read and vote make restless citizens if their work is not interesting to them and their rewards do not satisfy their sense of justice. And such is the present state of affairs with millions of aggressive Americans. They can be counted upon to change things by turmoil if things are not changed by method.

Taking us all together as one people in a group of mighty peoples, our first and foremost concern is to develop some way of carrying on the infinitely complicated processes of modern industry and interchange day by day, despite all tedium and fatigue, and yet keeping ourselves interested in our work and contented with the division of the product. That is a task of supreme difficulty—a task that calls for intelligent experimenting and detailed planning rather than for agitation or class struggle. What is lacking to achieve that end, indeed, is not so much good will as it is knowledge—above all, knowledge of human behavior.

Our best hope for the future lies in the extension to social organization of the methods which we already employ in our most progressive fields of effort. In science and in industry, I have said, we do not

wait for catastrophes to force new ways upon us. We do not rely upon the propelling power of great emotion. We rely, and with success, upon quantitative analysis to point the way; and we advance because we are constantly improving and applying such analysis.

While I think that the development of social sciences offers more hope for solving our social problems than any other line of endeavor, I do not claim that these sciences in their present state are very serviceable. They are immature, speculative, filled with controversies.

The social sciences, however, cover an immense field, and it is not probable that we shall encounter failure or success in all its parts. The parts where effort seems most promising just now are the parts in which this association is particularly interested. Measurement is one of the outstanding characteristics of science at large, whether in the field of inorganic matter or life processes. Social statistics, which is concerned with the measurement of social phenomena, has many of the progressive features of the physical sciences. It shows forthright progress in knowledge of fact, in technique of analysis and refinement of results. It is amenable to mathematical formulation. It is capable of forecasting group phenomena. It is objective. A statistician is usually either right or wrong, and his successors can demonstrate which. Statisticians are not continually beginning their science over again by developing new viewpoints. Where one investigator stops, the next investigator begins with larger collections of data, with extensions into fresh fields, or with more powerful methods of analysis. In all these respects, the position and prospects of social statistics are more like the position and prospects of the natural sciences than like those of the social sciences.

Above all, social statistics even in its present state is directly applicable over a wide range in the management of practical affairs, particularly the affairs of government. And this practical value of statistics is readily demonstrable even to a busy executive. Once secure a quantitative statement of the crucial elements in an official's problem, draw it up in concise form, illuminate the tables with a chart or two, bind the memorandum in an attractive cover tied with a neat bowknot, and it is the exceptional man who will reject your aid. Thereafter your trouble will be not to get your statistics used, but to meet the continual calls for more figures, and to prevent your convert from taking your estimates more literally than you take them yourself.

We may well cherish high hopes for the immediate future of social statistics. In contributing toward a quantitative knowledge of social facts, in putting this knowledge at the disposal of responsible officials,



we are contributing a crucially important part toward achieving the gravest task that confronts mankind to-day—the task of developing a method by which we may make cumulative progress in social organization.

What can the American Statistical Association do toward realizing these hopes? Of course that is for the association to decide; but I venture to submit certain recommendations to the association's judgment.

My plea is that the association seek to play a more active rôle in public affairs than it has played in the past. We are holding our eightieth annual meeting; few learned societies in this country are so old. Through all these years we have been mainly a learned society, cherishing our particular subject, criticising those who neglect or misuse it, occasionally proffering advice, summing up experience, but not participating aggressively in the rough and tumble of statistical practice. All this kind of work has been serviceable. Certainly conditions in Washington and the State capitals have made participation by outsiders in official statistics exceedingly difficult. But conditions have changed somewhat, and if we do our part with vigor they may change more.

Two changes seem to me especially promising. One is the active share that many members of the association have taken in war work. These men will not entirely lose their interest in Federal statistics when they leave Washington. For the next few years at least we shall have a corps of workers who know a good deal about conditions under which Government figures are compiled and used. These men will help to make the association practical in any advice it may tender. Because of them we have greater capacity to do serviceable work now than we ever had before. The association can be more helpful because it knows more and cares more about what the Government bureaus do.

The second change is in the attitude of Washington officials toward the work of outsiders. Just as those of us who have been in Government service temporarily have gained a sympathetic insight into the difficulties faced by the permanent statistical bureaus, so the members of the permanent bureaus have become better acquainted with the viewpoint of outside statisticians. They have listened to our criticisms; in turn, they have criticised many of our suggestions for improving their organizations and practices. As a result, they know how to utilize our services better than they did before the war. And they are, I think, not unwilling to annul the divorce between working statistician and academic critic and enter into a new relationship of mutual understanding and cooperation.

One symptom of this new attitude is so gratifying that I can not forbear calling especial attention to it. The Secretary of Commerce has asked the president of the American Economic Association and the president of the Statistical Association to appoint each a committee of three to advise with the Director of the Census on matters of statistical principle and on the selection of statistical experts. This arrangement, it is hoped, will be no formal affair, but a working plan by which the producers and the consumers of statistics can cooperate effectively to improve the products in which both parties are interested. To provide the two committees with working facilities, an office and a secretary have been furnished them by the Director of the Census.

If we do our part toward making this arrangement a success, it may perhaps lead to the establishment of other bonds between the associations which represent the statistical public and the offices in which statistics are prepared.

There are several practical measures toward which we may contribute if we like. For example, we may use our influence whenever opportunity arises to secure more adequate salaries for Government statisticians. The scale of pay was too low before the war; the increased cost of living has made it shockingly inadequate. Unless increases are granted, many experienced men who would be glad to continue in public service will be compelled in justice to their families to look for openings elsewhere. Now that the war is over, we can not justly ask these men to stint their children for the rest of us. The profession of the statistician demands ability and training not less than those needed by accountancy; yet from what I can learn, the average remuneration of statisticians is decidedly lower than that of accountants. As representing the statistical profession, it is certainly the right of this association to urge vigorously a higher scale of salaries.

We may also take a definite stand upon the continuation of the new statistical activities begun during the war. The war boards found it necessary to obtain monthly figures of stocks of certain commodities on hand, and monthly figures of the production of other commodities. These figures were collected in a variety of ways, by the Census Office, by trade organizations like the Tanners' Council, or by sections of the war boards themselves. The results are of interest not only to the industries concerned, but also to the Government and to the general public. The permanent maintenance of this service, perhaps in a modified form, is a measure that promises to command increasing support from business men. If systematically

extended this work might well develop into a continuing census of production, simple in form, inexpensive, but of great value in forecasting business conditions and directing public policy.

In addition, there is the question which I mentioned in the first section of this address—whether the Central Bureau of Planning and Statistics is to be continued or disbanded when the Peace Conference has finished its work. Some centralizing agency to consider the statistical needs of the Government as a whole, and to lay systematic plans for meeting these needs, is our greatest statistical lack. On a question of this character, is it not the duty of the American Statistical Association to speak its mind?

In any action we take we shall do well to distinguish clearly between two types of statistics—the statistics that are used as a record of what has been and the statistics that are used as a basis for planning what shall be. Of these two types record statistics are the more familiar. They constitute the figures that go into annual reports, that are analyzed minutely by the student, that are quoted long after by the historian. Such figures have an influence in shaping public policies, but that influence is vague and intermittent. The average administrative official cares little about what happened day before yesterday; his thoughts are obsessed by what is happening to-day and what should happen to-morrow. Any one of us in his position would develop that frame of mind if he were to succeed at all. What the administrator needs to guide public policy, what he will quickly learn to use if he gets them, is well-organized planning statistics. Planning statistics, to be of service, must be strictly up to date. They must show the vital factors in the situation. They must be presented concisely, in standardized form, both in charts and in tables. The data must be simple enough to be sent by telegraph and compiled overnight. Rough approximations will serve the purpose. Our practical need at present is to develop statistical agencies for obtaining such planning statistics and putting them before the men whose decisions are important to the country, whether these men be administrators, legislators, or voters. As students our concern will continue to be chiefly with record statistics—they must not be neglected, indeed they must be extended and improved. But as men interested in affairs, our emphasis must be put upon the development and the use of planning statistics.

The policy of active participation in shaping statistical work which I am urging seems to me justified by the circumstances of the day. During the war we learned that many things which seemed impossible were easy of accomplishment if attacked with vigor. Doubtless,

the situation has already crystallized in part; but many matters of governmental policy are still in a fluid state. Some changes will have to take place; the question is, what shall these changes be? If we put our technical knowledge and our practical experience at the disposal of the Nation, we may increase our influence for years to come, and, what is vastly more important, we may help to make quantitative knowledge of facts a potent factor in Government.

# LABOR TURNOVER.

## LABOR TURNOVER IN THE SAN FRANCISCO BAY REGION.<sup>1</sup>

BY PAUL F. BRISSENDEN.

Very few employers have any accurate information regarding the volume of their labor turnover and its cost in time, money, industrial accidents, illness, and unrest. Even where something definite is known as to its volume for the shop as a whole there is little exact information as to the distribution of the turnover within the establishment. What kinds of jobs are most frequently abandoned? What kinds of employees most frequently abandon them? Obviously it is the unskilled job. And just as obviously it is the newly hired employee rather than the veteran in the shop. Heavy labor turnover is a fact because the 10-day man is a fact—and the 1-day man. But what are the exact proportions of a shop's aggregate turnover chargeable to the 10-day men and the 1-day men, respectively? And what proportion of the standard number of positions in any establishment are infested by 10-day men and what proportion by 1-day men, and so on? Employment managers report that the 1-day men are more responsible than the 10-day men but they do not know how much more. They have no more than a guess as to the respective proportions of the shop's positions subject to daily, weekly, fortnightly, monthly, and yearly separations.

Some light is thrown on these questions by studies of labor turnover made by the United States Bureau of Labor Statistics. In the following pages there is given a summary analysis of the results of a statistical study of the pay roll and "hiring and firing" records of 12 California companies for the year ending June 1, 1918. Included in this analysis is an attempt to give some definite idea of the relative responsibility for turnover of the men leaving before the end of the first week, of the men leaving before the end of the second week, etc., and to indicate how many jobs, on the average, are continuously subject to changes of job holders once a week or oftener, how many are subject to changes ranging in frequency from one to two weeks, and so on.

The establishments covered in this article were selected primarily because they had fairly complete labor turnover records dating at least as far back as June 1, 1917. Preference was given to concerns which had employment bureaus or at least some considerable degree of centralization of the machinery of employment and to those which had been somewhat successful in keeping down turnover. Only a small percentage of California mercantile and industrial establishments have centralized their employment machinery in the form of

<sup>1</sup> In collecting the material on which this article is based Mr. Brissenden was assisted by Miss Dorothy Hull.



employment bureaus or departments. Moreover, only a few of the establishment bureaus which were found had the records needed for this inquiry.

All but three of the concerns dealt with in this preliminary report are located in the San Francisco Bay region—one is in Los Angeles, one in central and one in northern California. It may be fairly said that in 6 of the 12 establishments the authority to hire and discharge and the employment machinery generally are rather completely centralized. In 4 establishments the personnel functions and employment authority are partially centralized. Two of the companies still operate what may be called decentralized employment systems—that is to say, systems in which the authority to hire, "lay-off," and discharge is in the traditional way vested in the foremen. With two exceptions the centralized concerns are those which maintain employment bureaus. Two small mercantile establishments are listed as centralized concerns although they have no real employment bureaus. Moreover, in two of the six establishments operating such bureaus the employment functions, despite the bureaus, are only partially centralized. The following table indicates the general size and character of the 12 establishments here reported:

TABLE 1.—SIZE AND CHARACTER OF ESTABLISHMENTS REPORTED.

Establishment number.	Description.	Number of full-time employees.	Authority to hire vested in—	Authority to discharge vested in—	Character of employment machinery.
a	Public utility corporation (main office)...	308	Department heads.	Department heads.	Semicentralized.
b	Public utility corporation (metropolitan district).	1,173	do.....	do.....	Do.
c	Public utility corporation (country districts).	3,424	do.....	do.....	Do.
2	Mercantile establishment (wholesale and retail).	85	General office manager.	General office manager.	Centralized.
3	Mercantile establishment (wholesale and retail).	244	Assistant general manager.	"The management."	Do.
4	Iron and steel plant.....	500	Superintendent and foremen.	Foremen <sup>1</sup> ...	Semicentralized.
5	Machine shop.....	173	Shop superintendent.	do.....	Decentralized.
6	Oil refinery.....	421	Employment manager.	do.....	Bureau; centralized.
7	Sugar refinery.....	1,259	do.....	do. <sup>2</sup> .....	Do.
8	Agricultural implement plant.....	2,224	do.....	Foremen and department heads.	Do.
9	Oil refinery.....	965	Foreman or department head.	Foremen or department heads.	Decentralized.
10	Copper mine and smelter.....	843	Employment manager.	Foremen....	Bureau; semicentralized.
11	Iron and steel plant.....	669	do.....	do.....	Do.
12	Explosives plant.....	1,795	do.....	do.....	Bureau; centralized.
	Total number of full-time positions.	14,083			

<sup>1</sup> Subject to superintendent's O. K.<sup>2</sup> Subject to plant manager's O. K.

The volume of the turnover is measured by comparing the average number of one-man days worked; that is, the normal number of full-time employees (or jobs), with the total number of separations during the period covered.<sup>1</sup> The former, which is essentially the standard number of jobs in the establishment, is found by dividing the total number of days (or hours) worked by all employees during the year by the number of days (or hours) worked during the year by a (normally) full-time employee. The number of days worked by such a fully employed person is obtained by subtracting from the number of days the establishment was actually in operation during the year, (1) the estimated percentage of absenteeism for that establishment, and (2) the number of Sundays and legal holidays, if the plant was customarily in operation on those days.

#### EXTENT OF TURNOVER IN ESTABLISHMENT STUDIED.

The turnover for the 12-month period ending in the middle of the year 1918 is indicated in Table 2, which shows for each establishment the number of full-time workers (standard number of jobs), the number hired, the number "separating" (including the number and per cent of the different types of separations) and the per cent of turnover for the year.

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<sup>1</sup> The method here used is that adopted and recommended by the Conference of Employment Managers, held at Rochester, N. Y., May 9 to 11, 1918. The gist of its "standard definition of labor turnover and method of computing the percentage of labor turnover" is contained in the following excerpts:

The percentage of labor turnover for any period considered is the ratio of the total number of separations during the period to the average number of employees on the force report during that period. The force report gives the number of men actually working each day as shown by attendance records. \* \* \*

To compute the percentage of labor turnover for any period, find the total separations for the period considered and divide by the average of the number actually working each day throughout the period. \* \* \*

[See MONTHLY REVIEW of the United States Bureau of Labor Statistics, vol. vi, p. 1535 (June, 1918).]

TABLE 2.—LABOR TURNOVER IN TWELVE CALIFORNIA ESTABLISHMENTS DURING THE YEAR ENDING JUNE 1, 1918, OR NEAR THAT DATE.

Establishment number.	Description of establishment.	Number—		Number of separations from service.				
		Full-time employees.	Hired during year.	Discharged.	Laid off.	Entered military service.	Quit.	Total.
1a	Public utility corporation (main office) <sup>1</sup>	308.0	174	28	52	27	94	201
1b	Public utility corporation (metropolitan district) <sup>1</sup>	1,173.0	1,254	26	1,350	128	152	1,656
2	Mercantile establishment (wholesale and retail) <sup>2</sup>	85.1	138	24	14	20	63	121
3	Mercantile establishment (wholesale and retail) <sup>3</sup>	244.4	435	42	86	18	263	409
4	Iron and steel plant <sup>1</sup>	500.0	860	100	250	71	601	1,022
5	Machine shop <sup>2</sup>	173.1	261	42	57	( <sup>4</sup> )	<sup>5</sup> 263	362
6	Oil refinery	420.7	1,141	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	980
7	Sugar refinery	1,259.2	<sup>7</sup> 3,566	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	3,011
8	Agricultural implement plant <sup>8</sup>	2,224.0	2,456	218	—	186	2,265	2,669
1c	Public utility corporation (rural districts) <sup>1</sup>	3,424.0	8,205	514	3,864	324	3,854	8,556
9	Oil refinery	965.0	3,076	69	70	396	2,320	2,855
10	Copper mine and smelter.	843.0	2,610	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	3,030
11	Iron and steel plant	668.7	2,904	351	( <sup>4</sup> )	32	<sup>9</sup> 2,492	2,875
12	Explosives plant <sup>10</sup>	1,795.1	5,409	406	—	159	3,335	3,900
	Length of service not reported.			<sup>11</sup> 1,820	<sup>11</sup> 5,743	<sup>11</sup> 1,361	<sup>11</sup> 15,702	<sup>12</sup> 24,625
	Total, all establishments.	14,083.3	32,489	—	—	—	—	31,647
	Total (excluding establishments 1 and 4) <sup>13</sup>	8,678.3	21,996	—	—	—	—	20,212

Establishment number.	Description of establishment.	Per cent of separations from service.					Per cent of turnover for the year.
		Discharged.	Laid off.	Entered military service.	Quit.	Total.	
1a	Public utility corporation (main office) <sup>1</sup>	14	26	13	47	100	65
1b	Public utility corporation (metropolitan district) <sup>1</sup>	2	82	8	9	100	141
2	Mercantile establishment (wholesale and retail) <sup>2</sup>	20	12	16	52	100	142
3	Mercantile establishment (wholesale and retail) <sup>3</sup>	10	21	4	64	100	167
4	Iron and steel plant <sup>1</sup>	10	25	7	59	100	204
5	Machine shop <sup>2</sup>	12	16	—	73	100	209
6	Oil refinery.	—	—	—	—	100	233
7	Sugar refinery	—	—	—	—	100	239
8	Agricultural implement plant <sup>8</sup>	8	—	7	85	100	<sup>14</sup> 240
1c	Public utility corporation (rural districts) <sup>1</sup>	6	45	4	45	100	250
9	Oil refinery.	2	2	14	81	100	296
10	Copper mine and smelter.	—	—	—	—	100	359
11	Iron and steel plant	12	—	1	87	100	430
12	Explosives plant <sup>10</sup>	10	—	4	86	100	<sup>16</sup> 434
	Total, all establishments.	7	23	6	64	100	224
	Total (excluding establishments 1 and 4) <sup>13</sup>	—	—	—	—	—	233

<sup>1</sup> Data for year ending May 15, 1918.<sup>2</sup> Data for year ending May 1, 1918.<sup>3</sup> Data for year ending May 2, 1918.<sup>4</sup> Included in quit.<sup>5</sup> Including those who entered military service.<sup>6</sup> Nature of separations not specified.<sup>7</sup> Not including the employees hired in one department in which about one-tenth of the working force is employed.<sup>8</sup> Data for 6 months ending July 1, 1918.<sup>9</sup> Including those laid off.<sup>10</sup> Data for 6 months ending June 26, 1918.<sup>11</sup> Three establishments not reported as to character of separations.<sup>12</sup> Not including 7,021 persons (in 3 establishments) the nature of whose separations was not reported.<sup>13</sup> See note 16 to Table 3.<sup>14</sup> On the basis of a percentage of 120 for 6 months.<sup>15</sup> On the basis of a percentage of 217 for 6 months.

It appears that to keep continuously filled the 14,083 full-time jobs provided by this group of establishments it was necessary to hire 32,489 persons, most of whom were needed to replace the 31,647 employees who were, in one way or another separated from service during the year. This means an annual turnover percentage of 224 for the aggregate labor forces of all the establishments reported. The turnover rate ranges from 65 per cent in the main office of a public utility corporation to 434 per cent in a plant engaged in the manufacture of explosives. The nature of the separations is shown in 24,626 of the 31,647 cases. Sixty-four per cent of them are "quits;" 23 per cent lay-offs; 7 per cent discharges, and 6 per cent due to "military service." The establishment variations are wide, but with three exceptions, the majority of the separations are voluntary resignations. It will be observed also that, although the correlation is not close, there is a tendency to heavier turnover in the larger plants. There is no conclusive evidence of any definite relation between the volume of turnover and the degree of centralization of employment machinery. It is true that the firms which maintain employment bureaus are all establishments having a turnover percentage as high as or higher than the average for the twelve establishments reported.<sup>1</sup> This does not necessarily indicate that employment bureaus have an unfavorable effect upon labor stability. For obvious reasons employment bureaus are much more likely to be found among large than among small establishments. As already stated, it is evident from Table 2 that there is a tendency for the heavy turnover to appear in the large establishments, regardless of the existence of employment bureaus. It would seem probable that the relatively high turnover in these large establishments is attributable in great measure to their size. Size, however, is certainly not the only factor. It may reasonably be expected that the large establishment without a centralized employment system will be burdened with a heavier volume of turnover than a concern of equal size and similarly circumstanced which does have such a system. Most of the concerns here investigated had a year of exceedingly heavy turnover—a volume reported in each case to be quite unprecedented.

#### DISTRIBUTION OF TURNOVER WITHIN THE WORKING FORCE.

When a group of companies, which provide 14,083 positions, is "deserted" by 31,647 employees during one year, it is evident that on the average each position has had more than two incumbents during that year. As a matter of fact, there may be no changes whatever in a large proportion of the jobs. The turnover falls very unequally upon different sections of the working force and it is of primary importance to know what parts of the force are most unstable—how the volume of turnover is distributed within the work-

<sup>1</sup>See Table 6.

ing force. Length-of-service distribution figures throw light on this problem. In Table 3 which follows, are shown, for the 12 plants, the number and per cent of employees in active service (at the end of the year) who had served continuously for specified time periods; and in comparison with these active employees are shown the number and per cent of those who "separated" during the year, who had served corresponding time periods.<sup>1</sup> The table gives the length-of-service distribution of 11,561 of the 11,948 employees on the pay rolls of 10 of the 12 establishments at the end of the year and a similar distribution of 18,286 of the 20,212 who left the same 10 establishments during the year. With the other figures for length-of-service of employees on the pay rolls are also included 5,035 employees of establishments 1 (a, b, c) and 4, which did not report the service records of their separated employees.

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<sup>1</sup> Omitting establishments 1 (a, b, c) and 4, which did not report length-of-service distribution of their "separated" employees.





TABLE 3.—NUMBER AND PER CENT IN SERVICE AND AMONG SEPARATIONS OF CERTAIN  
JUNE 1, 1918, OR

## NUMBER.

Es- tab- lish- ment num- ber.	Description of estab- lishment.	Employees on pay roll at end of year who had served continuously—										Total.
		One week and un- der.	Over 1 week to 2 wks.	Over 2 weeks to 1 mo.	Over 1 mo. to 3 mos.	Over 3 mos. to 6 mos.	Over 6 mo. to 1 year.	Over 1 year to 2 years.	Over 2 years to 3 years.	Over 3 and under 5 years.	5 years and over.	
1a	Public utility corpora- tion (main office). <sup>1</sup>	2	3	6	13	24	24	28	19	39	130	288
1b	Public utility corpora- tion (metropolitan dis- trict). <sup>1</sup>	23	51	57	84	54	93	61	60	170	334	987
2	Mercantile establish- ment (wholesale and retail). <sup>3</sup>	2	1	2	19	10	11	15	10	5	12	487
3	do. <sup>4</sup>	12	8	11	15	24	73	16	5	25	73	262
4	Iron and steel plant. <sup>1</sup>	3	5	33	48	98	117	90	83	81	159	717
5	Machine shop. <sup>3</sup>	4	4	12	31	22	16	27	18	5	21	160
6	Oil refinery	25	23	27	74	25	76	39	29	35	55	408
7	Sugar refinery	137	61	173	299	221	245	144	50	88	138	1,556
8	Agricultural implement plant. <sup>9</sup>	48	58	30	341	209	295	496	201	146	305	2,329
1c	Public utility corpora- tion (rural districts). <sup>1</sup>	128	119	258	372	228	365	232	157	463	721	3,043
9	Oil refinery	67	55	95	301	130	513	585	188	239	627	2,800
10	Copper mine and smelter	53	37	39	88	55	118	45	24	18	111	588
11	Iron and steel plant.	70	41	136	362	183	138	26	102	72	117	956
12	Explosives plant. <sup>14</sup>	274	188	325	794	266	189	88	102	72	117	2,415
	Total (omitting establishments 1 and 4). <sup>16</sup>	692	476	950	2,324	1,145	1,774	1,481	627	633	1,459	11,561
PER CENT.												
1a	Public utility corpora- tion (main office). <sup>1</sup>	1	1	2	5	8	8	10	7	14	45	100
1b	Public utility corpora- tion (metropolitan dis- trict). <sup>1</sup>	2	5	6	9	5	9	6	6	17	34	100
2	Mercantile establish- ment (wholesale and retail). <sup>3</sup>	2	1	2	22	11	13	17	11	6	14	100
3	do. <sup>4</sup>	5	3	4	6	9	28	6	2	10	28	100
4	Iron and steel plant. <sup>1</sup>	1	5	7	14	16	13	12	11	22	100	100
5	Machine shop. <sup>3</sup>	3	3	8	19	14	10	17	11	3	13	100
6	Oil refinery	6	6	7	18	6	19	10	7	9	13	100
7	Sugar refinery	9	4	11	19	14	16	9	3	6	9	100
8	Agricultural implement plant. <sup>9</sup>	2	2	6	15	9	17	21	9	6	13	100
1c	Public utility corpora- tion (rural districts). <sup>1</sup>	4	4	8	12	7	12	8	5	15	24	100
9	Oil refinery	2	2	3	11	5	18	21	7	9	22	100
10	Copper mine and smelter	9	6	7	15	9	20	8	4	3	19	100
11	Iron and steel plant.	7	4	14	38	19	14	3	4	3	5	100
12	Explosives plant. <sup>14</sup>	11	8	13	33	11	8	4	4	3	5	100
	Average (omit- ting estab- lishments 1 and 4). <sup>16</sup>	6	4	8	20	10	15	13	5	5	13	100

<sup>1</sup> Data for the year ending May 15, 1918.<sup>2</sup> Not reported.<sup>3</sup> Data for year ending May 1, 1918.<sup>4</sup> Not including 8 persons whose periods of service were not reported.<sup>5</sup> Data for the year ending May 2, 1918.<sup>6</sup> Not including 31 persons whose periods of service were not reported.<sup>7</sup> Not including 52 persons whose periods of service were not reported.<sup>8</sup> Not including 383 persons whose periods of service were not reported.<sup>9</sup> Data for 6 months ending July 1, 1918.<sup>10</sup> Not including 25 persons whose periods of service were not reported.<sup>11</sup> Not including 247 persons whose periods of service were not reported.<sup>12</sup> Not including 225 persons whose periods of service were not reported.

IDENTICAL LENGTH-OF-SERVICE GROUPS OF EMPLOYEES FOR THE YEAR ENDING NEAR THAT DATE.

## NUMBER.

Employees separated from service during the year who had served continuously—											Es- tab- lish- ment num- ber.
1 week and under.	Over 1 week to 2 weeks.	Over 2 weeks to 1 month.	Over 1 month to 3 months.	Over 3 mos. to 6 months.	Over 6 months. to 1 year.	Over 1 year to 2 years.	Over 2 years to 3 years.	Over 3 and under 5 years.	5 years and over.	Total.	
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	201	1a
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	1,656	1b
15	14	10	31	19	12	11	3	2	4	121	2
75	36	85	88	43	31	11	13	16	11	409	3
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	1,022	4
43	15	34	100	76	44	27	9	3	11	362	5
222	172	181	206	83	44	24	26	11	11	980	6
591	355	490	644	247	155	72	16	30	28	<sup>8</sup> 2,628	7
269	223	425	711	480	365	136	27	15	18	2,669	8
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	8,556	1c
629	256	313	582	443	257	143	74	38	120	2,855	9
429	314	473	691	422	216	70	28	19	58	<sup>11</sup> 2,783	10
606	292	307	252	80	38	4	-----	-----	-----	<sup>12</sup> 1,579	11
1,004	804	859	860	203	118	27	15	6	4	3,900	12
3,946	2,481	3,177	4,165	2,096	1,280	525	211	140	265	<sup>18</sup> 18,286	

## PER CENT.

(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	-----	1a
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	-----	1b
12	12	8	26	16	10	9	2	2	3	100	2
18	9	21	22	11	8	3	3	4	3	100	3
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	-----	4
12	4	9	28	21	12	7	2	1	3	100	5
23	18	18	21	8	4	2	3	1	1	100	6
22	14	19	25	9	6	3	1	1	1	<sup>8</sup> 100	7
10	8	16	27	18	14	5	1	1	1	100	8
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	-----	1e
22	9	11	20	16	9	5	3	1	4	100	9
18	11	17	25	15	8	3	(18)	1	2	<sup>11</sup> 100	10
38	18	19	16	5	2	(18)	(18)	(18)	(18)	<sup>13</sup> 100	11
26	21	22	22	5	3	1	(18)	(18)	(18)	100	12
22	14	17	23	11	7	3	1	1	1	<sup>19</sup> 100	

<sup>13</sup> Not including 1,296 persons whose periods of service were not reported.

<sup>14</sup> Data for 6 months ending June 26, 1918.

<sup>15</sup> Not including 46 persons whose periods of service were not reported.

<sup>16</sup> The 2 firms mentioned are excluded from the totals because they have not reported figures showing the length-of-service distribution of those employees who left their employ during the year; the primary object of these totals being to show (in Tables 4, 5, and 6) the length of service of separated, as compared with active, employees.

<sup>17</sup> Not including 387 persons whose periods of service were not reported; also, of course, exclusive of the 5,035 employees on the pay rolls of establishments 1 and 4.

<sup>18</sup> Less than one-half of 1 per cent.

<sup>19</sup> Not including 1,926 persons whose periods of service were not reported.

In this table there is again in evidence a very considerable range of establishment variation. But there is also apparent a very marked similarity of distribution as between the different establishments, each of which shows a common difference in distribution between active and separated employees. This is brought out more clearly in summary Table 4, which is based upon the ten establishments for which length of service figures for both "active" and separated employees are available.

TABLE 4.—NUMBER AND PROPORTION EMPLOYED AT END OF YEAR AND SEPARATED DURING THE YEAR CLASSIFIED ACCORDING TO LENGTH OF CONTINUOUS SERVICE.<sup>1</sup>

Employees who had served continuously each classified period.	In service at end of year.		Separated during year.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
One week and under.....	692	6	3,946	22
Over 1 week to 2 weeks.....	476	4	2,481	14
Over 2 weeks to 1 month.....	950	8	3,177	17
Over 1 month to 3 months.....	2,324	20	4,165	23
Over 3 months to 6 months.....	1,145	10	2,096	11
Over 6 months to 1 year.....	1,174	15	1,280	7
Over 1 year to 2 years.....	1,481	13	525	3
Over 2 years to 3 years.....	627	5	211	1
Over 3 years to 5 years.....	633	5	140	1
Over 5 years.....	1,459	13	265	1
Total.....	11,561	100	18,286	100
Length of service not reported.....	387		1,926	
Total.....	<sup>2</sup> 11,948		<sup>3</sup> 20,212	
Hired during year.....			21,996	
Number of full-time jobs.....	8,678			

<sup>1</sup> Establishments 1 and 4 are omitted.

<sup>2</sup> On pay rolls.

<sup>3</sup> Separations.

The figures in the first two columns of Table 4 show the length-of-service distribution at the end of the year of the employees on the pay rolls at that time and may be assumed to indicate, approximately at least, the normal length-of-service distribution of the active working force during the whole 12-month period ending about June 1, 1918. It is realized, in making this assumption, that the length-of-service distribution of the active working force (as well as of those leaving) might have been quite different if it had been tabulated as of another date a few months earlier or later. This would be particularly true of seasonal trades. It would be true to a certain extent if, and when, employees were being taken on or laid off in unusually large numbers. For example the length-of-service cross section of the active force of a department store made as of July 1 would probably show a higher than normal proportion with service records of less than one month, due to the large number of persons beginning work after the close of school. Indeed, one of the establishments reported in this article furnishes an example. It is establishment number 11, an iron and steel plant. The length-of-service distribution of its active force was

tabulated as of June 1, 1918. Service records were available for 956 of the 1,181 persons on the pay roll on that date. Their percentage service distribution was as follows:

	Per cent.
One week and under.....	7
Over one to two weeks.....	4
Over two weeks to one month.....	14
Over one to three months.....	38
Over three to six months.....	19
Over six months to one year.....	14
Over one to two years.....	3

It will be observed that the proportion of employees in the over-one-to-three months group is abnormally high—higher even than the one-to-three-months proportion of the *separated* employees, which was only 16 per cent. The percentages for this service period for the 10 establishments shown in Table 3 are, for active employees, 20 per cent, and for separated employees, 23 per cent. The abnormal showing in the steel plant referred to is explained by the fact that unusually large numbers of men had been hired during the months of March and April, 1918.

The effect of war conditions on labor stability may be seen in the fact brought out by the figures of Table 4 that out of more than 11,000 employees one-half had been in service less than six months, more than one-third of them having seen less than three months' service. The length-of-service record of employees who left during the year (shown in the last two columns) indicates from another angle the unprecedented labor instability which has been a feature of the war period. It shows that only 2,421, or 13 per cent, of the 18,286 who left during the year (and whose service records were available) had served more than six months and that over three-fourths had been in service less than three months.

Of course, labor turnover is greater by far among newly-hired employees. The parallel proportions shown in the percentage columns of Table 4 emphasize this fact: that it is the short-time employee who contributes the overwhelmingly greater proportion of labor turnover. Of the number in service at the end of the year only 6 per cent had service records of one week or less. On the other hand, 22 per cent of those who left during the year had been employed one week or less. At the other end of the scale it appears that 36 per cent of the active working forces had service records of more than one year, whereas only 6 per cent of those who left during the year had served more than a year. The one-to-two and the two-to-three year groups indicate separation proportions of one-fourth and one-fifth their respective strengths in the active working force, while the under-one-week group, as already indicated, contributes a proportion



of separations nearly four times as great as its relative strength in the working force.<sup>1</sup> Among both new and old employees there is no doubt that the turnover is heavier in the unskilled than in the skilled groups—but apparently the most important factor is length of service.

It will be observed from the percentage figures of Table 4 that the highest proportion of both "live" and "dead" employees is in the one-to-three-months group. This does not mean that the frequency of replacement (which is the real index of turnover) was greatest in that group. It means only that the aggregate number of turnover cases was greatest in that particular period. It must be remembered that the extent of time involved in each group varies widely. The *range* of the one-to-three-months group, e. g., is about 9 times the range of either of the first two groups. The figures indicate that the separated employees who had served one week or less were nearly as numerous as those whose employment terminated in the period which includes not only the fifth week but also the eight following weeks. If the length-of-service classification were based upon equal increments of service time, the number of separations falling within these uniformly lengthening groups would show a very different trend from that indicated by the figures of Table 4. It would seem that, on the average, half of those who left during their third or fourth week of service must have left during the third week and half during the fourth week. Therefore, on this basis, 1,588, or 9 per cent of all separated employees, must have left their jobs during each of the third and fourth weeks.

On this equated time basis, then—

Twenty-two per cent of the separations must be assigned to the under-one-week group;

Fourteen per cent of the separations must be assigned to the over-one-to-two-weeks group;

Nine per cent of the separations, on the average, must be assigned to each of the 2 weeks in the over-two-weeks-to-one-month group;

Three per cent of the separations, on the average, must be assigned to each of the 9 weeks in the over-one-to-three-months group;

One per cent of the separations, on the average, must be assigned to each of the 13 weeks in the over-three-to-six-months group; and

One-fourth of 1 per cent of the separations, on the average, must be assigned to each of the 26 weeks in the over-six-months-to-one-year group.

This decreasing percentage scale indicates more truly than do the figures of Table 4 the distribution of the whole volume of turnover

<sup>1</sup> As already stated, it is assumed that the length-of-service distribution of the active working force throughout the year studied does not vary to any great extent from the distribution found for the end of the year.

among new and old employees. In Table 5 the variation in range between the classified service periods is equated by dividing the number of separated employees whose service periods ended within the several assigned limits by the number of weeks in the range of the respective periods. The result is a scale of service periods varying by equal weekly increments of time from one week to one year. In one group are classified all separated employees whose length of service falls within its particular seven-day range; in the next group all those whose service periods had been not more than one week longer than the preceding, and so on. The wide range of the longer-service groups makes it necessary (except for the two shortest periods) to use the *average* number for each week in the group. The figures in the last two columns show that during the year 3,946 persons left employment who had served one week or less and that this group is equal to 45 per cent of the standard working force. Similarly, 161 persons left, on the average, in each of the 13 weeks of the over-three-to-six-months period, and each of those weekly groups of separated employees is equal to 2 per cent of the standard working force.

TABLE 5.—NUMBER AND PER CENT OF SEPARATED EMPLOYEES ASSIGNABLE TO THE UNSUBDIVIDED SERVICE GROUPS AND, AS A WEEKLY AVERAGE, TO THE SAME GROUPS SUBDIVIDED ACCORDING TO SERVICE INCREMENTS OF ONE WEEK.

Length-of-service period.	Approximate number of weeks in period.	Separated employees who had served each classified period.		Average number of separated employees leaving each week in each service period.	
		Number.	Per cent of standard working force.	Number.	Per cent of standard working force.
1 week and under.....	1	3,946	45	3,946	45
Over 1 to 2 weeks.....	1	2,481	29	2,481	29
Over 2 weeks to 1 month.....	2	3,177	37	1,588	18
Over 1 to 3 months.....	9	4,165	48	463	5
Over 3 to 6 months.....	13	2,096	24	161	2
Over 6 months to 1 year.....	26	1,280	15	49	1
Over 1 year.....	.....	1,141	13	.....	.....
Total.....	.....	18,286	.....	.....	.....

If the 10 companies for which complete length-of-service data are available are divided into two groups—the four which have a lower-than-average turnover and the six with a higher-than-average turnover—we get the figures shown in Table 6. It appears that in the lower-than-average-turnover companies the over-one-year group of employees, 44 per cent of the active working force had service records of more than one year, whereas only 11 per cent of those who left during the year had served more than a year. On the other hand, in the higher-than-average-turnover companies 35 per cent of the active working force and 6 per cent of those who left had served more than a year.

TABLE 6.—TURNOVER AND LENGTH OF SERVICE RECORDS OF 4 ESTABLISHMENTS HAVING A LOWER-THAN-AVERAGE TURNOVER COMPARED WITH 6 ESTABLISHMENTS HAVING A HIGHER-THAN-AVERAGE TURNOVER.

Period of service.	Employees who have served continuously each specified period.							
	Turnover 142 to 233 per cent.				Turnover 239 to 434 per cent.			
	Active employees at end of year.		Separated employees.		Active employees at end of year.		Separated employees.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
One week or less.....	43	5	355	19	649	6	3,591	22
Over 1 week to 2 weeks.....	36	4	237	13	440	4	2,244	14
Over 2 weeks to 1 month.....	52	6	310	17	838	8	2,867	17
Over 1 month to 3 months.....	139	15	425	23	2,185	21	3,740	23
Over 3 months to 6 months.....	81	9	221	12	1,064	10	1,875	11
Over 6 months to 1 year.....	176	19	131	7	1,598	15	1,149	7
Over 1 year to 2 years.....	97	10	73	4	1,384	13	452	3
Over 2 years to 3 years.....	62	7	51	3	565	5	160	1
Over 3 years to 5 years.....	70	9	32	2	563	5	108	1
Over 5 years.....	161	18	37	2	1,298	12	228	1
Total.....	917	100	1,872	100	10,644	100	16,414	100
Undistributed.....	91				296		1,926	
Entire number.....	1,008		1,872		10,940		18,340	

The proportions of the different kinds of separations in the two groups compared in Table 6 are presented in Table 7. From the figures of the latter table it appears that the proportion of discharge and lay-off separations is 30 per cent in the lower-than-average-turnover group, but only 12 per cent in the higher-than-average-turnover group, while the proportion of voluntary separations (quits) is 64 per cent and 83 per cent in the "low" and "high" turnover groups, respectively. The inference would seem to be that not only is the greater part of the turnover due to quits, but that it is more and more predominantly due to quits as its volume increases. Discharges and lay-offs, on the contrary, tend to become of less and less importance as the turnover increases. It is also to be noted that military service appears to be a fairly constant element accounting for only about 5 or 6 per cent of the turnover.

TABLE 7.—NUMBER AND PER CENT OF THE DIFFERENT KINDS OF SEPARATIONS IN THE "LOW" TURNOVER COMPARED WITH THE "HIGH" TURNOVER ESTABLISHMENTS.

Type of separation.	Turnover 142 to 233 per cent.		Turnover 239 to 434 per cent.	
	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>2</sup>
Discharges and lay-offs.....	265	30	2,076	12
Military service.....	59	7	915	5
Quit.....	568	64	14,784	83
Subtotal.....	892	100	17,775	100
Nature of separation not reported.....	980		565	
Total.....	1,872		18,340	
Number hired.....	1,975		20,021	
Number of full-time jobs.....	923.3		7,755	

<sup>1</sup> Computed by dividing the numbers discharged and laid off, etc., by 892.

<sup>2</sup> Computed by dividing the numbers discharged and laid off, etc., by 17,775.

It has already been pointed out that, as is quite obvious, there is enormous variation in the turnover distribution in relation directly to length of service—that the jobs held by the newly hired employees (whether they are skilled mechanics' jobs or unskilled laborers' jobs)—are responsible for a preponderating share of the separations. For some jobs there is evidently a very high "rotation in office"; for others the frequency of shift is much lower. It is very important to know what proportion of the jobs in a plant is subject to high, and what proportion to low, rotation frequencies. An attempt to indicate this is made in Table 8, which presents a further analysis of the length-of-service distribution of 18,286 persons who left the service of the 10 companies reported.

The principal object of this table is to show (1) in what length-of-service sections of the working force the turnover is most heavy and how heavy it is in those sections, and (2) how many full-time jobs are directly affected by these respective intensities of turnover in these different parts of the working force. To throw light on these two points it is first of all necessary to hit upon an average length of service for each of the original service groups. For this average the arithmetic mean has been taken—the mean length of time between the minimum and maximum time in each group. The assumption here—and upon this assumption the whole of the following analysis rests—is that the sum of the individual service deviations (plus and minus) from the mean is zero or very close to zero.<sup>1</sup> It would seem probable from what slight information is available that considerably more individual service records fall below the mean time than above it—that is to say, so many "floaters" work only a day or two that the time average for the first group is possibly two days rather than four. This probable lag of the true average of individual cases behind the mean length of service which has been used is undoubtedly greatest in the one-week-and-under group and certainly can not be

<sup>1</sup> This assumption is confirmed by information which came to hand after this article was put in type. In two Cincinnati shops the length-of-service distribution of 1,990 employees (in all occupations) leaving in 1918, the aggregate number of days worked by them, and the average length of service in each time group are as follows:

Length of service period.	Separated employees who served continuously each classified period.	Total days worked.	Average days of service.
One week or less.....	439	1,561	3.56
Over 1 week to 2 weeks.....	275	2,934	10.67
Over 2 weeks to 1 month.....	348	7,495	21.54
Over 1 month to 3 months.....	527	29,184	55.38
Over 3 months to 6 months.....	244	31,488	129.05
Over 6 months to 1 year.....	157	39,663	252.03
Total.....	1,990	112,325	.....

of any serious consequence in the longer groups. In any case the effect of this probable lag or negative deviation is to produce a somewhat lower turnover figure. Thus, if two days be taken as the basic average for the first group, there would appear in this rapidly changing part of the working force a group of 22 jobs suffering a turnover of 18,050 per cent a year, whereas, on the 4 days basis it is a group of 43 jobs with a turnover of 9,025 per cent a year. In short, the mean length of service is, especially for the very short periods, more nearly an outside figure for, rather than an average of, the individual cases. It should be noted also that the calculation is based upon the calendar year of 365 days and not upon the number of days worked by a "fully employed person," which latter basis is used in the first part of this article in computing the number of full-time jobs or standard working force.

TABLE 8.—SEPARATION FREQUENCY DISTRIBUTION OF 3,871 JOBS DIRECTLY AFFECTED BY TURNOVER.

[Based upon length-of-service records of 18,236 persons separated during the year in the 10 establishments reported and calculated on the basis of the mean length-of-service in each group.]

Length of service period.	Separated employees who served continuously each classified period.		Mean length of service (days).	Consequent number of separations from each full-time job during the year.	Corresponding percentage of turnover per full-time job per year.	Number of man-days worked during the year.	Consequent number of full-time jobs in each group.	Per cent of total full-time jobs (8,678).
	Number.	Per cent.						
	1	2						
1 week and under.....	3,946	22	4	90.25	9,025	15,784	43	0.5
Over 1 to 2 weeks.....	2,481	14	11	32.18	3,218	27,291	75	1.0
Over 2 weeks to 1 month.....	3,177	17	22	15.59	1,559	69,894	191	2.0
Over 1 to 3 months.....	4,165	23	60	5.08	508	249,900	685	8.0
Over 3 to 6 months.....	2,096	11	135	1.70	170	282,960	775	9.0
Over 6 months to 1 year.....	1,280	7	274	.33	33	350,720	961	11.0
Over 1 year.....	1,141	6	(1)	(1)	(1)	2 416,465	1,141	13.0
Total affected by turnover.....	18,286	100	.....	.....	473	1,413,014	3,871	45.0
Jobs not affected by turnover.....	.....	.....	.....	.....	.....	.....	4,807	55.0
Total full-time jobs.....	.....	.....	.....	.....	233	.....	8,678	100.0

<sup>1</sup> No means of estimating.

<sup>2</sup> Minimum, 1,141 multiplied by 365.

The method of working out the results in Table 8 may be illustrated by the figures for the first group. On the basis of the assumption explained above each of 3,946 persons worked an average of 4 days. Assuming that all jobs were continuously occupied, it follows that the number of successive incumbents of each job subject to this maximum frequency of "rotation in office" must have been 365 divided by 4, or 91.25. Similarly there must have been 33.18 persons in successive occupancy of each of the jobs held by the one-to-two-weeks group, and so on. The number of separations, however, must be one less than the total number of job holders, and therefore the



number of separations from each job is 90.25 in the one-week-and-under, and 32.18 in the one-to-two weeks group, and so on. This constitutes a series of constants supplementing the mean-length-of-service constants in column 3 and indicating the average number of men required during the year to hold down each job in each of the specified time groups. The next step is to ascertain the number of jobs each of which is successively occupied by 90 employees, 32 employees, etc., during the year. This is done by dividing the number of man-days worked in each group (the product of the mean length of service by the number of employees in the group) by 365. This indicates that in the one-week-and-under group there are 43 jobs to each of which an average frequency rate of 90 incumbents per year or an annual turnover of 9,025 per cent applies. Similarly in the over-one-to-two-weeks group there are 75 jobs (1 per cent of all the full-time jobs) having a turnover of 3,218 per cent a year, and at the other end of the scale, in the 6-months-to-one-year group, 961 or 11 per cent of all full-time jobs having a turnover of 33 per cent. The figures indicate, in other words, the numbers of full-time jobs from which took place the classified numbers of separations per year. They mean, e. g., that *on the average* each of the 43 positions in the first and shortest group suffered 90 separations during the year, or had a turnover of 9,025 per cent.

Some further interpretation is necessary for the figures of Table 8. In the 10 establishments reporting length-of-service data for both active and separating employees there were 8,678 full-time jobs. It would appear from the figures of Table 8 (whose accuracy, of course, depends upon the validity of the "mean-length-of-service" method) that 4,807 or 55 per cent of these 8,678 jobs suffered no replacements during the year. More than half of all the jobs, in other words, would appear to have been free from turnover. It follows, then, that if the 4,807 stable jobs are left out of account and the 3,871 unstable ones used as a basis for computation, the turnover for this unstable part of the working force would be 473 per cent as compared with 233 per cent for the whole working force.

At the relatively stable end of the length-of-service scale it appears that the six-months-to-one-year group, numbering 1,280 employees, who had occupied 961, or 11 per cent, of the full-time jobs, contributed 7 per cent of the separations and suffered a turnover of 33 per cent per job per year. At the unstable end of the scale it is evident that the under-one-week group, numbering 3,946 employees, who had occupied 43, or less than one-half of 1 per cent, of the full-time jobs and made 90 replacements necessary in each, contributed 22 per cent of the separations and had a turnover of 9,025 per cent per job per year. In this most unstable group, where the jobs naturally suffer the

highest replacement frequency, it would appear that in each of 43 full-time jobs there were, on the average, 90 new men hired and that this little group of jobs was occupied at one time or another during the year by 3,946 persons, who made up 22 per cent of the separations and, consequently, contributed that proportion of the turnover. Of the total of 3,871 jobs which were responsible for the whole volume of turnover, 1,141 had suffered but one replacement during the year. These incumbents, moreover, had all served continuously for at least a year and made up only 6 per cent of the separations, that is to say, contributed only 6 per cent of the turnover. The remaining jobs subject to turnover, 2,730 in number, and constituting 31.5 per cent of the total number of full-time jobs, had from 1 to 90 replacements each per year and contributed 94 per cent of the turnover. It is realized that these conclusions are based upon the estimated figures for the mean-length-of-service in each time period. This makes it impossible in every case to check the derived figures of Table 8 with the direct figures reported from the establishments, but does not appear to invalidate the general conclusion.

The matter of the causes of the turnover in the establishments studied is scarcely within the scope of the present article. It may be stated, however, that by far the most important cause—the one undoubtedly responsible for more separations during the period covered than all other causes combined—was the pull of the war wages offered to all comers in the shipyards, not only of San Francisco Bay, but also of Portland, Tacoma, Seattle, and Los Angeles.

## RECONSTRUCTION.

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### MEETING OF RECONSTRUCTION COMMITTEE, NATIONAL CIVIC FEDERATION.

In the January issue of the MONTHLY LABOR REVIEW (pp. 48, 49), the occurrence of a number of conferences dealing with reconstruction problems was noted, and it was stated that reports of these conferences would be given in this periodical so far as they could be obtained. The following report of the procedure of the meeting of the reconstruction committee, National Civic Federation, held in New York City on December 2, 1918, is summarized from an account in the National Civic Federation Review for December 20.

The president of the National Civic Federation, V. Everit Macy, spoke on industrial relations, calling attention to the need for centralization of control of Federal agencies during the war and the danger of allowing "this highly concentrated machine" to "disintegrate now without any definite plans for a transitional period." He commended the Government method of dealing with problems of employers and employed during the war, stating that it "has been most successful, as practically no interruption of industry of any magnitude has occurred during the past year and a half." In this connection reference was made to the formation of the various labor adjustment boards composed of employers and employees and representatives of the Government or of the public to consider all disputes.

It is safe to say that if these various boards had not been established, there would have been constant interruption of production, an immensely increased labor turnover, much higher wages and a tremendously reduced output.

The keynote of President Macy's address is to be found in the following passage:

If voluntary agreements to submit all questions in dispute to labor adjustment boards have proved of value in time of war, why should not similar boards be useful to industry in times of peace? We must not lose the benefit of the splendid spirit of cooperation to work for a common end that has been shown by both employer and employee during the war and which has produced such fine results.

The only way, however, that this cooperative spirit can find effective expression in normal times is by better organization of employers and better organization of employees. \* \* \*

The National Civic Federation in the past has advocated trade agreements. As the result of our war experience, can we not in the future develop voluntary labor adjustment boards to which all disputes will be submitted without the interruption of industry or inconvenience to the public? These boards could be composed of representatives of the employers' organizations and the unions involved, with perhaps one or more representatives of the public. One of the difficulties that the labor adjustment boards had to meet during the war was the lack of any tradition or prevailing

practice within any given industry, craft, or even single plant. Such boards as have been suggested would, by their successive decisions, tend gradually to develop a code of minimum good practice in an industry and thus help to systematize the industry. \* \* \* Such a plan can not be successful without well disciplined organizations on both sides. This brings us to another point that we are destined to hear much discussed—that of raising or lowering of wages. The real question that should determine the wage scale is that of the cost of production per ton or per unit. It is too often assumed that high wages mean high cost and that low wages mean low cost. The manufacturer must realize that no industry should survive that can not pay a living wage. The employees must realize that no industry can survive where there is not a living profit. Cost can not be reduced except through good management and an honest day's labor, nor can high wages and reasonable profits be obtained, except by the same means. Competition and equipment are other factors that can not be ignored if an industry is to be successful and most important of all is a cooperative spirit between the management and the men employed.

In the past, little thought seems to have been given to the human equation in industry. Employers have paid large salaries to general managers and various experts but they have left all contact with their employees in the hands of foremen and subforemen, men often of limited opportunity, experience, and understanding. On the other hand, the unions have placed too much power in the hands of local officials who are frequently also men of equally limited capacity. Some way should be found whereby the many causes of irritation could be handled by well paid representatives of the employer and by responsible representatives of the national unions. Petty foremen and small minded local representatives of unions are the greatest source of discord.

#### IMMIGRATION IN THE RECONSTRUCTION PERIOD.

Frank Morrison, secretary of the American Federation of Labor, suggested steps that should be taken to prevent the immigration of undesirable aliens. In his opinion immigration should be stopped entirely during the period of adjustment, "until the workers who have been working in munitions factories have secured employment, and until every soldier has been returned and has secured employment. After that readjustment we can open our doors to our brothers across the seas." He concluded his remarks by presenting the following resolutions which were referred to the executive committee of the National Civic Federation:

*Resolved*, That the Congress of the United States be urged immediately to appropriate a sufficient sum to be used by the Department of Labor to transport all war workers thrown out of employment to points where they can secure sustaining employment, and to pay each worker a stipulated amount per week during the period of enforced idleness.

*Resolved*, That the Congress of the United States be urged to enact legislation stopping all immigration to this country for a period of five years, or until such time as all our soldiers and war workers have secured employment that will sustain them and their families in reasonable comfort.

#### GOVERNMENT OWNERSHIP OR CONTROL OF PUBLIC UTILITIES.

This general subject was the basis of remarks by Henry A. Wise Wood, president of the Wood Newspaper Machinery Corporation, who spoke emphatically against public ownership. He maintained

that public ownership means the surrender of economic freedom, the individual not only losing thereby the right of possession, but causing danger to the foundations of representative government by thus consenting to "the erection of the enormous bureaucracy which is part of the plan of public ownership."

Jeremiah W. Jenks, who next spoke, said in reference to Government ownership that he did not expect "to see us get back on the same basis we were before," and admitted that "there are great advantages in many cases from centralized control, centralized management, pooling on a universal scale, but there are also certain disadvantages that come from Government ownership and management." He suggested that such a body as the National Civic Federation should "have the facts collected impartially to show us how far we should retain this Government control and management along various lines that could be suggested, and how far we should go back to the system of private control and ownership and management that we had before."

#### LABOR'S PART IN SOLVING THE WAR PROBLEMS.

Labor's part in solving war problems was suggested by Wheeler P. Bloodgood, of the League for National Unity, who emphasized the importance of all classes of society working together in communities throughout the country in solving the labor problems that are now presented. The vital questions upon which all should agree, it was stated, are what changes should be made in the immigration laws, whether Government ownership is wise or unwise, whether we should attempt the British plan of demobilizing the Army by trades rather than by military units, and whether we should carry out some phases of the British labor program. He condemned the attitude of some who talk about the surplus of labor and who say that now is the opportunity for capital to reassert itself because labor has prospered way beyond its share as a result of the war.

Samuel Gompers, vice president of the National Civic Federation, told of the grave problems now confronting the American people—problems much more difficult of solution than those immediately connected with the winning of the war. He cautioned the American people to be on guard "to see to it, to supervise, to be vigilant, lest around the peace table there are purloined from us, right under our very noses, many of the liberties and the freedom of our people."

I am impressed particularly with the appeal to the conscience, to the judgment, to the ideals, to the Americanism of our people for united action. You can not get freedom, nor practice freedom, on empty stomachs. The hungry men may engage in a riot, may engage in a revolt, but their course is never of a constructive character. Hungry stomachs do not make reasoning brains. It is necessary to maintain the standards of life of the American working people that they may have sound bodies,



and the opportunity for reasonable thinking; with aspirations of such a character they will build up the institutions of this Republic. Enlightened discontent, the higher and better aspirations of the masses of the people furnish the greatest impetus to progress and civilization. The discontent of hungry people leads to nowhere except chaos, confusion, and reaction.

#### THE PASSING OF INDUSTRIAL FEUDALISM.

The solution of the problems of reconstruction depends a great deal upon the attitude of mind with which they are approached, in the opinion of A. Parker Nevin, formerly counsel for the National Association of Manufacturers. He expressed the hope that the war would teach certain employers that "feudalism and democracy can not obtain in the same Commonwealth, and unless we get into the consciousness of certain individuals and certain groups that we won't tolerate feudal acts or feudal thoughts we shall have serious times in this country." The reason we won the war was because "all the people subordinated their group consciousness and concentrated on one single objective." This principle, it was stated, must be applied in meeting reconstruction problems.

#### WORK AND POLICY OF THE NATIONAL WAR LABOR BOARD.

The work and policy of the National War Labor Board in assisting to adjust labor disputes was reviewed briefly by Matthew Woll, of the Committee on Labor, Council of National Defense.

The War Labor Board has accomplished a wonderful task. It has proven one of the most helpful agencies, not only in stimulating production during the period of the war but it has also made for a better understanding between the employers and the employees. As to the future work, that depends largely upon the attitude of mind that is going to be taken by the employing interest of this country. If it is going to be one of cooperation, one of helpfulness, and one of seeking to approach the problems in the spirit of solving them to do justice to all concerned, then I think the board will prove of great value in composing the differences of opinion, and in reaching conclusions that will make for harmony and for protection in the future. If, however, the attitude of mind is going to be one of seeking to retard rather than to advance human happiness, then, under our system of government, I feel sure the board will fail; because the decisions of the War Labor Board depend entirely upon voluntary acquiescence and not upon governmental decree. Its future depends upon the fairness of the decisions and awards and, as I stated before, the attitude of mind with which we approach the problems submitted to it.

The fact that compliances with the decisions of the National War Labor Board have been purely voluntary on the part of the employers and workers, a feature which characterized all the various labor adjustment boards established during the war, was brought out by President Macy in emphasizing some of the statements in the address by the preceding speaker. Notwithstanding the fact that there was no legislative compulsion, the violations of the agreements on either side have been few in number and were of short duration.

## RESOLUTIONS ADOPTED.

The committee adopted the following resolutions:

*Resolved*, That the president of the National Civic Federation be empowered to name a commission of suitable size and representative character, of which he shall be chairman, to visit England, France, and Italy, for the purpose of reporting:

(1) On the methods employed in those countries with regard to the relations of employers and employees, especial inquiry to be made into the subjects of collective bargaining, mediation and arbitration, the shop steward system, the Whitley committee program, profit sharing, bonus and copartnership, social insurance, and employment exchanges;

(2) On the after-the-war policy of the Governments of those countries with respect to continuing, amending or abolishing Government ownership and operation of public utilities and basic industries, as well as regulating price fixing affecting the essentials in production; and

(3) On the methods in operation or under consideration for providing homes or cultivable lands either for the men released from war service or for citizens in general.

*Resolved*, That the president of the National Civic Federation name a committee of suitable size and representative character to inquire into and report upon the operation of the various war emergency measures adopted to secure cooperative relations between employers and employees, and likewise to report upon the effectiveness of the Government operation of public utilities and basic industries, as well as of the regulations fixing the prices of essentials in the United States.

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RECONSTRUCTION CONFERENCE, NATIONAL POPULAR GOVERNMENT  
LEAGUE, WASHINGTON, JANUARY 9-11, 1919.

Reconstruction was the theme of the fifth annual meeting of the National Popular Government League which was held in the city of Washington January 9, 10, and 11, 1919. Sessions were devoted to such subjects as Demobilization—Land; The food supply—The packers; Railroads; The farmer; Labor; Education; and Women. In the absence of official printed proceedings a full account of the meeting can not be given at this time. At the opening session, which dealt with demobilization, Hon. Franklin K. Lane, Secretary of the Interior, and Hon. William Kent, of the United States Tariff Commission and chairman of the conference committee, were among those who spoke.

The question of the food supply was discussed by Hon. M. Clyde Kelly, Member of Congress from Pennsylvania; W. Gwynn Gardiner, Commissioner, District of Columbia; Judson C. Welliver, journalist; Dr. H. Q. Alexander, president of the Farmers' Union of South Carolina; and Hon. William B. Colver, chairman of the Federal Trade Commission. The latter speaker confined his remarks to the pending legislation affecting the packing industry. As a result of the investigation of the meat-packing industry, Mr. Colver said, the commission found two main subjects for legislation. In the first place, he said, the highway of commerce is not a free road. It is blocked by toll gates, which are not operated by the public, for the public, or

in the public interest. A study of the history of the packing industry showed that a free highway would prevent unfair competition. The second subject needing legislative action is the integration of other businesses with the meat-packing industry. If the present tendency of integration is continued, said Mr. Colver, in 10 years as few as 5 men or concerns will dominate and dictate in practically every line what the American people shall buy, where they shall buy it, when they shall buy it, and what they shall pay for it.

Four remedial measures were recommended: (1) Federal licensing of all meat-packing establishments engaged in interstate commerce; no license to be granted until the business plays fair; (2) Federal licensing of instruments used, i. e., cars, storage houses, and stock-yards, so that they will be used fairly; (3) if any instrument evades the regulations, the Government to have authority to buy it with the privilege of turning it over to someone else who can operate it fairly; (4) the Government should take over any or all of these instruments except the packing industry, and operate them fairly.

At the morning session on January 10, devoted to the farmer, Mr. Arthur Le Sueur, of the National Nonpartisan League, spoke on the "Unclogged channels of trade," emphasizing the necessity for removing all artificial barriers between the producer and consumer in order that the greatest benefit might accrue to both. The spread of democratic ideas from the time when the Magna Charta was wrung from an unwilling King John down to the present universal acceptance of the principle of the greatest good to the greatest number was traced by him. Three basic evils exist, he contended, in our industrial system and must be remedied: (1) Influences tending to destroy the will to produce, (2) the denial of the right to the resources of nature, and (3) the clogs placed in trade channels by persons belonging to neither the producer nor the consumer class, but who prey upon both. Transportation, he stated, is by no means the only trade channel. Banks fall within the meaning of the term. These must be freed from private control. Commission houses, etc., also are channels of trade and must be publicly owned. What is needed is control not of the products themselves, but of the operation of their passage from producer to consumer. Industrial democracy, as well as political democracy, must be achieved before we become a free people. All waste must be eliminated from our industrial life and to do this the channels of trade must be kept clear.

Mr. C. H. Gustafson, president of the Nebraska Farmers' Union, told what had been accomplished in his State in cooperative marketing. He stated that over 150 grain elevators are now conducted on the cooperative plan. These cleared last year \$20,000 above their operating expenses. A small dividend is paid to stockholders and the balance is returned to patrons. Some cooperative creameries

and flour mills are in operation. A large farmers' exchange has been conducted at Omaha since April, 1914. In 1918 this exchange did a business amounting to \$2,760,000. It is not capitalized, but is conducted by means of service fees and dues. The membership fee is \$2 per year. Cooperative live-stock and grain exchanges are now in successful operation at three points. All cooperative institutions did a business of about \$100,000,000 last year.

The principal speaker at the session on labor was Hon. L. F. Post, Assistant Secretary of Labor, who appeared in the stead of the Secretary, Hon. W. B. Wilson. Mr. Post's subject was Democracy in industry, although he explained that he would consider the subject negatively rather than affirmatively and tell what democracy in industry does not mean. He pointed out that it does not mean the refusal of either side to a controversy to face the other across a table and discuss the matters in dispute, emphasizing the fact that where such frank discussion can be secured an amicable settlement is almost always arrived at. Democracy in industry does not mean the denial of the right of collective bargaining. It does not mean the monopolization of the natural resources to which industry must resort.

Mr. William Johnston, president, International Association of Machinists, in speaking on How labor defines democracy, said that if democracy means anything it means the right to work: "If Congress can spend millions for destructive war machines, it can spend a few millions for constructive work that will benefit the children of men." Bolshevism, he declared, is not entirely confined to the working class. He deprecated the tendency to return to the 10-hour working day, and said that the more humane thing to do is to shorten the hours and so distribute the work as to inconvenience as few workers as possible. "The men who put labor into industry have a right to a voice in the management as much as the men who put the cold dollars into industry, and labor is going to demand a larger share in the democratic control of all the interests of life."

Prof. Charles Zueblin, formerly of the University of Chicago, spoke briefly, arguing for a system by which many of the statistics, such as mortality and industrial statistics, etc., now collected each 10 years by the Census Bureau, should be collected much more frequently through the machinery of the selective draft so thoroughly organized throughout the country and adequately equipped to do the work under the general supervision of the Census Bureau. He feels that in this manner there could be made available daily records of industrial fluctuations that would be invaluable in handling the problems of labor and be of more importance and be more desirable than the daily record we now have of stock fluctuations.

At the session on education, among other speakers, Dr. C. A. Prosser, director, told of the work of the Federal Board for Vocational Education, and Herbert Quick delivered an address on Education as related to reconstruction.

Melinda Scott, of the United States Employment Service, speaking at the session devoted to women, pointed out that as far as women are concerned the labor situation could not be accurately gauged by the number of applications for workers which the service was unable to fill. In a very large number of cases the position offered paid such small wages that women who had been earning living wages refused to consider them; the immediate and pressing problem for women was not to secure work, but to secure work at fair wages. Mrs. Kelley, of the National Consumers' League, pointed out as one hopeful feature the combination in New York of organized labor, the Woman Suffrage Association, the Young Woman's Christian Association, and the Consumers' League in a campaign to secure protective legislation for woman workers.

The conference was concluded by a battleship dinner, cooked and served by sailormen as on board a battleship at sea.



## RESEARCH AS APPLIED TO INDUSTRIAL PROBLEMS.

BY MRS. V. B. TURNER.

The term research has come to include many phases of investigation hitherto not considered in its province. From being confined merely to the laboratory or the library research work it has expanded along sociological and industrial lines and has achieved results of far-reaching importance.

Reports made, especially during the war period, upon the relation of hours of labor and fatigue to industrial efficiency, have by a reduction in the hours of labor had a marked effect upon the conservation of man power, and thereby upon the productive capacity of the community. Wage investigations in relation to the high cost of living, the study of measures to promote public health, the Taylor researches into the conserving of human effort, the effect of welfare upon the general well-being of the workers, the deficiencies in educational systems are all matters of research in its broadest sense—the acquisition and application of knowledge. A satisfactory solution of the problem of dealing with differences between labor and capital is a subject of research worthy of the best ability and effort, and any research along industrial lines which results in greater cooperation between employer and employed should be of distinct interest and value to each.

One of the striking lessons of the war has been the necessity of the application of science to the production of all war material. Germany's enormous advantages derived from the utilization of science have been apparent from the first. When her supply of nitrates from Chile was cut off her scientists discovered a method of converting the nitrogen of the air into nitrates. An adequate supply of cellulose necessary in the manufacture of gun cotton was secured by a chemical treatment of wood; while cattle food was obtained from the chemical treatment of the waste refuse liquor of pulp mills. Scientific research replaced the required copper and nickel by other metal substitutes.

Now that the war is over, the national debts must be paid. This means not only increased production but the keenest trade competition the world has ever experienced. To secure this production and to meet this competition, the nations must utilize the most advanced scientific knowledge and the latent energy—mental and physical—of every worker of every kind.

Many of the nations alive to this situation have already taken steps to promote industrial research. An institute of science and industry has been established in Australia to study and develop the natural resources and industries of that Commonwealth. During the past year Japan appropriated a large sum for like purposes; Canada has

appointed a research committee of the Privy Council, with an honorary advisory council for scientific and industrial research; Great Britain, the United States, France, New Zealand, and even Finland have taken action in this direction.

#### INDUSTRIAL RESEARCH IN GREAT BRITAIN.

The British Government, in 1915, appointed a committee of the Privy Council for scientific and industrial research to further industrial research in Great Britain, with an advisory council of leading scientists and business men. This council was made a regular department of the Government during 1917. In its third annual report the committee discusses among other subjects that of industrial research associations,<sup>1</sup> the organization of which is the main work of the advisory council.

The committee feels that the exigencies of the war have demonstrated the necessity of all possible assistance being given to increase output and to improve its quality if the demands of peace are to be successfully met. To this end Parliament, in 1917, placed at the disposition of the research department £1,000,000 sterling (\$4,866,500) to enable it to encourage industries to undertake research during the following five years. At the end of that time it is expected that the larger industries will have so thoroughly developed the work as to be able to carry it on without Government assistance. The scheme which has been effected by the committee with the assistance and advice of leading manufacturers and business men, has been made sufficiently elastic to suit the widely differing conditions of numerous industries and to conform to a reasonably simple system of Government aid.

Some 30 industries are now actively engaged in establishing industrial associations by means of which the systematic development of research and the cooperation of progressive industry with science will be carried out under the direct control of the industries themselves. These associations include as many firms in each industry as possible; but where there is a variety of applications, as in the woolen industry, the engineering firms, and others, a series of distinct associations will be formed. Large firms having various activities may belong to several associations, thus benefiting from the advantages of each. Cooperation among the firms concerned in one industry will be encouraged in the hope that in this way research work may be undertaken which could not be done by individual firms.

Each firm subscribing to a research organization will, in general, have the following privileges:<sup>2</sup> (1) It will receive a regular service of

<sup>1</sup> Great Britain. Privy Council. Committee for Scientific and Industrial Research. Report, 1917-18. London, 1918. (Cd. 9144.)

<sup>2</sup> Great Britain. Privy Council. Summarized from the report of the Committee for Scientific and Industrial Research, 1916-17, p. 50.

summarized up-to-date technical information, both foreign and domestic; (2) it will be able to obtain a translated copy of any foreign article of special interest mentioned in the periodical bulletin; (3) it will have the right to have technical questions answered as fully as is possible by the research association; (4) it may recommend specific subjects for research, which, if considered of sufficient importance, will be investigated without cost to the firm, and will be available to all firms in the organization; (5) it practically will have a right to a free use of any patents or secret processes resulting from researches made; (6) it may request that a specific piece of research work be undertaken for its own benefit at cost price.

Each of the industries forming research associations presents a different problem in the establishment of such organizations and also furnishes an illustration of the elasticity of the Government scheme. In the cotton industry, which is in reality a vast group of related industries, the articles of association have centralized the governing power in a single committee, an action made possible from the fact that cotton manufacturing is concentrated largely in a limited area. The woolen industry is geographically so widely distributed that several local committees, each in close touch with its own area, have been organized. Similar conditions exist in the linen industry. The administration of the research work of the Mining Association of Great Britain will be carried out by a single association for the whole Kingdom, which will include local sections or branches dealing with the problems peculiar to particular localities.

The Iron Manufacturers' Research Association, founded by the British iron puddlers to investigate the increasingly important problems of their industry, have attacked these problems in the most fundamental manner. Their research association is composed of 97 per cent of the members of the industry. By subscribing all the necessary funds they purpose to avoid that State regulation which is inseparable from Government assistance. They have decided not only that all the results of the researches shall be freely available to each firm, but that all existing knowledge and trade secrets shall be used for the common good.

The British Scientific Instrument Research Association on the other hand has received a more than ordinary measure of departmental aid \* \* \* it has been established on lines broad enough to include all scientific instrument makers. Some of the most important of these outside the optical industry have already joined its ranks, and it has every prospect of becoming the representative industrial body dealing with the application of science to the manufacture of instruments of precision. This group of industries and particularly the optical instrument trade fall into the class of "key" or "pivotal" industries which were recommended for special Government encouragement and support by the committee on trade policy after the war \* \* \*.<sup>1</sup>

<sup>1</sup> Great Britain. Privy Council. Report of the Committee for Scientific and Industrial Research, 1917-18, p. 17.

## METHOD OF SUBSCRIPTION TO RESEARCH ASSOCIATION.

The fund necessary for carrying on this work is to be raised on a cooperative basis, subscriptions on the part of manufacturers, for a period of years to be agreed upon, to be augmented by liberal grants from the department. In the scheme for industrial research it is stated that "the method of assessing the subscription of each firm will have to be negotiated with each industry or section of an industry which may agree to combine for the purposes of research, but the intention is that firms should contribute on a basis proportionate to their size. Thus the small firm will contribute less than the large firm, yet will have the same privileges, though as a rule it will not in the nature of the case have the same facilities for exploiting the results of research." The maximum limit of assistance granted by the research department will probably be a contribution of pound for pound up to £5,000 (\$24,332.50) a year, with a further donation of about 10s. (\$2.43) per pound for total subscriptions above that amount, and will also be dependent upon certain other conditions incident to the industries themselves.

## LABOR'S PARTICIPATION IN INDUSTRIAL RESEARCH.

In a consideration of this subject the fact must not be lost sight of that the benefit of industrial research will not be confined to the manufacturer. Generally, factors which improve conditions in industry react favorably on the well-being of the worker. A universal benefit to the workmen has been derived from the use of improved machinery. Past experience tends to show that any application to an industrial process which limits the amount of fatiguing labor, increases production, or reduces manufacturing expenses, results in the increased health and comfort of workers and in their pecuniary gain. The educational advantages secured by labor's participation in industrial research lead not only to a more intimate knowledge of the industry and, therefore, to a more personal interest in it, but also to an enlarged outlook and a greater appreciation of the value of all knowledge.

The advantages of being able to ascertain at first hand how science is applied to industry and how funds devoted to that purpose are spent, are coming to be more and more appreciated by those dealing with relations between employers and employed and by labor itself. In its Interim Report on Joint Standing Industrial Councils, the reconstruction committee recommends among other things that district councils or works committees should deal with "(viii) industrial research and the full utilization of its results; (ix) the provision of facilities for the full consideration and utilization of inventions and improvements designed by workpeople; and for the adequate safeguarding of the rights of the designers of such improvements;

(x) improvements of processes, machinery, and organization and appropriate questions relating to management and the examination of industrial experiments, with special reference to cooperation in carrying new ideas into effect and full consideration of the workpeople's point of view in relation to them."<sup>1</sup>

Accordingly when the advisory committee of the British Research Department came to consider plans for the formation of trade research associations a decision was reached to include representation of labor on the governing bodies. As a result of a conference at the Ministry of Labor, the Research Department will consult the joint industrial council of an industry, where one exists, before organizing a research association for the industry. In cases where the formation of a research association precedes that of an industrial council the department will bring the two organizations into touch. The national joint standing industrial council for the pottery trade, recently established, has unanimously recommended the formation of a pottery research association.

In its remarkably well-written report on reconstruction the British Labor Party<sup>2</sup> recognizes the need of labor's participation in scientific research. It says:

From the same source (surplus wealth) must come the greatly increased public provision that the Labor Party will insist on being made for scientific investigation and original research, in every branch of knowledge, not to say also for the promotion of music, literature, and fine art, which have been under capitalism so greatly neglected, and upon which, so the Labor Party holds, any real development of civilization fundamentally depends \* \* \* Especially in all the complexities of politics, in the still undeveloped science of society, the Labor Party stands for increased study, for the scientific investigation of each succeeding problem, for the deliberate organization of research, and for a much more rapid dissemination among the whole people of all the science that exists \* \* \* What the Labor Party stands for in all fields of life is essentially democratic cooperation, and cooperation involves a common purpose which can be agreed to; a common plan which can be explained and discussed, and such a measure of success in the adaptation of means to ends as will insure a common satisfaction.

Speaking of the need for increased production the party voices the opinion in its resolutions on reconstruction "that it is vital for any genuine social reconstruction to increase the nation's aggregate annual production \* \* \* that this increased productivity is obviously not to be sought in reducing the means of subsistence of the workers, whether by hand or by brain, nor yet in lengthening their hours of work \* \* \* but in (a) the elimination of every kind of inefficiency and waste; (b) the application both of more honest determination to produce the very best, and of more science

<sup>1</sup> Great Britain. Reconstruction Committee. Interim Report on Joint Standing Industrial Councils, p. 5. (Cd. 8006.) London, 1917.

<sup>2</sup> Social reconstruction program of the British Labor Party. MONTHLY REVIEW of the Bureau of Labor Statistics, April, 1918, pp. 80, 82.



and intelligence to every branch of the nation's work; together with (c) an improvement in social, political, and industrial organization. \* \* \*

#### SCIENTIFIC RESEARCH IN THE UNITED STATES.

An immense amount of research work is being carried out in the United States by the Government institutions such as the Bureau of Standards, the Bureau of Mines, the Department of Agriculture, the National Research Council, and others, and by separate research institutions such as the Carnegie Institute, the Rockefeller Foundation, the National Canners' Association, and the Mellon Institute at Pittsburgh. There are, in addition, over 50 large private industrial concerns which have their own laboratories and which spend from \$100,000 to \$300,000 annually on the development and extension of their own businesses.

#### THE NATIONAL RESEARCH COUNCIL.

Of the Government means for research the National Research Council is the most recent, and in the character of its duties most nearly resembles the British Research Department. It was established in 1916 under the auspices of the National Academy of Sciences. Since the early part of 1917 it has cooperated with the Council of National Defense in scientific research for national defense. Furthermore, it has organized the division of science and research of the Signal Corps, and has initiated extensive investigations for the several technical bureaus of the Army and Navy. So conspicuously efficient have been the services of the council in all these matters relating to war activities that it was placed on a permanent basis by an Executive order of May 11, 1918, in which the full scope of its duties is set forth.

The following is the full text of this Executive order:

#### EXECUTIVE ORDER OF THE PRESIDENT OF THE UNITED STATES.<sup>1</sup>

The National Research Council was organized in 1916 at the request of the President by the National Academy of Sciences under its congressional charter, as a measure of national preparedness. The work accomplished by the council in organizing research and in securing cooperation of military and civilian agencies in the solution of military problems demonstrates its capacity for larger service. The National Academy of Sciences is therefore requested to perpetuate the National Research Council, the duties of which shall be as follows:

1. In general, to stimulate research in the mathematical, physical, and biological sciences and in the application of these sciences to engineering, agriculture, medicine, and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare.
2. To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects.

<sup>1</sup> Great Britain. Privy Council. Committee for Scientific and Industrial Research. Report, 1917-18, pp. 71, 72.

3. To promote cooperation in research, at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative as fundamentally important to the advancement of science.

4. To serve as a means of bringing American and foreign investigators into active cooperation with the scientific and technical services of the War and Navy Departments and with those of the civil branches of the Government.

5. To direct the attention of scientific and technical investigators to the present importance of military and industrial problems in connection with the war, and to aid in the solution of these problems by organizing specific researches.

6. To gather and collate scientific and technical information, at home and abroad, in cooperation with governmental and other agencies, and to render such information available to duly accredited persons.

"Effective prosecution of the council's work requires the cordial collaboration of the scientific and technical branches of the Government, both military and civil, To this end representatives of the Government, upon the nomination of the National Academy of Sciences, will be designated by the President as members of the council as heretofore, and the heads of the departments immediately concerned will continue to cooperate in every way that may be required."

(Signed)

WOODROW WILSON.

THE WHITE HOUSE.

11th May, 1918.

The work of the council is carried on by means of contributions from the President's Emergency Fund for National Security and Defense, from the Carnegie Corporation, and from the Rockefeller Foundation.

In a statement regarding cooperation in industrial research Dr. John Johnston, Secretary of the National Research Council, says:

One of the most striking consequences of the war is the increasing general realization of the primary importance of scientific research to the whole question of national defense, as well as to the successful prosecution of industry and the greatest measure of economy of resources after the war \* \* \*. Impressed by the paramount importance of promoting the application of science to industry in this country, the National Research Council has taken up the organization of industrial research \* \* \* and has inaugurated an Industrial Research Section, which shall consider the best methods of achieving such organization or research within an industry, or group of related industries (for example, industries using the same raw materials, or with similar waste products). It considers that cooperation between capital, labor, science, and management, constitutes the best general means of financing the extended laboratory investigations and the large-scale experimental and developmental work required for adequate industrial research.<sup>1</sup>

In pursuance of this plan the National Research Council at the suggestion of Dr. Johnston and with the assistance of the Engineering Foundation is beginning a far-reaching campaign to promote industrial research, and an advisory committee composed of influential men has been formed to support this movement.

In addition to the advisory committee a strong active committee comprising men with wide experience along scientific and industrial

<sup>1</sup> Report of Topical Discussion on Cooperation in Industrial Research held at the meeting of the American Society for Testing Materials, June, 1918.

lines will seek with all the means at their command to obtain widespread recognition of the necessity of industrial research not only as an effective weapon with which to combat the sharp trade competition which will follow the war, but also for the larger purpose of advancing knowledge and improving working conditions by the cooperation of science and industry.

The council believes that since science is essentially democratic and has always accomplished its most brilliant results from individual initiative and effort, research work will best be done by an assessment upon the industry rather than by Government aid, and estimates that an annual contribution by each firm of about 0.1 per cent of the value of its yearly output will be ample to carry on the work.

An introductory bulletin containing statements of the advisory committee regarding the claims of scientific and industrial research will soon be issued by the council. This is to be followed by other bulletins dealing with research in other countries, and with what has been accomplished in large research laboratories in this country.

## INTERNATIONALISM IN LABOR STANDARDS.

That the idea of internationalism in labor standards which was incorporated in the memorandum of June 11, 1918,<sup>1</sup> submitted by the International Association for Labor Legislation to the Swiss Federal Council, is widely echoed among thinking people is proved by the recent literature of reconstruction in its relation to labor problems. Through whatever divergence of perspective, experiences, or theories various writers on reconstruction approach these problems, there is increasing recurrence of a realization of the necessity for some common ground of agreement in which labor standards can be rooted in order that they can be assured of any real permanence and security.

Two of the recent books bearing on the outlook of labor after the war, but prepared before the signing of the armistice, which present a strong case for the international idea are *Industry and Humanity*<sup>2</sup> and *The People's Part in Peace*.<sup>3</sup> Both are unmistakably the result of sound thought and considerable study, and, in the work of the Hon. W. L. MacKenzie King, there is presented an unusually broad first-hand experience in dealing with labor in his position as former Minister of Labor of Canada.

### INDUSTRY AND HUMANITY.

An international minimum standard of life is the goal to which Mr. King looks for a solution of the present industrial problems. The standard which he has in mind is identical in nature with the national minimum standard of life, the universal enforcement of which the British Labor Party has put forward as its first principle, contending that "On the basis of a universal application of this policy of the national minimum, affording complete security against destruction, in sickness and health, in good times and bad alike, of every member of the community, can any worthy social order be built up." The international application of this standard, the author argues, is needed if labor standards are to be protected against the undermining effects of the law of competing standards operating through international competition. The possible inclination of some international agency to further the establishment and enforcement of an international convention aimed at the maintenance of an

<sup>1</sup> See MONTHLY LABOR REVIEW, November, 1918 (pp. 56-58).

<sup>2</sup> King, W. L. MacKenzie. *Industry and Humanity*. A study in the principles underlying industrial reconstruction. Boston, Houghton, Mifflin Co., 1918.

<sup>3</sup> Tead, Ordway. *The People's Part in Peace*. An inquiry into the basis for a sound internationalism. New York, Henry Holt & Co., 1918.

international minimum he believes to be a subject of momentous concern, and "well deserving of consideration in any discussion pertaining to a league of nations which will constitute a part of the peace negotiations at the conclusion of the war."

This volume marks the completion of an investigation into the root causes of some of the existing industrial controversies in America, and an effort to state the underlying principles which are finding expression in the organization of industrial societies, and which should obtain in all efforts at reconstruction. The main purpose of the study, it is stated, is "to point the way to a change of attitude in industrial relations and to suggest means whereby a new spirit may be made to permeate industry through the application of principles tried by time and tested by experience."

Taking mutual fear as the underlying basis of antagonism between capital and labor, the author analyzes the causes which contribute to its growth in industrial relationships, the conditions which might operate to bring about its removal, and the means for accomplishing the substitution for fear of a faith based upon the cooperation for mutual interests of what he calls the four parties of industry, namely, labor, capital, management, and the community. "While," he says, "doubt may arise as to the extent of the relative services of the several parties to production and the consequent application required of each, there can be no question concerning the essential nature of the services themselves and their absolute interdependence." Such cooperation of these four parties to industry can be made effective, the author believes, by no means less comprehensive than the international minimum standard referred to, in support of which theory he traces the disastrous effects of the competing standards throughout the world, which react necessarily even upon countries that might adopt for themselves a national minimum. As successful examples of the application of the principles analyzed in this volume the author cites the plan of joint standing industrial councils recommended in the Whitley reports, and the plan of representation of employees of the Colorado Fuel & Mining Co. as the best illustrations afforded in Great Britain and the United States, respectively.

The idea of humanity as the dominant consideration in industry is constantly kept in mind throughout the book and especially developed in the chapters devoted to principles underlying health. The author believes in industrial hygiene, not only as a measure of right and as conducive to efficiency, but also as being a determining factor in the relation of the worker to the community and to the race; and he makes a strong plea for greater attention to preventive medicine in this connection, saying, "What physical and mental overstrain and



underpay and underfeeding are doing for the race in occasioning infant mortality, low birth rate, and increasing mental disorders and furthering a general disposition to disease is alarming. These are problems which require first consideration, if decadence is not to be the fate of industrial communities."

#### THE PEOPLE'S PART IN PEACE.

Mr. Tead's book is an attempt to answer the question "How can the peace terms and conditions contained in the interallied labor war aims be given practical effect?" Chapters are devoted to The league of nations; Economic guarantees of peace; International labor legislation; The basis of representation; The national economy; and the Spiritual guarantees of peace. The author bases his argument for uniform international labor standards upon an analysis of the present unequal conditions of economic competition which impair the effectiveness of any localized labor legislation. He says, "One of the things that makes the so-called 'backward' portions of the globe at present so attractive to the speculative investor is the complete absence of restrictive labor legislation. The capitalists of all the western countries have been engaged in an eager search for areas where labor is cheap, plentiful, and impotent. The setting up of new standards of labor in these regions is calculated automatically to discourage the speculator and to give advantage to those whose interests in industrial developments are based on a more sound and humane industrial policy. At present when there is competition between different countries, especially between the Occident and the Orient, in the manufacture of any commodity, the competition is at the expense of the workers in the more advanced countries." He does not hold out the hope that such uniform standards can be established easily or immediately, but believes that the chief hope of the worker lies in bending efforts toward such ultimate accomplishment, saying, "If there is agreement among the working-class peoples upon the legislation they will simultaneously support, they can drive by the use of political and economic weapons for one plank after another in their own countries. \* \* \* The surest guarantee of peaceful adjustment that can be provided is a body devoted to a study of the comparative living standards, of demands for labor and of birth-rate fluctuations in the major countries of the world."

The author believes that the spiritual guarantees which must form a part of the basis for any lasting peace must imply a repudiation of five fundamentally wrong ideas which have long controlled people's thoughts and actions. These five ideas are:

1. That force is the greatest power in the world; that might makes right.
2. That the State is supreme and is an end in itself.
3. That the State exists to advance the interests of those who control it; that it is an agent to be used for creation of national

profits. 4. That trade exists primarily for the profit of the traders. 5. That certain races are inferior and unable to govern themselves, either immediately or ultimately.

He summarizes a thought of wide application at the present time in the question, "Are we, the people, to carry on the world's work, mine its ore, till its fields, make goods from its raw materials, and transport its finished products for the profit of the traders, or for the service of the people—in direct relation to their known needs?" And he answers this question a few pages later in the words: "The life of the community—interdependent as it manifestly is with the life of each individual in it—gets its justification and must derive its standards of value from the fact of its ministration to the body, mind, and spirit of every single individual who is born into it." He then reaches the conclusion that, "The control of economic forces for social ends must be achieved before a league of nations can function in an orderly, stable, and thoroughly satisfactory manner."

#### THE NATIONAL EMERGENCY IN EDUCATION.

The National Education Association Commission on the Emergency in Education has recently published a statement upon the national educational situation. This is the first of a series to be issued upon the subject, through which the commission hopes to invite suggestions from every source and finally, from the combined statements and suggestions, to formulate a comprehensive national program for education.<sup>1</sup>

Characterizing the present shortage of teachers<sup>2</sup> as the most serious crisis ever met in the history of the schools of the United States, and expressing the belief that only through an adequate maintenance of its schools can the future of a democracy be assured, the commission pleads for a program of readjustment. The education (No. 2) bill, 1918,<sup>3</sup> recently passed by the British Parliament is admittedly a great reconstruction measure. France, with 30,000 of her teachers called to the colors, has kept her secondary schools open through all the vicissitudes of war, and is planning improvements in courses, in kinds of schools, and in an extension of the school age. Like France and England the United States must readjust her educational program to present needs and strengthen it not merely for greater future usefulness within her own boundaries, but in a manner necessary for the discharge of the "individual's obligation to a democratic nation, the Nation's obligation to a democratic world."

<sup>1</sup> A national program for education. A statement issued by the National Education Association Commission on the emergency in education and the program for readjustment during and after the war. Commission series No. 1. Washington, The National Education Association, 1918. 27 pp. Price, 5 cents.

<sup>2</sup> According to the United States Bureau of Education, 50,000 teachers' places are vacant, and 120,000 persons are teaching this year for the first time. National Association of Corporation Schools Bulletin, January, 1919, p. 46.

<sup>3</sup> The provisions of this bill are given in the MONTHLY LABOR REVIEW for December, 1918 (pp. 42-46).

## PREPARATION AND COMPENSATION OF TEACHERS.

This program should contemplate, first of all, a betterment of the elementary and secondary schools upon which the heaviest burden of public education rests.

In them are enrolled approximately 20,000,000 boys and girls, or one person in five of the total population. Notwithstanding the fact that in 1914 the enrollment in the public high schools of the United States was practically the same as the total enrollment in schools of the same grade in all other countries combined, and that there are more students in the colleges, universities, and professional schools of the United States to-day than in those of any other nation, the efficiency of American schools viewed in the light of their national influence has not compensated for their weakness. This fundamental weakness, though expressed in many ways, may be traced directly to the immaturity, the brief tenure, and the inadequate preparation of a majority of the 600,000 teachers whose duty it is to instruct the Nation's children. Because public-school teaching is an inadequately paid occupation, the average teaching experience is brief and unsatisfactory. The commission states that tens of thousands of the public school teachers are between the ages of 16 and 19; that more than 100,000 are under 22 years of age, while more than a quarter of a million are under 25. "There are no fewer than 5,000,000 children in the United States to-day whose teachers have not passed the age of 21, and whose teachers have themselves had, as preparation for their responsible work, not more than one, two, or rarely three, or four years of education beyond the eighth grade of the common schools."

Especially is this true of the village and rural schools where a teacher's duties, from the manifold nature of the work and the isolation of his surroundings, are most exacting and arduous, and where, it may be added, the influence of a mature, experienced, permanent teacher could hardly be overestimated. To create an incentive for making teaching a permanent profession, to overcome the unprecedented shortage in the supply of teachers, and to stimulate attendance at normal schools and other training centers, larger appropriations should be made for teachers' salaries, and a broader conception of the necessity for the thorough preparation of teachers for their work should be engendered in the Nation at large.

## RURAL EDUCATION.

The report states that in addition to a better trained, permanent body of teachers the rural schools need a longer school year, stricter enforcement of the attendance laws, some method of more expert supervision, and courses of study suited to the needs of country life.

According to the commission, such an improvement in rural educational conditions as will place these schools on a basis with city schools of the same grade necessitates a proportionately greater expenditure than is required for the city schools, and a much greater expenditure than local taxation, with the limited aid afforded by State funds, is able to meet. If, as indicated before, the safety of a democracy depends upon the high level of intelligence of all of its citizens, Federal support will be imperative in providing equal educational advantages for children in all communities. The experience of the war, exposing as they have an alarming degree of illiteracy, should emphasize the fact that the maintenance of good public schools is not a philanthropic enterprise, but a national economic necessity.

#### PHYSICAL HEALTH AND EDUCATION.

Physical health on a national scale is as essential as mental and moral strength and should complement them. To this end the commission suggests that the medical and dental inspection of school children; the establishment and supervision of playgrounds, gymnasiums, swimming pools, and athletic fields; school lunches, clinics, open-air schools, school farms and gardens, as agencies for raising the standard of public health, should be multiplied and extended, not only from city to city, but out into the towns, villages, and country districts as well.

#### IMMIGRANT EDUCATION AND ADULT ILLITERACY.

The danger of the immigrant speaking his own language and rearing his children in ignorance of American laws and institutions has been especially emphasized by the draft. Communities were found where English was a foreign tongue, and it has been necessary in the Army either to teach whole companies of men English or to give military commands in their own languages. The commission insists that the English language shall be the medium of instruction in the common schools and that special teachers shall be provided to aid in Americanizing the adult immigrant, and in reducing adult illiteracy among native Americans.

#### COMPULSORY CONTINUATION SCHOOLS.

One of the grave defects of public education in the United States is that, in proportion to the school population, so small a percentage of children enter the high school. Some of the more progressive States have to a degree remedied this defect by extending the period of compulsory attendance, but the increased demands for labor during the war have swept away many of these gains.

England's new education bill provides for compulsory part-time education for children between 14 and 18 years of age employed in industry, and France is contemplating similar action. While the

continuation school is not a new element in the public-school system of the United States, its work has been largely limited to a mere preparation for the employment of the student. The commission feels that the principle of compulsory education up to 18 years of age should be universally adopted, and that the course of the continuation school should be broadened to include, in addition to its training for industry, a more liberal training for life and for democratic citizenship.

To sum up the situation, "it is the judgment of the commission that a new need has sprung into existence with the war crisis—the need of a national aim in education and of a national policy and a national program to realize this aim \* \* \*" and—

The commission recommends that Congress be urged to make at once reasonable appropriations to the States for the following purposes:

1. To insure through more attractive rewards and through greatly improved facilities for professional preparation an adequate supply of competent teachers.

2. To promote through physical and health education, and through the encouragement of wholesome recreation, the physical well-being of all the people.

3. To insure that every element of the immigrant population shall be assimilated to American ideals and institutions in so far as the provision of educational facilities can promote this end.

4. To eliminate illiteracy in the native-born adult population.

5. To conserve through a thoroughgoing policy of compulsory continuation schooling the intellectual, industrial, and moral resources of the Nation represented by the millions of boys and girls who now leave school and enter breadwinning employment before their habits have been formed and before their ideals of life and conduct have been firmly established.

It is the belief of the commission that an appropriation made to a State for any of the above purposes should be contingent upon an equal contribution for the same purpose from State or local funds. It is also the belief of the commission that the administration of the proposed appropriations and the responsible control of all other forms of national cooperation in public education should be entrusted to a Federal Department of Education.<sup>1</sup> The urgent need of such a department has been revealed in countless ways since the war began.

The time has come when the welfare of the Nation demands an adequate recognition of its educational interests by the Federal Government.

#### ANNUAL MEETINGS OF ECONOMIC ASSOCIATIONS AT RICHMOND, VA.

The annual meetings of six national economic associations were held at Richmond, Va., December 27–28, 1918. These associations were the American Association for Labor Legislation, the American Economic Association, the American Statistical Association, the American Sociological Society, the American Association for Agricultural Legislation, and the American Association of University Instructors in Accounting.

<sup>1</sup> Bills providing for the establishment of a Federal Department of Education have been introduced in the Senate by Senator Hoke Smith, of Georgia, and in the House by Representative J. M. Baer, of North Dakota.



The program of the American Association for Labor Legislation included the following main subjects: Workmen's compensation for cripples, labor reconstruction, demobilization, and social insurance. Papers read included one by Dr. Royal Meeker, United States Commissioner of Labor Statistics, on "Lacks in workmen's compensation," published in this issue of the MONTHLY LABOR REVIEW; one by Dr. Samuel McCune Lindsay, president of the association, on "Next steps in social insurance in the United States," published in this issue of the REVIEW; one by Prof. Irving Fisher, Yale University, on "Economists in public service;" and one by Prof. Edward Alsworth Ross, University of Wisconsin, on "A legal dismissal wage."

The papers read at the American Economic Association meetings included one by Dr. Royal Meeker, on "The possibility of working out an index of cost of living," to be published in a future issue of the REVIEW; and one by Prof. Fisher on "Stabilizing the dollar." The general subjects discussed were marketing, interest rates, prices, taxation (including the report of the committee on war finance), labor and agricultural problems, and monetary standards.

The discussions of the American Statistical Association centered about price levels and cost of living, labor turnover, and the statistical work of the Federal Government. A paper touching upon the last-named subject was read by Wesley C. Mitchell, president of the association, and is published in full in this issue of the REVIEW.

The program of the American Sociological Society dealt with the general subject of "Sociology and education."

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#### READJUSTMENT OF BRITISH INDUSTRY FROM WAR TO PEACE FOOTING.

A brief account of the readjustment of British industry to peace conditions is contained in a communication received by this bureau through the State Department from the commercial attaché at London, as follows:

Mr. F. G. Kellaway, parliamentary secretary of the Ministry of Munitions, in a statement to the representatives of the press on November 29 predicted that British manufacturers would turn over to peace production more readily than they did to a war footing. To weigh this statement it should be realized that from the date of the organization of the Ministry of Munitions to the last month of the war, aircraft production increased sevenfold, machine-gun production thirty-sevenfold, and other munitions proportionately. The record of British factories in adapting themselves to the output of munitions of war has been a remarkable achievement. Their return to peace production, if even more effective, as predicted, will fully demonstrate the enterprise, adaptability, and determination of British industry.

As shown what is actually being done in the way of readjustment, Mr. Kellaway cited a number of reports which had come in to the Ministry of Munitions. In the munitions area of Hebburn-on-Tyne a firm previously engaged in the manufacture of airplanes is turning over to the manufacture of heavy toys and furniture, giving employment to 500 people. A Newcastle-upon-Tyne firm from producing airplanes

is turning over to household-furniture making, and will give work to 500 people. Another firm in the same town is changing from guns to the building of locomotives, a new industry, which will find employment for 5,000 people. A firm at Burnley, which was manufacturing fuses, is turning over to the manufacture of electric fittings. At Leigh, in Lancashire, a firm is going to produce presses for brickmaking, and it is estimated it will employ about 1,000 persons. A Sheffield firm is turning over from the manufacture of shells to files and springs, and expects to employ 1,000 persons. At Leeds one firm will cease to make steel pressings for mines and copper bands for shells and make dairy utensils, while another which was engaged in assembling airplanes will devote its buildings to the making of iron valves as an adjunct to their brass valve department. One Birmingham firm is changing from the production of fuse components and airplane parts to the manufacture of motor accessories, and another from airplane parts to capstan lathes. At Matlock a firm is arranging to manufacture cream separators, which are now largely imported from America and Sweden.

Three munition firms at Leicester, Ilkeston, and Nottingham are taking up the manufacture of hosiery needles, which in prewar days were practically entirely imported from Germany, and they hope to turn out a million, and later on two millions a week. Three Loughborough firms are devoting themselves entirely to the manufacture of hosiery bearded needles, heretofore imported from Germany. A Leicester firm which before the war was engaged in importing typewriters and selling and repairing them, now proposes to manufacture them. Another firm in the same town which formerly made vulcanite pressings for magnetos will now make fountain pens, which were imported from America before the war. A third Leicester munition firm is laying out plant for producing hose-suspender fittings, which in prewar days were almost wholly imported from Germany. Two other firms in Leicester are going to manufacture corset steel, and wood wool from old pit props. The latter occupation will be conducted in the foundry where iron shells were cast for the war. Then there are several cases where manufacturers who were producing aero engines are going to make engines for motor cars; and another firm of a similar character is going to turn out motors for small launches. In another case a firm is changing from tank and shell making to boot machinery; and in South Wales tin can firms are in position to begin civil work immediately, but are prevented from doing so at present owing to the difficulty of obtaining supplies of tin plates.

Government control of raw materials is being considerably relaxed to enable factories to shift over quickly to normal production, but regulation is still being employed to guide industry into the most fruitful channels. Dr. Addison, Minister of Reconstruction, has given out the following list of classes of work to which materials and producing capacity set free from war work should, so far as possible, be devoted in the near future:

Maintenance, repair, and replacement of existing machinery and plant in the United Kingdom.

Maintenance, repairs, and renewals for railways, tramways, canals, roads, harbors, and docks on the United Kingdom.

Shipbuilding and the maintenance and repair of merchant ships and fishing vessels in the United Kingdom.

Manufacture of agricultural, milling, food-producing, mining, and textile machinery, machine tools, building materials, equipment used in the public utility services in the United Kingdom.

Manufacture of approved orders placed by the Government of the United Kingdom, the Dominions, or the Allies.

Manufacture of goods for export (subject to such Government regulations of export as may from time to time be found necessary).

The departments responsible for the control of supplies during the war will continue for the time being to exercise such control as may be necessary, and applications for

priority permits, export and import licenses, and other similar facilities, in so far as they are still required, should be forwarded to the same department as hitherto. Order of Priority of March 8, 1917, will remain in force, but its application, it is hoped, will steadily diminish.

There has already been a certain relaxation of import and export restrictions, and it is probable that further relaxations will steadily take place to meet the needs of British industry. It may be expected, however, that there will not be any general abandonment of import restrictions until British industry is ready to meet the competition of foreign merchandise.

British manufacturers are very anxious to know what policy the Government will follow in disposing of the huge stocks of all kinds of supplies, which, it has been announced, will be sold by the Ministry of Munitions. Before launching out to extend the motor-car industry, British manufacturers are waiting to see what the Government will decide to do with their 100,000 motor cars and motor trucks. If, the manufacturers say, these cars are to be dumped on the local market, it will stop the motor trade for at least two years. Motor-car manufacturers, as well as manufacturers in other lines, are bringing pressure to bear on the Government to so regulate the sale of war stocks as not to upset their business during the period of readjustment.

Mr. Churchill, Minister of Munitions, has announced that the Government expects to take over the operation of the railways. Improved transport facilities are needed to enable a rapid revival of industry, and there is evidently no way in which private interests can properly handle this problem in the United Kingdom, at least under present conditions.

The need for improved housing is acute. The London Daily News of December 4 emphasized this condition in an article headed, "One Million Too Many People in London." The local Government board has a plan for building 300,000 houses, and various municipal authorities also have plans under way. A fairly reliable estimate is that at least 500,000 houses are needed in the United Kingdom at once to cost a billion dollars. Where is the material to come from? Housing, together with transport, is a problem which can not fail to have immediate attention.

#### DEMOBILIZATION AND RESETTLEMENT, GREAT BRITAIN.

The British Government's original plan for the demobilization and resettlement of the forces, together with its provision for unemployment and out-of-work donation, and its arrangements for apprentices and munition workers appeared in the January, 1919, issue of the MONTHLY LABOR REVIEW (pp. 55-66).

Since the issuance of that information the plan has been elaborated in some respects to meet the needs of the situation as they arose, and the Ministry of Labor, with the concurrence of the other Government departments concerned, has made announcements regarding particular phases of the subject. One of these announcements dealing with an increase in what is known as the out-of-work donation, was published December 10, 1918, in the following terms:

##### OUT OF WORK DONATION.<sup>1</sup>

The Government has decided to increase the rate of out-of-work donation to men and women by 5s. [\$1.22] a week, men to receive 29s. [\$7.06] and women 25s. [\$6.08] a week, the dependents' allowance remaining unaltered. Boys and girls between

<sup>1</sup> Labor Gazette, London, December, 1918, p. 484.

15 and 18 will receive an increase of 2s. 6d. [60.8 cents] a week, boys to receive 14s. 6d. [\$3.53] and girls 12s. 6d. [\$3.04] a week, respectively. The new scale will be payable as from Thursday, 12th December, for the period covered by the scheme.

When the Government found that the demobilization of men having definite employment awaiting them could be effected more rapidly than had at first been anticipated, the following statement was issued December 12, 1919:

#### SPEEDING UP DEMOBILIZATION.<sup>1</sup>

1. One of the guiding principles in the Government's scheme for the demobilization of the forces is that the men demobilized first for return to civil life shall include those who have been ascertained to have definite employment awaiting them, and that among such men those shall be given highest priority who are pivotal men and whose return will be of the greatest immediate value in creating employment for others and in reconstructing industrial, business, and professional life.

2. The schemes of selection of pivotal men have been announced and are in operation, and the first batches of men are being released. As it may now be possible to release men from the forces more rapidly and sooner than was at first anticipated, the Government desires to accelerate the process of identifying the men in the forces who, though they can not be treated as pivotal, have definite work awaiting them.

3. The Government have therefore decided to afford the opportunity to employers of securing, by direct communication with their employees in the forces in the manner explained below, that those who were in their employment on or before 4th August, 1914, and to whom they can now offer employment shall be registered for demobilization. Such a definite offer of employment in writing, if produced to his commanding officer by the officer or man concerned, will be accepted as evidence that employment is awaiting him, and the man will be registered by his commanding officer to be demobilized in the same way as a "slip man" under the civil employment form procedure and ranking for priority after a "pivotal" man.

4. The offer must be in the following form:

I/We (full name and postal address of employer) hereby declare that (full name and naval or military number and address of employee) was in my/our employment before 4th August, 1914, and that I/we are prepared to offer him employment as a (name occupation) immediately on his return to civil life (or give the date after which the employment will be available).

5. The offer must first be taken or sent, in the case of officers to the local district director of the appointments department, in the case of other ranks to the local advisory committee attached to the nearest employment exchange, who, without guaranteeing in any way the offer of employment, will do their best to eliminate spurious or collusive offers. The district director or local advisory committee, where they are in a position to endorse the offer, will forward it to the officer or man at the address given by the employer, but will assume no responsibility for the correctness of the address.

6. If the officer or man desires to accept the employment offered, he will hand the statement to his commanding officer, who will then register him for demobilization.

7. This procedure is additional to (1) the selection of pivotal men now in progress, and (2) the use of the civil employment form, which is now being filled up by members of the forces, and the postcards (E. D. 406) and R. C. V. forms which employers have been invited to fill up. It is designed to hasten the identification for demobilization of those members of the forces who have prewar employment awaiting them.

<sup>1</sup> Labor Gazette, London, December, 1918, p. 484.

8. The actual date of demobilization will depend partly on naval and military exigencies and partly on the transport and other accommodation available, but no other formalities will be required. The naval and military authorities are anxious to release as quickly as possible officers and men required for reconstruction, but it will be understood that some individuals are so essential to the forces that they can not be released immediately; for example, such men as the personnel of military railways overseas, hospital attendants, farriers, mechanical transport, and officers or men in the regular army serving on prewar attestations.

9. Offers of employment to prewar apprentices should be made by their former employers in the same way as offers to other prewar employees.

10. (a) Officers and men on leave in this country from overseas who wish to accept offers of reemployment from their prewar employers must (i) get the offer endorsed by the local district director or local advisory committee (see par. 5), if it has not been so endorsed, (ii) take or send the endorsed offer to the following authorities, who will arrange for them to be demobilized, unless they are indispensable for the present to the forces.

Navy: Officers to Admiralty (C. W. Branch), London, SW 1; other ranks and ratings to their depots, or if they are not attached to one, to the nearest depot.

Army: Officers to the war office; other ranks to their military record office.

Air force: Officers to the air ministry; other ranks to the record office, Blandford.

(b) Army officers and other ranks on leave from units in the United Kingdom will act in accordance with paragraph 6. They must return to their units to be demobilized if they can be spared.

11. It is not necessary for offers of employment to be sent to officers or men of the following classes:

(a) Individuals for whose release as "pivotal" men application has already been made to the demobilization and resettlement department, or to a body authorized by them to select "pivotal" men, unless the applicant has been informed that his application can not be approved or has reason to believe that the naval or military address given was incorrect or has changed. Men approved by the demobilization and resettlement department as pivotal men will receive the highest priority in demobilization.

(b) Officers and men who have notified their commanding officers that their civil occupation is that of a student or teacher, and are accordingly classified in Industrial Group 43 in their naval and military documents. Instructions as to the demobilization of such individuals are being sent to the forces.

(c) Officers or men serving in the forces who in civil life practice a profession or are their own employers—such as barristers or proprietors of one-man businesses—can secure their registration for demobilization most rapidly by filling up the civil employment form, which all members of the forces can obtain from their commanding officers.

(d) Special arrangements are being made with port labor committees about men employed before the war in docks, wharves, and harbors.



## PROVISION FOR THE DISABLED, AND VOCATIONAL EDUCATION.

### SOLDIERS AND SAILORS URGED TO CONTINUE UNITED STATES GOVERNMENT INSURANCE.

In view of the fact that most of the four million soldiers and sailors who have taken out insurance under the plan provided by the Government and administered by the Bureau of War Risk Insurance of the Treasury Department will return to civil life as the process of demobilization is consummated, it becomes of the highest importance that these men shall not neglect, through ignorance or misunderstanding, to continue the privileges and protection afforded by the possession of United States Government insurance. They owe it to themselves, to their dependents, and to the entire Nation, to assure that the largest possible percentage of this insurance shall remain in force. The Secretary of the Treasury, in a statement issued in December, 1918, called upon the press of the country to assist in a Nation-wide campaign of education so that those who hold this insurance may be apprised of its continuation and conversion features as provided by law. In this connection the following open letter has been addressed to the soldiers and sailors of America:

*To the soldiers and sailors of America:*

Approximately 4,000,000 officers and men of the Army and Navy are now insured with the United States Government for a grand total of almost thirty-seven billion dollars.

You owe it to yourself and to your family to hold on to Uncle Sam's insurance. It is the strongest, safest, and cheapest life insurance ever written.

For your protection Uncle Sam has established the greatest life insurance company in the world—a company as mighty, as generous, and as democratic as the United States Government itself. Just as Uncle Sam protected you and your loved ones during the war, so he stands ready to continue this protection through the days of readjustment and peace.

The privilege of continuing your Government insurance is a valuable right given to you as part of the compensation for your heroic and triumphant services. If you permit the insurance to lapse, you lose that right and you will never be able to regain it. But if you keep up your present insurance—by the regular payment of premiums—you will be able to change it into a standard Government policy *without medical examination*. Meantime you can keep up your present insurance at substantially the same low rate. The Government will write ordinary life insurance, 20-payment life, endowment maturing at age of 62, and other usual forms of insurance. This will be Government insurance at Government rates.

The United States Government, through the Bureau of War Risk Insurance of the Treasury Department, will safeguard you and your loved ones with the spirit and purpose of a Republic grateful to its gallant defenders. To avail yourself of this protection, you must keep up your present insurance. Carry back with you to civil life, as an aid and an asset, the continued insurance protection of the United States Government.

*Hold on to Uncle Sam's insurance.*

# PRICES AND COST OF LIVING.

## RETAIL PRICES OF FOOD IN THE UNITED STATES.

According to reports received by the Bureau of Labor Statistics, the retail price of all articles of food combined for the United States was 2 per cent higher on December 15, 1918, than on November 15, 1918. Prices are shown for 29 articles, 14 of which decreased in price, ranging from 5 per cent for pork chops to five-tenths of 1 per cent for sirloin steak and rib roast. Dairy products show an increase over last month; strictly fresh eggs and butter each being 9 per cent, cheese 5 per cent, and milk 2 per cent higher. Bacon, salmon, bread, flour, and sugar remained the same in price.

TABLE 1.—AVERAGE RETAIL PRICES AND PER CENT OF INCREASE OR DECREASE DEC. 15, 1918, COMPARED WITH DEC. 15, 1917, AND NOV. 15, 1918.

Article.	Unit.	Average retail price—			Per cent of increase (+) or decrease (-) Dec. 15, 1918, compared with—	
		Dec. 15, 1917.	Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15, 1917.	Nov. 15, 1918.
Sirloin steak.....	Pound....	\$0.320	\$0.405	\$0.404	+26	(1)
Round steak.....	do.....	.300	.385	.382	+27	-1
Rib roast.....	do.....	.253	.320	.319	+26	(1)
Chuck roast.....	do.....	.215	.275	.273	+27	-1
Plate beef.....	do.....	.164	.212	.211	+29	-1
Pork chops.....	do.....	.338	.433	.413	+22	-5
Bacon.....	do.....	.487	.583	.585	+20	(2)
Ham.....	do.....	.435	.524	.533	+23	+2
Lard.....	do.....	.333	.342	.342	+4	(3)
Lamb.....	do.....	.302	.351	.344	+14	-2
Hens.....	do.....	.304	.393	.384	+26	-2
Salmon, canned.....	do.....	.290	.313	.314	+8	(2)
Eggs, strictly fresh.....	Dozen.....	.634	.741	.811	+28	+9
Eggs, storage.....	do.....	.....	.541	.581	.....	+7
Butter.....	Pound.....	.543	.668	.727	+34	+9
Cheese.....	do.....	.345	.406	.427	+24	+5
Milk.....	do.....	.131	.154	.157	+20	+2
Bread.....	Pound <sup>4</sup> .....	.093	.098	.098	+5	(3)
Flour.....	Pound.....	.067	.067	.067	(3)	(3)
Corn meal.....	do.....	.071	.065	.064	-10	-2
Rice.....	do.....	.116	.140	.139	+20	-1
Rotatoes.....	do.....	.031	.033	.032	+3	-3
Onions.....	do.....	.050	.040	.039	-22	-3
Beans, navy.....	do.....	.188	.161	.154	-8	-4
Prunes.....	do.....	.164	.184	.192	+17	+4
Raisins, seeded.....	do.....	.150	.158	.161	+7	+2
Sugar.....	do.....	.094	.108	.108	+15	(3)
Coffee.....	do.....	.303	.308	.324	+7	+5
Tea.....	do.....	.621	.679	.675	+9	-1
All articles combined.....	.....	.....	.....	.....	+19	+2

<sup>1</sup> Decrease of less than one-half of 1 per cent.

<sup>2</sup> Increase of less than one-half of 1 per cent.

<sup>3</sup> No change in price.

<sup>4</sup> Baked weight.

Comparing December, 1918, with December, 1917 (Table 1), the increase of all articles combined was 19 per cent. Butter shows the greatest increase, being 34 per cent higher than in December, 1917. The next greatest increase is shown in plate boiling beef, 29 per cent. Eggs advanced 28 per cent, cheese 24 per cent, milk 20 per cent. Rice increased 20 per cent, prunes 17 per cent, and sugar 15 per cent. Bread increased only 5 per cent in the year while flour was the same price as a year ago. Corn meal was 10 per cent cheaper than in December, 1917.

During the five-year period, December, 1913, to December, 1918 (Table 2), all food combined shows an increase of 79 per cent. Seven of 17 articles show an increase of 100 per cent or over; sugar 100 per cent, ham 101 per cent, pork chops 104 per cent, corn meal 106 per cent, flour 109 per cent, lard 116 per cent, and bacon 119 per cent. The remaining 10 articles all show an increase of 60 per cent or over.

TABLE 2.—AVERAGE RETAIL PRICES AND PER CENT OF INCREASE OR DECREASE DEC. 15 OF EACH SPECIFIED YEAR COMPARED WITH DEC. 15, 1913.

Article.	Unit.	Average retail price Dec. 15—						Per cent of increase (+) or decrease (—) Dec. 15 of each specified year compared with Dec. 15, 1913.				
		1913	1914	1915	1916	1917	1918	1914	1915	1916	1917	1918
Sirloin steak.....	Pound..	\$0.251	\$0.257	\$0.251	\$0.268	\$0.320	\$0.404	+ 2	(1)	+ 7	+ 27	+ 61
Round steak.....	do.....	.225	.230	.225	.240	.300	.382	+ 2	(1)	+ 7	+ 33	+ 70
Rib roast.....	do.....	.199	.199	.197	.210	.253	.319	(1)	— 1	+ 6	+ 27	+ 60
Chuck roast.....	do.....		.165	.160	.169	.215	.273					
Plate beef.....	do.....		.125	.119	.128	.164	.211					
Pork chops.....	do.....	.202	.195	.184	.222	.338	.413	— 4	— 9	+10	+ 67	+104
Bacon.....	do.....	.267	.278	.273	.298	.487	.585	+ 4	+ 2	+12	+ 82	+119
Ham.....	do.....	.265	.268	.270	.332	.435	.533	+ 1	+ 2	+25	+ 64	+101
Lard.....	do.....	.158	.154	.145	.259	.333	.342	— 3	— 8	+64	+111	+116
Lamb.....	do.....	.185	.190	.197	.223	.302	.344	+ 3	+ 6	+21	+ 63	+ 86
Hens.....	do.....	.208	.201	.203	.241	.304	.384	— 3	— 2	+16	+ 46	+ 85
Salmon, canned..	do.....			.198	.212	.290	.314					
Eggs, strictly fresh.	Dozen...	.476	.476	.465	.529	.634	.811	(1)	— 2	+11	+ 33	+ 70
Eggs, storage.....	do.....					.581						
Butter.....	Pound..	.398	.394	.386	.449	.543	.727	— 1	— 3	+13	+ 36	+ 83
Cheese.....	do.....			.237	.310	.345	.427					
Milk.....	Quart..	.091	.090	.089	.100	.131	.157	— 1	— 2	+10	+ 44	+ 73
Bread.....	Pound <sup>2</sup> ..	.056	.065	.070	.079	.093	.098	+16	+24	+40	+ 66	+ 75
Flour.....	Pound..	.032	.037	.037	.055	.067	.067	+16	+16	+72	+109	+109
Corn meal.....	do.....	.031	.032	.032	.039	.071	.064	+ 3	+ 3	+26	+129	+106
Rice.....	do.....			.090	.091	.116	.139					
Potatoes.....	do.....	.019	.015	.019	.035	.031	.032	—21	(1)	+84	+ 63	+ 68
Onions.....	do.....			.035	.057	.050	.039					
Beans, navy.....	do.....			.089	.143	.188	.154					
Prunes.....	do.....			.133	.138	.164	.192					
Raisins.....	do.....			.125	.139	.150	.161					
Sugar.....	do.....	.054	.060	.067	.083	.094	.108	+11	+24	+54	+ 74	+100
Coffee.....	do.....			.299	.299	.308	.324					
Tea.....	do.....			.546	.546	.621	.675					
All articles combined.								+ 1	+ 1	+21	+ 51	+ 79

<sup>1</sup> No change in price.

<sup>2</sup> Baked weight.

TABLE 3.—AVERAGE PRICE AND RELATIVE PRICE, FOR THE UNITED STATES, FOR THE YEARS 1913 AND 1918, AND FOR JANUARY TO DECEMBER, 1918.

Year and month.	All articles combined.	Sirloin steak, per pound.		Round steak, per pound.		Rib roast, per pound.		Chuck roast, per pound.		Plate beef, per pound.		Pork chops, per pound.	
	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.
Average for the year 1913.....	100	\$0.254	100	\$0.223	100	\$0.198	100	\$0.160	100	\$0.121	100	\$0.210	100
1918.													
January.....	160	.327	129	.306	137	.258	130	.221	138	.172	142	.343	163
February.....	161	.334	131	.314	141	.263	133	.227	142	.177	146	.336	160
March.....	154	.338	133	.318	143	.268	135	.232	145	.182	150	.339	161
April.....	154	.366	144	.345	155	.293	148	.255	159	.199	164	.356	170
May.....	158	.400	157	.380	170	.318	161	.278	174	.219	181	.367	175
June.....	162	.426	168	.406	182	.335	169	.295	184	.227	188	.372	177
July.....	167	.421	166	.403	181	.333	168	.291	182	.224	185	.379	180
August.....	171	.415	163	.386	178	.326	165	.283	177	.217	179	.422	201
September.....	178	.417	164	.398	178	.327	165	.284	178	.219	181	.461	220
October.....	181	.410	161	.390	175	.323	163	.279	174	.215	178	.454	216
November.....	183	.405	159	.385	173	.320	162	.275	172	.212	175	.433	206
December.....	187	.404	159	.382	171	.319	161	.273	171	.211	174	.413	197
Average for year..	168	.389	153	.369	165	.307	155	.266	166	.206	170	.390	186

Year and month.	Bacon, per pound.		Ham, per pound.		Lard, per pound.		Lamb, per pound.		Hens, per pound.		Salmon, per pound.	
	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.
Average for the year 1913.....	\$0.270	100	\$0.269	100	\$0.158	100	.....	.....	\$0.213	100	.....	.....
1918.												
January.....	.486	180	.436	162	.329	208	\$0.308	.....	.329	154	\$0.292	.....
February.....	.484	179	.438	163	.330	209	.314	.....	.362	170	.291	.....
March.....	.488	181	.441	164	.332	210	.317	.....	.....	.....	.295	.....
April.....	.495	183	.446	166	.331	209	.353	.....	.....	.....	.295	.....
May.....	.505	187	.456	170	.329	208	.368	.....	.379	178	.296	.....
June.....	.515	191	.465	173	.326	206	.374	.....	.376	177	.296	.....
July.....	.523	194	.487	181	.325	206	.373	.....	.380	178	.296	.....
August.....	.540	200	.485	180	.331	209	.369	.....	.386	181	.302	.....
September.....	.562	208	.519	193	.336	213	.369	.....	.394	185	.305	.....
October.....	.579	214	.520	193	.342	216	.352	.....	.390	183	.309	.....
November.....	.583	216	.524	195	.342	216	.351	.....	.393	185	.313	.....
December.....	.585	217	.533	198	.342	216	.344	.....	.384	180	.314	.....
Average for year...	.529	196	.479	178	.333	211	.349	.....	.377	177	.300	.....

Year and month.	Eggs, per dozen.		Butter, per pound.		Cheese, per pound.		Milk, per quart.		Bread, per pound. <sup>1</sup>		Flour, per pound.	
	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.
Average for the year 1913.....	\$0.345	.....	\$0.383	100	.....	.....	\$0.089	100	\$0.057	100	\$0.033	100
1918.												
January.....	.674	195	.567	148	\$0.345	.....	.134	151	.094	166	.066	200
February.....	.627	177	.579	151	.349	.....	.134	151	.095	167	.066	200
March.....	.443	128	.552	144	.351	.....	.134	151	.096	168	.066	200
April.....	.425	123	.507	132	.341	.....	.132	148	.098	172	.066	200
May.....	.424	123	.510	133	.334	.....	.132	148	.099	174	.066	200
June.....	.425	123	.511	133	.332	.....	.130	146	.100	174	.067	203
July.....	.491	142	.526	137	.335	.....	.132	149	.099	174	.067	203
August.....	.536	155	.539	141	.346	.....	.136	153	.099	174	.068	206
September.....	.586	170	.592	155	.360	.....	.143	161	.099	174	.068	206
October.....	.641	186	.651	170	.385	.....	.148	166	.098	172	.067	203
November.....	.741	215	.668	174	.406	.....	.154	173	.098	172	.067	203
December.....	.811	235	.727	190	.427	.....	.157	176	.098	172	.067	203
Average for year..	.569	165	.577	151	.359	.....	.139	156	.098	172	.067	203

<sup>1</sup> Baked weight.

TABLE 3.—AVERAGE PRICE AND RELATIVE PRICE, FOR THE UNITED STATES, FOR THE YEARS 1913 AND 1918, AND FOR JANUARY TO DECEMBER, 1918—Concluded.

Year and month.	Corn meal, per pound.		Rice, per pound.		Potatoes, per pound.		Onions, per pound.		Beans, navy, per pound.		Prunes, per pound.	
	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.
Average for the year 1913.	\$0.030	100	.....	.....	\$0.017	100	.....	.....	.....	.....	.....	.....
1918.												
January.....	.070	233	\$0.117	.....	.032	188	\$0.050	.....	\$0.185	.....	\$0.164	.....
February.....	.070	233	.118	.....	.032	188	.049	.....	.181	.....	.165	.....
March.....	.072	240	.120	.....	.025	147	.040	.....	.181	.....	.165	.....
April.....	.071	237	.121	.....	.022	129	.033	.....	.180	.....	.166	.....
May.....	.070	233	.123	.....	.022	129	.036	.....	.178	.....	.165	.....
June.....	.067	223	.125	.....	.029	171	.048	.....	.175	.....	.166	.....
July.....	.067	223	.129	.....	.039	229	.053	.....	.173	.....	.167	.....
August.....	.068	227	.134	.....	.039	229	.055	.....	.171	.....	.171	.....
September.....	.069	230	.137	.....	.039	229	.050	.....	.169	.....	.174	.....
October.....	.068	227	.140	.....	.035	206	.045	.....	.167	.....	.183	.....
November.....	.065	217	.149	.....	.033	194	.040	.....	.161	.....	.184	.....
December.....	.064	213	.139	.....	.032	188	.039	.....	.154	.....	.192	.....
Average for year.....	.068	227	.129	.....	.032	188	.047	.....	.173	.....	.172	.....

Year and month.	Raisins, seeded, per pound.		Sugar, per pound.		Coffee, per pound.		Tea, per pound.					
	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.	Average price.	Relative price.				
Average for the year 1913.	.....	.....	\$0.055	100	.....	.....	.....	.....	.....	.....	.....	.....
1918.												
January.....	\$0.150	.....	.095	173	\$0.304	.....	\$0.623	.....	.....	.....	.....	.....
February.....	.150	.....	.106	193	.304	.....	.609	.....	.....	.....	.....	.....
March.....	.151	.....	.092	167	.304	.....	.615	.....	.....	.....	.....	.....
April.....	.151	.....	.091	165	.301	.....	.639	.....	.....	.....	.....	.....
May.....	.151	.....	.091	165	.301	.....	.638	.....	.....	.....	.....	.....
June.....	.151	.....	.091	165	.302	.....	.647	.....	.....	.....	.....	.....
July.....	.151	.....	.092	167	.301	.....	.653	.....	.....	.....	.....	.....
August.....	.153	.....	.093	169	.301	.....	.658	.....	.....	.....	.....	.....
September.....	.154	.....	.096	175	.303	.....	.664	.....	.....	.....	.....	.....
October.....	.155	.....	.106	193	.305	.....	.675	.....	.....	.....	.....	.....
November.....	.158	.....	.108	196	.308	.....	.679	.....	.....	.....	.....	.....
December.....	.161	.....	.108	196	.324	.....	.675	.....	.....	.....	.....	.....
Average for year.....	.153	.....	.097	176	.305	.....	.648	.....	.....	.....	.....	.....



TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 19 SELECTED CITIES FOR DEC. 15, 1913, 1914, 1917, AND 1918, AND NOV. 15, 1918.

[The prices shown below are computed from reports sent monthly to the bureau by retail dealers. As some dealers occasionally fail to report, the number of quotations varies from month to month.]

Article.	Unit.	Atlanta, Ga.					Baltimore, Md.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	Pound..	\$0.237	\$0.246	\$0.307	\$0.387	\$0.394	\$0.223	\$0.224	\$0.319	\$0.447	\$0.440
Round steak.....	do.....	.213	.213	.277	.356	.364	.208	.208	.310	.436	.429
Rib roast.....	do.....	.197	.186	.238	.300	.308	.175	.184	.262	.349	.347
Chuck roast.....	do.....	.157	.208	.259	.258	.258	.152	.227	.303	.304	.304
Plate beef.....	do.....	.097	.152	.200	.221	.221	.130	.181	.234	.237	.237
Pork chops.....	do.....	.233	.218	.357	.425	.411	.170	.158	.336	.462	.403
Bacon, sliced.....	do.....	.314	.302	.505	.618	.629	.205	.235	.458	.591	.568
Ham, sliced.....	do.....	.300	.294	.429	.538	.557	.275	.310	.477	.593	.591
Lard.....	do.....	.155	.153	.340	.351	.353	.148	.148	.330	.345	.340
Lamb.....	do.....	.202	.194	.325	.381	.387	.175	.200	.324	.392	.367
Hens.....	do.....	.203	.196	.306	.386	.356	.207	.192	.310	.402	.397
Salmon, canned.....	do.....	.235	.270	.264	.279	.279	.404	.435	.620	.731	.786
Eggs, strictly fresh.....	Dozen.....	.433	.409	.571	.676	.676	.404	.435	.620	.731	.786
Eggs, storage.....	do.....	.438	.528	.688	.831	.831	.440	.405	.568	.696	.747
Butter.....	Pound..	.404	.394	.552	.657	.716	.402	.405	.568	.696	.747
Cheese.....	do.....	.350	.422	.442	.442	.442	.351	.417	.455	.455	.455
Milk.....	Quart..	.108	.106	.177	.200	.200	.087	.087	.128	.170	.170
Bread.....	Pound 1	.056	.063	.099	.100	.100	.055	.059	.086	.097	.097
Flour.....	Pound..	.034	.037	.071	.068	.068	.031	.036	.066	.069	.070
Corn meal.....	do.....	.026	.028	.052	.057	.057	.025	.027	.061	.062	.061
Rice.....	do.....	.112	.144	.143	.143	.143	.116	.141	.142	.142	.142
Potatoes.....	do.....	.023	.018	.039	.044	.042	.018	.015	.030	.038	.035
Onions.....	do.....	.059	.057	.053	.053	.053	.054	.041	.042	.042	.042
Beans, navy.....	do.....	.188	.179	.175	.175	.175	.187	.178	.169	.169	.169
Prunes.....	do.....	.177	.192	.192	.192	.192	.175	.185	.191	.191	.191
Raisins, seeded.....	do.....	.167	.181	.183	.183	.183	.151	.159	.163	.163	.163
Sugar.....	do.....	.055	.065	.104	.109	.109	.049	.055	.095	.104	.104
Coffee.....	do.....	.288	.307	.321	.321	.321	.286	.298	.310	.310	.310
Tea.....	do.....	.790	.886	.871	.871	.871	.653	.733	.733	.733	.733
		Birmingham, Ala.					Boston, Mass.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	do.....	\$0.280	\$0.275	\$0.350	\$0.405	\$0.407	\$0.330	\$0.360	\$0.427	\$0.550	\$0.561
Round steak.....	do.....	.230	.240	.323	.370	.366	.343	.345	.427	.568	.564
Rib roast.....	do.....	.205	.209	.250	.335	.327	.237	.243	.309	.385	.400
Chuck roast.....	do.....	.170	.211	.289	.283	.283	.176	.253	.308	.312	.312
Plate beef.....	do.....	.120	.168	.221	.220	.220	.120	.168	.221	.220	.220
Pork chops.....	do.....	.206	.200	.341	.420	.415	.219	.213	.349	.469	.430
Bacon, sliced.....	do.....	.330	.350	.539	.625	.631	.243	.268	.453	.545	.551
Ham, sliced.....	do.....	.320	.310	.455	.520	.530	.307	.323	.453	.567	.575
Lard.....	do.....	.157	.148	.332	.335	.340	.158	.156	.341	.344	.349
Lamb.....	do.....	.219	.210	.325	.383	.375	.202	.212	.335	.377	.373
Hens.....	do.....	.193	.164	.300	.386	.348	.240	.240	.335	.446	.434
Salmon, canned.....	do.....	.288	.314	.312	.312	.312	.302	.320	.323	.323	.323
Eggs, strictly fresh.....	Dozen.....	.418	.375	.590	.648	.813	.575	.633	.775	.902	.968
Eggs, storage.....	do.....	.471	.555	.618	.360	.360	.480	.551	.564	.564	.564
Butter.....	Pound..	.440	.392	.575	.691	.754	.379	.377	.520	.638	.681
Cheese.....	do.....	.344	.453	.466	.466	.466	.328	.359	.372	.372	.372
Milk.....	Quart..	.100	.104	.152	.200	.200	.089	.089	.140	.165	.165
Bread.....	Pound 1	.054	.057	.099	.117	.117	.059	.060	.086	.091	.091
Flour.....	Pound..	.036	.038	.070	.069	.070	.036	.041	.075	.067	.067
Corn meal.....	do.....	.025	.024	.050	.053	.054	.036	.038	.079	.071	.069
Rice.....	do.....	.127	.142	.137	.137	.137	.120	.139	.140	.140	.140
Potatoes.....	do.....	.021	.017	.033	.041	.039	.017	.013	.035	.034	.042
Onions.....	do.....	.059	.044	.045	.045	.045	.058	.034	.034	.034	.034
Beans, navy.....	do.....	.192	.170	.175	.175	.175	.189	.169	.156	.156	.156
Prunes.....	do.....	.153	.164	.167	.167	.167	.172	.193	.196	.196	.196
Raisins, seeded.....	do.....	.150	.165	.171	.171	.171	.151	.154	.158	.158	.158
Sugar.....	do.....	.052	.061	.109	.108	.109	.053	.058	.101	.107	.108
Coffee.....	do.....	.331	.326	.360	.360	.360	.344	.348	.381	.381	.381
Tea.....	do.....	.764	.829	.842	.842	.842	.637	.653	.664	.664	.664

<sup>1</sup> Baked weight.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 19 SELECTED CITIES FOR DEC. 15, 1913, 1914, 1917, AND 1918, AND NOV. 15, 1918—Continued.

Article.	Unit.	Buffalo, N. Y.					Chicago, Ill.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	Pound..	\$0.216	\$0.224	\$0.310	\$0.390	\$0.385	\$0.241	\$0.253	\$0.292	\$0.373	\$0.370
Round steak.....	do.....	.188	.200	.290	.365	.360	.212	.219	.260	.341	.337
Rib roast.....	do.....	.164	.174	.243	.311	.303	.197	.204	.242	.313	.308
Chuck roast.....	do.....	.....	.154	.219	.271	.263	.....	.171	.205	.276	.270
Plate beef.....	do.....	.....	.124	.171	.223	.221	.....	.129	.159	.206	.207
Pork chops.....	do.....	.176	.172	.349	.421	.401	.179	.164	.298	.377	.364
Bacon, sliced.....	do.....	.206	.218	.457	.530	.537	.320	.309	.492	.595	.595
Ham sliced.....	do.....	.263	.250	.432	.529	.523	.318	.328	.429	.525	.534
Lard.....	do.....	.142	.139	.328	.327	.328	.150	.148	.319	.327	.324
Lamb.....	do.....	.154	.164	.280	.308	.303	.194	.197	.286	.337	.331
Hens.....	do.....	.198	.192	.307	.387	.381	.177	.169	.265	.315	.319
Salmon, canned.....	do.....	.....	.....	.283	.287	.290	.....	.....	.295	.317	.323
Eggs, strictly fresh.....	Dozen.....	.476	.510	.650	.739	.791	.400	.390	.588	.677	.728
Eggs, storage.....	do.....	.314	.....	.426	.526	.585	.320	.....	.438	.513	.540
Butter.....	Pound..	.391	.382	.536	.654	.740	.383	.366	.530	.653	.727
Cheese.....	do.....	.....	.....	.336	.383	.406	.....	.....	.366	.404	.422
Milk.....	Quart.....	.080	.080	.138	.160	.160	.080	.....	.119	.140	.140
Bread.....	Pound <sup>1</sup> .....	.056	.056	.087	.100	.098	.061	.063	.090	.102	.102
Flour.....	Pound..	.030	.035	.061	.063	.063	.029	.034	.061	.063	.063
Corn meal.....	do.....	.026	.027	.075	.060	.062	.029	.027	.069	.065	.063
Rice.....	do.....	.....	.....	.115	.137	.136	.....	.....	.115	.137	.137
Potatoes.....	do.....	.017	.010	.031	.028	.027	.017	.012	.026	.026	.025
Onions.....	do.....	.....	.....	.054	.038	.037	.....	.....	.044	.034	.034
Beans, navy.....	do.....	.....	.....	.193	.151	.146	.....	.....	.189	.157	.150
Prunes.....	do.....	.....	.....	.167	.192	.203	.....	.....	.160	.179	.194
Raisins, seeded.....	do.....	.....	.....	.141	.145	.148	.....	.....	.148	.157	.155
Sugar.....	do.....	.051	.058	.097	.106	.107	.051	.056	.084	.106	.106
Coffee.....	do.....	.....	.....	.295	.300	.316	.....	.....	.283	.286	.306
Tea.....	do.....	.....	.....	.542	.630	.623	.....	.....	.593	.604	.624
Article.	Unit.	Cleveland, Ohio.					Denver, Colo.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	do.....	\$0.246	\$0.243	\$0.297	\$0.366	\$0.363	\$0.229	\$0.221	\$0.283	\$0.357	\$0.354
Round steak.....	do.....	.217	.217	.278	.339	.340	.207	.210	.262	.319	.315
Rib roast.....	do.....	.186	.194	.238	.280	.282	.167	.176	.223	.270	.268
Chuck roast.....	do.....	.....	.171	.217	.262	.265	.....	.153	.197	.240	.242
Plate beef.....	do.....	.....	.123	.163	.198	.196	.....	.097	.139	.173	.173
Pork chops.....	do.....	.194	.167	.323	.410	.397	.200	.196	.339	.399	.389
Bacon, sliced.....	do.....	.279	.283	.467	.564	.584	.280	.300	.536	.593	.605
Ham, sliced.....	do.....	.363	.335	.444	.545	.574	.300	.300	.467	.571	.578
Lard.....	do.....	.164	.159	.330	.342	.342	.161	.158	.345	.347	.348
Lamb.....	do.....	.180	.189	.290	.324	.315	.156	.166	.286	.304	.298
Hens.....	do.....	.193	.186	.308	.374	.368	.199	.185	.281	.323	.327
Salmon, canned.....	do.....	.....	.....	.279	.300	.301	.....	.....	.275	.292	.309
Eggs, strictly fresh.....	Dozen.....	.480	.520	.660	.758	.836	.471	.400	.564	.679	.790
Eggs, storage.....	do.....	.343	.....	.443	.534	.596	.360	.....	.438	.540	.563
Butter.....	Pound..	.422	.406	.564	.688	.769	.379	.390	.533	.645	.701
Cheese.....	do.....	.....	.....	.346	.390	.393	.....	.....	.359	.393	.416
Milk.....	Quart.....	.080	.080	.120	.150	.150	.083	.084	.120	.128	.130
Bread.....	Pound <sup>1</sup> .....	.056	.057	.088	.100	.100	.056	.056	.097	.120	.118
Flour.....	Pound..	.031	.039	.068	.067	.066	.026	.030	.055	.060	.060
Corn meal.....	do.....	.029	.033	.076	.062	.060	.025	.027	.061	.059	.057
Rice.....	do.....	.....	.....	.124	.145	.145	.....	.....	.114	.150	.146
Potatoes.....	do.....	.020	.012	.030	.031	.030	.016	.012	.025	.028	.027
Onions.....	do.....	.....	.....	.051	.032	.033	.....	.....	.049	.037	.037
Beans, navy.....	do.....	.....	.....	.194	.146	.143	.....	.....	.184	.157	.152
Prunes.....	do.....	.....	.....	.176	.186	.194	.....	.....	.170	.190	.199
Raisins, seeded.....	do.....	.....	.....	.146	.156	.156	.....	.....	.142	.151	.159
Sugar.....	do.....	.054	.060	.094	.108	.109	.052	.059	.088	.114	.118
Coffee.....	do.....	.....	.....	.291	.305	.317	.....	.....	.295	.309	.317
Tea.....	do.....	.....	.....	.622	.667	.672	.....	.....	.576	.641	.648

<sup>1</sup> Baked weight.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 19  
SELECTED CITIES FOR DEC. 15, 1913, 1914, 1917, AND 1918, AND NOV. 15, 1918—Continued.

Article.	Unit.	Detroit, Mich.					Los Angeles, Cal.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	Pound..	\$0.248	\$0.236	\$0.296	0.353	\$0.360	\$0.231	\$0.232	\$0.266	\$0.329	\$0.327
Round steak.....	do.	.204	.204	.268	.325	.327	.213	.210	.240	.314	.312
Rib roast.....	do.	.202	.191	.237	.280	.284	.194	.202	.223	.291	.295
Chuck roast.....	do.	.....	.158	.193	.240	.239	.....	.158	.188	.246	.246
Plate beef.....	do.	.....	.116	.154	.190	.181	.....	.133	.158	.200	.203
Pork chops.....	do.	.182	.173	.318	.398	.385	.253	.258	.380	.464	.463
Bacon, sliced.....	do.	.223	.245	.456	.558	.561	.335	.342	.544	.657	.667
Ham, sliced.....	do.	.280	.280	.430	.556	.561	.345	.354	.529	.619	.631
Lard.....	do.	.160	.157	.336	.340	.340	.181	.174	.330	.346	.348
Lamb.....	do.	.160	.169	.290	.331	.318	.191	.197	.295	.334	.332
Hens.....	do.	.186	.178	.298	.355	.352	.279	.268	.348	.588	.460
Salmon, canned.....	do.	.....	.....	.292	.313	.316	.....	.....	.317	.361	.353
Eggs, strictly fresh.....	Dozen.....	.453	.415	.634	.761	.819	.533	.505	.591	.811	.829
Eggs, storage.....	do.	.335	.295	.436	.510	.569	.....	.....	.456	.568	.579
Butter.....	Pound..	.389	.389	.639	.670	.734	.397	.392	.517	.671	.696
Cheese.....	do.	.....	.....	.339	.410	.428	.....	.....	.342	.408	.430
Milk.....	Quart.....	.090	.090	.140	.150	.150	.100	.100	.120	.140	.140
Bread.....	Pound 1.....	.056	.059	.084	.095	.095	.060	.066	.083	.093	.091
Flour.....	Pound..	.031	.035	.064	.065	.065	.035	.040	.063	.072	.071
Corn meal.....	do.	.028	.031	.084	.066	.065	.035	.037	.077	.074	.071
Rice.....	do.	.....	.....	.117	.141	.140	.....	.....	.117	.140	.138
Potatoes.....	do.	.016	.011	.027	.026	.025	.019	.018	.027	.032	.031
Onions.....	do.	.....	.....	.053	.037	.039	.....	.....	.034	.034	.033
Beans, navy.....	do.	.....	.....	.185	.146	.140	.....	.....	.167	.159	.148
Prunes.....	do.	.....	.....	.160	.191	.185	.....	.....	.150	.184	.204
Raisins, seeded.....	do.	.....	.....	.139	.153	.156	.....	.....	.148	.158	.156
Sugar.....	do.	.051	.060	.086	.106	.108	.053	.059	.085	.106	.106
Coffee.....	do.	.....	.....	.293	.303	.315	.....	.....	.303	.304	.317
Tea.....	do.	.....	.....	.549	.613	.636	.....	.....	.600	.678	.703
		Milwaukee, Wis.					New Orleans, La.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	do.	\$0.234	\$0.233	\$0.287	\$0.340	\$0.345	\$0.215	\$0.225	\$0.271	\$0.325	\$0.329
Round steak.....	do.	.216	.217	.275	.329	.334	.191	.201	.237	.296	.296
Rib roast.....	do.	.188	.185	.233	.277	.283	.185	.184	.237	.292	.288
Chuck roast.....	do.	.....	.168	.216	.256	.261	.....	.141	.180	.223	.219
Plate beef.....	do.	.....	.128	.158	.196	.200	.....	.125	.157	.192	.202
Pork chops.....	do.	.174	.167	.301	.379	.373	.240	.242	.364	.450	.432
Bacon, sliced.....	do.	.274	.273	.488	.559	.578	.304	.316	.514	.635	.637
Ham, sliced.....	do.	.278	.277	.441	.517	.531	.270	.270	.424	.510	.506
Lard.....	do.	.160	.158	.331	.349	.353	.150	.138	.333	.348	.351
Lamb.....	do.	.185	.192	.296	.335	.337	.205	.206	.299	.375	.368
Hens.....	do.	.172	.172	.259	.312	.338	.220	.223	.303	.393	.370
Salmon, canned.....	do.	.....	.....	.274	.296	.316	.....	.....	.323	.340	.345
Eggs, strictly fresh.....	Dozen.....	.400	.375	.579	.638	.713	.340	.393	.530	.648	.725
Eggs, storage.....	do.	.330	.....	.416	.498	.518	.....	.....	.425	.516	.566
Butter.....	Pound..	.388	.378	.531	.665	.741	.398	.393	.550	.666	.752
Cheese.....	do.	.....	.....	.338	.427	.449	.....	.....	.348	.431	.454
Milk.....	Quart.....	.070	.070	.110	.130	.130	.098	.098	.138	.160	.160
Bread.....	Pound 1.....	.057	.063	.097	.092	.092	.050	.054	.083	.092	.092
Flour.....	Pound..	.030	.038	.062	.065	.065	.037	.040	.077	.073	.073
Corn meal.....	do.	.032	.038	.076	.067	.066	.027	.029	.070	.062	.059
Rice.....	do.	.....	.....	.116	.143	.144	.....	.....	.108	.122	.122
Potatoes.....	do.	.017	.013	.027	.026	.027	.022	.020	.051	.042	.039
Onions.....	do.	.....	.....	.048	.033	.035	.....	.....	.047	.043	.040
Beans, navy.....	do.	.....	.....	.194	.146	.143	.....	.....	.176	.159	.151
Prunes.....	do.	.....	.....	.159	.156	.172	.....	.....	.166	.185	.181
Raisins, seeded.....	do.	.....	.....	.148	.151	.153	.....	.....	.152	.166	.168
Sugar.....	do.	.055	.060	.087	.108	.115	.051	.060	.097	.105	.104
Coffee.....	do.	.....	.....	.265	.266	.288	.....	.....	.266	.272	.286
Tea.....	do.	.....	.....	.586	.659	.662	.....	.....	.621	.634	.639

1 Baked weight.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 19 SELECTED CITIES FOR DEC. 15, 1913, 1914, 1917, AND 1918, AND NOV. 15, 1918—Continued.

Article.	Unit.	New York, N. Y.					Philadelphia, Pa.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	Pound..	\$0.257	\$0.262	\$0.335	\$0.430	\$0.430	\$0.300	\$0.303	\$0.382	\$0.534	\$0.495
Round steak.....	do.....	.253	.259	.342	.448	.454	.260	.263	.370	.465	.464
Rib roast.....	do.....	.213	.215	.285	.383	.396	.218	.218	.288	.376	.375
Chuck roast.....	do.....	.166	.166	.222	.303	.310	.182	.182	.249	.326	.318
Plate beef.....	do.....	.155	.155	.218	.270	.267	.118	.117	.176	.226	.221
Pork chops.....	do.....	.184	.208	.345	.455	.427	.206	.194	.354	.449	.438
Bacon, sliced.....	do.....	.255	.263	.461	.553	.552	.250	.271	.466	.583	.580
Ham, sliced.....	do.....	.290	.295	.325	.569	.554	.291	.307	.486	.581	.576
Lard.....	do.....	.161	.158	.337	.343	.341	.152	.148	.338	.339	.339
Lamb.....	do.....	.154	.164	.277	.312	.294	.188	.192	.306	.369	.365
Hens.....	do.....	.207	.207	.307	.408	.401	.226	.229	.323	.441	.419
Salmon, canned.....	do.....	.346	.346	.346	.354	.352	.261	.261	.294	.296	.296
Eggs, strictly fresh..	Dozen..	.543	.538	.731	.802	.903	.483	.509	.663	.776	.828
Eggs, storage.....	do.....	.367	.471	.561	.604	.604	.347	.449	.578	.624	.624
Butter.....	Pound..	.411	.405	.548	.685	.762	.466	.450	.593	.716	.789
Cheese.....	do.....	.346	.346	.346	.367	.404	.370	.400	.419	.419	.419
Milk.....	Quart..	.090	.090	.140	.170	.170	.080	.080	.122	.140	.140
Bread.....	Pound <sup>1</sup>	.061	.063	.088	.099	.099	.048	.050	.086	.095	.094
Flour.....	Pound..	.032	.037	.076	.071	.069	.031	.037	.073	.067	.065
Corn meal.....	do.....	.034	.036	.085	.076	.075	.028	.029	.071	.067	.063
Rice.....	do.....	.117	.117	.139	.139	.139	.123	.147	.147	.147	.147
Potatoes.....	do.....	.024	.020	.038	.039	.040	.023	.019	.036	.042	.043
Onions.....	do.....	.058	.043	.043	.043	.043	.056	.041	.037	.037	.037
Beans, navy.....	do.....	.186	.168	.158	.158	.158	.187	.161	.150	.150	.150
Prunes.....	do.....	.174	.195	.225	.225	.225	.166	.195	.206	.206	.206
Raisins, seeded.....	do.....	.151	.152	.155	.155	.155	.135	.146	.146	.146	.146
Sugar.....	do.....	.049	.054	.099	.106	.104	.050	.055	.097	.105	.102
Coffee.....	do.....	.275	.283	.305	.305	.305	.279	.277	.296	.296	.296
Tea.....	do.....	.515	.541	.539	.539	.539	.571	.590	.590	.590	.590
Pittsburgh, Pa.							St. Louis, Mo.				
Sirloin steak.....	do.....	\$0.270	\$0.275	\$0.344	\$0.456	\$0.456	\$0.266	\$0.273	\$0.299	\$0.373	\$0.367
Round steak.....	do.....	.228	.240	.318	.422	.426	.236	.250	.289	.368	.356
Rib roast.....	do.....	.218	.213	.265	.353	.349	.195	.200	.252	.308	.303
Chuck roast.....	do.....	.172	.232	.308	.301	.301	.160	.204	.253	.252	.252
Plate beef.....	do.....	.132	.169	.225	.218	.218	.142	.168	.209	.211	.211
Pork chops.....	do.....	.208	.200	.348	.433	.404	.178	.175	.291	.395	.383
Bacon, sliced.....	do.....	.288	.304	.502	.613	.616	.250	.250	.477	.565	.553
Ham, sliced.....	do.....	.290	.310	.461	.588	.586	.273	.275	.451	.550	.555
Lard.....	do.....	.156	.154	.341	.343	.344	.127	.125	.296	.316	.316
Lamb.....	do.....	.207	.207	.344	.379	.365	.183	.193	.294	.326	.324
Hens.....	do.....	.248	.240	.357	.441	.448	.173	.173	.265	.322	.315
Salmon, canned.....	do.....	.311	.319	.312	.312	.312	.287	.319	.324	.324	.324
Eggs, strictly fresh..	Dozen..	.492	.464	.644	.752	.803	.408	.370	.584	.676	.719
Eggs, storage.....	do.....	.351	.451	.551	.608	.608	.288	.428	.499	.566	.566
Butter.....	Pound..	.420	.404	.569	.695	.763	.396	.395	.559	.673	.755
Cheese.....	do.....	.349	.349	.420	.436	.436	.351	.426	.440	.440	.440
Milk.....	Quart..	.092	.093	.127	.150	.150	.088	.088	.130	.140	.140
Bread.....	Pound <sup>1</sup>	.054	.056	.091	.098	.100	.056	.060	.099	.100	.100
Flour.....	Pound..	.032	.037	.070	.067	.067	.029	.034	.061	.063	.063
Corn meal.....	do.....	.030	.031	.090	.073	.072	.026	.026	.062	.052	.051
Rice.....	do.....	.121	.145	.145	.145	.145	.111	.137	.137	.137	.137
Potatoes.....	do.....	.019	.013	.031	.033	.031	.017	.013	.030	.030	.029
Onions.....	do.....	.049	.043	.040	.040	.040	.045	.039	.039	.039	.039
Beans, navy.....	do.....	.200	.159	.153	.153	.153	.183	.152	.144	.144	.144
Prunes.....	do.....	.172	.213	.221	.221	.221	.166	.193	.198	.198	.198
Raisins, seeded.....	do.....	.148	.151	.155	.155	.155	.167	.174	.182	.182	.182
Sugar.....	do.....	.055	.062	.097	.104	.109	.051	.056	.086	.109	.111
Coffee.....	do.....	.297	.305	.320	.320	.320	.280	.287	.304	.304	.304
Tea.....	do.....	.720	.780	.801	.801	.801	.636	.701	.718	.718	.718

<sup>1</sup>Baked weight.

TABLE 4.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 19  
SELECTED CITIES FOR DEC. 15, 1913, 1914, 1917, AND 1918, AND NOV. 15, 1918—Concluded.

Article.	Unit.	San Francisco, Cal.					Seattle, Wash.				
		Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.	Dec. 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917			1913	1914	1917		
Sirloin steak.....	Pound..	\$0.210	\$0.209	\$0.238	\$0.330	\$0.322	\$0.236	\$0.228	\$0.267	\$0.363	\$0.363
Round steak.....	do.....	.200	.203	.236	.321	.316	.206	.206	.253	.353	.354
Rib roast.....	do.....	.214	.227	.305	.302	.302	.200	.188	.220	.312	.311
Chuck roast.....	do.....	.151	.168	.239	.238	.238	.149	.183	.259	.251	.251
Plate beef.....	do.....	.144	.163	.221	.220	.220	.125	.155	.211	.206	.206
Pork chops.....	do.....	.242	.234	.362	.449	.440	.240	.234	.383	.479	.476
Bacon, sliced.....	do.....	.344	.371	.532	.605	.630	.330	.330	.524	.628	.633
Ham, sliced.....	do.....	.340	.350	.486	.562	.591	.300	.388	.443	.524	.566
Lard.....	do.....	.180	.179	.334	.336	.342	.169	.161	.320	.338	.336
Lamb.....	do.....	.166	.188	.281	.345	.349	.180	.186	.301	.354	.351
Hens.....	do.....	.245	.242	.349	.499	.473	.246	.212	.291	.393	.401
Salmon, canned.....	do.....	.533	.520	.252	.281	.283	.285	.285	.288	.305	.308
Eggs, strictly fresh.....	Dozen..	.417	.417	.596	.844	.850	.542	.504	.605	.881	.836
Eggs, storage.....	do.....	.417	.417	.441	.547	.566	.370	.484	.574	.586	.586
Butter.....	Pound..	.386	.375	.538	.683	.706	.438	.393	.549	.689	.709
Cheese.....	do.....	.100	.100	.329	.393	.401	.285	.305	.388	.412	.412
Milk.....	Quart..	.100	.100	.121	.140	.140	.098	.095	.125	.150	.157
Bread.....	Pound <sup>1</sup>	.059	.060	.096	.100	.100	.066	.062	.098	.099	.105
Flour.....	Pound..	.034	.039	.062	.069	.070	.029	.035	.058	.063	.067
Corn meal.....	do.....	.035	.037	.070	.073	.071	.033	.034	.075	.073	.073
Rice.....	do.....	.019	.017	.112	.141	.138	.015	.012	.108	.145	.140
Potatoes.....	do.....	.019	.017	.029	.031	.030	.015	.012	.020	.025	.024
Onions.....	do.....	.030	.026	.030	.026	.027	.015	.012	.042	.040	.039
Beans, navy.....	do.....	.163	.150	.136	.150	.136	.183	.168	.158	.158	.158
Prunes.....	do.....	.139	.171	.170	.170	.170	.145	.177	.185	.185	.185
Raisins, seeded.....	do.....	.137	.138	.142	.142	.142	.145	.152	.157	.157	.157
Sugar.....	do.....	.054	.059	.081	.105	.107	.061	.064	.088	.109	.109
Coffee.....	do.....	.301	.314	.315	.315	.315	.310	.321	.320	.320	.320
Tea.....	do.....	.539	.570	.575	.575	.575	.548	.604	.623	.623	.623

Article.	Unit.	Washington, D. C.				
		December 15.			Nov. 15, 1918.	Dec. 15, 1918.
		1913	1914	1917		
Sirloin steak.....	Pound..	\$0.265	\$0.270	\$0.363	\$0.510	\$0.501
Round steak.....	do.....	.226	.239	.345	.478	.465
Rib roast.....	do.....	.210	.207	.285	.394	.392
Chuck roast.....	do.....	.179	.179	.249	.348	.343
Plate beef.....	do.....	.128	.128	.185	.237	.234
Pork chops.....	do.....	.199	.196	.370	.513	.460
Bacon, sliced.....	do.....	.249	.259	.496	.589	.587
Ham, sliced.....	do.....	.290	.295	.468	.571	.582
Lard.....	do.....	.150	.143	.335	.348	.349
Lamb.....	do.....	.194	.208	.351	.409	.417
Hens.....	do.....	.220	.203	.329	.445	.430
Salmon, canned.....	do.....	.285	.285	.285	.339	.339
Eggs, strictly fresh.....	Dozen..	.421	.461	.679	.782	.818
Eggs, storage.....	do.....	.350	.462	.462	.576	.615
Butter.....	Pound..	.423	.414	.570	.700	.770
Cheese.....	do.....	.356	.356	.356	.395	.445
Milk.....	Quart..	.090	.090	.140	.170	.170
Bread.....	Pound <sup>1</sup>	.065	.057	.084	.101	.101
Flour.....	Pound..	.038	.041	.072	.069	.068
Corn meal.....	do.....	.026	.028	.069	.058	.056
Rice.....	do.....	.123	.123	.123	.144	.145
Potatoes.....	do.....	.018	.013	.033	.033	.030
Onions.....	do.....	.048	.048	.048	.035	.035
Beans, navy.....	do.....	.199	.199	.199	.154	.150
Prunes.....	do.....	.175	.175	.175	.204	.214
Raisins, seeded.....	do.....	.149	.149	.149	.160	.167
Sugar.....	do.....	.050	.056	.097	.105	.105
Coffee.....	do.....	.285	.285	.285	.297	.314
Tea.....	do.....	.612	.612	.612	.760	.723

<sup>1</sup> Baked weight.



TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 31 CITIES FOR NOV. 15 AND DEC. 15, 1918.

[The prices shown below are computed from reports sent monthly to the bureau by retail dealers. As some dealers occasionally fail to report, the number of quotations varies from month to month.]

Article.	Unit.	Bridgeport, Conn.		Butte, Mont.		Charleston, S. C.		Cincinnati, Ohio.		Columbus, Ohio.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	Pound..	\$0.515	\$0.508	\$0.362	\$0.361	\$0.375	\$0.373	\$0.340	\$0.336	\$0.381	\$0.378
Round steak.....	do.....	.500	.492	.337	.338	.379	.377	.337	.328	.362	.355
Rib roast.....	do.....	.390	.380	.306	.301	.323	.327	.275	.271	.315	.306
Chuck roast.....	do.....	.335	.322	.249	.246	.273	.264	.234	.234	.286	.272
Plate beef.....	do.....	.213	.210	.181	.170	.218	.214	.211	.206	.227	.215
Pork chops.....	do.....	.469	.421	.471	.430	.483	.458	.383	.359	.373	.367
Bacon, sliced.....	do.....	.623	.635	.664	.679	.619	.630	.545	.548	.577	.559
Ham, sliced.....	do.....	.613	.621	.575	.600	.540	.550	.528	.523	.551	.537
Lard.....	do.....	.342	.342	.337	.341	.356	.355	.323	.321	.342	.339
Lamb.....	do.....	.364	.344	.352	.342	.400	.403	.308	.298	.370	.327
Hens.....	do.....	.435	.425	.387	.379	.478	.472	.369	.366	.342	.346
Salmon, canned.....	do.....	.349	.366	.400	.400	.311	.299	.284	.282	.292	.309
Eggs, strictly fresh.....	Dozen...	.933	.996	.794	.933	.590	.727	.662	.720	.697	.742
Eggs, storage.....	do.....	.554	.596	.586	.618	.531	.541	.544	.572	.513	.554
Butter.....	Pound..	.614	.671	.667	.695	.672	.701	.676	.741	.695	.760
Cheese.....	do.....	.381	.404	.395	.432	.420	.445	.419	.445	.400	.421
Milk.....	Quart..	.170	.170	.150	.155	.200	.200	.140	.140	.150	.150
Bread.....	Pound 1.	.100	.100	.100	.100	.100	.100	.096	.098	.097	.097
Flour.....	Pound 1.	.069	.068	.069	.070	.070	.070	.065	.064	.066	.065
Corn meal.....	do.....	.082	.081	.084	.082	.058	.054	.056	.054	.061	.059
Rice.....	do.....	.143	.143	.147	.142	.120	.118	.140	.143	.141	.138
Potatoes.....	do.....	.036	.034	.021	.022	.046	.042	.034	.032	.032	.030
Onions.....	do.....	.040	.043	.043	.043	.053	.050	.036	.035	.040	.037
Beans, navy.....	do.....	.172	.166	.166	.163	.192	.192	.143	.134	.142	.138
Prunes.....	do.....	.191	.185	.184	.184	.208	.217	.162	.190	.179	.205
Raisins, seeded.....	do.....	.163	.165	.150	.150	.166	.171	.161	.166	.151	.153
Sugar.....	do.....	.109	.107	.115	.120	.104	.107	.108	.107	.110	.109
Coffee.....	do.....	.324	.336	.423	.427	.288	.307	.270	.309	.295	.309
Tea.....	do.....	.659	.684	.805	.768	.697	.701	.665	.676	.831	.838
Article.	Unit.	Dallas, Tex.		Fall River, Mass.		Houston, Tex.		Indianapolis, Ind.		Jacksonville, Fla.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	do.....	\$0.375	\$0.373	\$0.583	\$0.589	\$0.343	\$0.339	\$0.356	\$0.358	\$0.407	\$0.403
Round steak.....	do.....	.373	.366	.507	.503	.346	.341	.346	.349	.393	.388
Rib roast.....	do.....	.327	.325	.378	.365	.286	.286	.276	.274	.319	.318
Chuck roast.....	do.....	.285	.292	.308	.298	.242	.242	.253	.254	.279	.269
Plate beef.....	do.....	.235	.231	.....	.....	.203	.200	.203	.204	.206	.207
Pork chops.....	do.....	.439	.445	.437	.427	.438	.417	.398	.393	.450	.434
Bacon, sliced.....	do.....	.626	.660	.533	.533	.656	.669	.546	.567	.609	.624
Ham, sliced.....	do.....	.558	.580	.524	.551	.514	.514	.546	.564	.527	.533
Lard.....	do.....	.333	.338	.337	.339	.320	.314	.338	.337	.349	.339
Lamb.....	do.....	.397	.390	.380	.369	.413	.388	.....	.....	.376	.371
Hens.....	do.....	.341	.333	.445	.441	.367	.333	.306	.302	.427	.418
Salmon, canned.....	do.....	.307	.317	.288	.289	.314	.321	.257	.265	.300	.292
Eggs, strictly fresh.....	Dozen...	.623	.735	.879	.990	.568	.726	.693	.709	.700	.850
Eggs, storage.....	do.....	.540	.607	.553	.608	.509	.570	.530	.551	.571	.629
Butter.....	Pound..	.633	.678	.612	.673	.665	.731	.676	.755	.672	.738
Cheese.....	do.....	.428	.451	.363	.378	.395	.418	.407	.431	.440	.455
Milk.....	Quart..	.190	.190	.160	.160	.192	.198	.130	.140	.180	.180
Bread.....	Pound 1.	.100	.100	.100	.100	.090	.090	.100	.100	.100	.100
Flour.....	Pound 1.	.067	.068	.070	.069	.070	.070	.064	.064	.071	.072
Corn meal.....	do.....	.067	.063	.080	.080	.065	.062	.057	.055	.062	.058
Rice.....	do.....	.137	.135	.137	.139	.123	.123	.147	.148	.134	.134
Potatoes.....	do.....	.037	.034	.034	.034	.036	.035	.029	.027	.044	.040
Onions.....	do.....	.052	.049	.042	.038	.045	.044	.039	.039	.063	.059
Beans, navy.....	do.....	.174	.168	.178	.165	.166	.164	.145	.140	.180	.171
Prunes.....	do.....	.180	.188	.179	.185	.160	.186	.174	.173	.199	.223
Raisins, seeded.....	do.....	.152	.158	.162	.163	.169	.170	.168	.176	.170	.185
Sugar.....	do.....	.110	.113	.110	.109	.109	.107	.110	.110	.105	.109
Coffee.....	do.....	.332	.350	.333	.335	.287	.303	.301	.318	.336	.363
Tea.....	do.....	.775	.820	.604	.615	.607	.589	.793	.792	.786	.791

<sup>1</sup> Baked weight.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 31 CITIES FOR NOV. 15 AND DEC. 15, 1918—Continued.

Article.	Unit.	Kansas City, Mo.		Little Rock, Ark.		Louisville, Ky.		Manchester, N. H.		Memphis, Tenn.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	Pound..	\$0.370	\$0.364	\$0.404	\$0.400	\$0.371	\$0.371	\$0.558	\$0.555	\$0.377	\$0.378
Round steak.....	do.....	.352	.345	.383	.373	.351	.349	.509	.498	.355	.352
Rib roast.....	do.....	.284	.275	.348	.330	.305	.306	.359	.355	.306	.297
Chuck roast.....	do.....	.236	.238	.283	.273	.266	.263	.311	.305	.263	.262
Plate beef.....	do.....	.200	.203	.229	.227	.231	.228	.....	.....	.225	.225
Pork chops.....	do.....	.376	.379	.436	.408	.424	.408	.447	.395	.426	.413
Bacon, sliced.....	do.....	.602	.600	.607	.616	.591	.592	.544	.540	.606	.619
Ham, sliced.....	do.....	.527	.531	.538	.527	.540	.541	.539	.538	.533	.554
Lard.....	do.....	.352	.352	.346	.354	.339	.343	.344	.345	.342	.341
Lamb.....	do.....	.297	.292	.375	.357	.388	.388	.366	.344	.369	.361
Hens.....	do.....	.312	.316	.355	.335	.366	.366	.461	.454	.348	.331
Salmon, canned.....	do.....	.323	.316	.306	.305	.295	.294	.309	.310	.382	.384
Eggs, strictly fresh.....	Dozen.....	.668	.755	.596	.739	.603	.743	.915	.956	.642	.761
Eggs, storage.....	do.....	.522	.552	.562	.615	.495	.563	.571	.590	.538	.630
Butter.....	Pound.....	.665	.723	.662	.709	.687	.770	.667	.724	.686	.753
Cheese.....	do.....	.425	.467	.441	.463	.429	.451	.369	.383	.436	.474
Milk.....	Quart.....	.160	.160	.180	.150	.150	.154	.154	.154	.100	.180
Bread.....	Pound <sup>1</sup> .....	.100	.100	.100	.100	.099	.098	.093	.093	.100	.100
Flour.....	Pound.....	.064	.069	.065	.066	.065	.066	.069	.068	.067	.067
Corn meal.....	do.....	.063	.063	.057	.056	.051	.050	.076	.076	.057	.054
Rice.....	do.....	.137	.138	.132	.130	.135	.134	.142	.141	.133	.133
Potatoes.....	do.....	.030	.029	.033	.032	.029	.027	.032	.031	.035	.033
Onions.....	do.....	.046	.044	.049	.041	.040	.040	.037	.036	.044	.041
Beans, navy.....	do.....	.171	.160	.148	.149	.154	.152	.170	.153	.164	.158
Prunes.....	do.....	.170	.184	.159	.154	.187	.202	.185	.188	.196	.203
Raisins, seeded.....	do.....	.167	.170	.161	.180	.176	.162	.159	.162	.163	.169
Sugar.....	do.....	.111	.113	.109	.110	.110	.109	.109	.109	.106	.108
Coffee.....	do.....	.287	.321	.339	.361	.276	.284	.342	.361	.308	.335
Tea.....	do.....	.768	.769	.839	.867	.792	.783	.594	.626	.814	.815

Article.	Unit.	Minneapolis, Minn.		Mobile, Ala.		Newark, N. J.		New Haven, Conn.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	Pound.....	\$0.284	\$0.288	\$0.348	\$0.346	\$0.469	\$0.460	\$0.564	\$0.548
Round steak.....	do.....	.275	.280	.348	.346	.474	.466	.528	.510
Rib roast.....	do.....	.237	.242	.316	.320	.387	.385	.391	.377
Chuck roast.....	do.....	.209	.209	.271	.273	.338	.321	.366	.344
Plate beef.....	do.....	.168	.168	.241	.235	.238	.239	.....	.....
Pork chops.....	do.....	.374	.361	.468	.462	.454	.418	.460	.396
Bacon, sliced.....	do.....	.550	.581	.625	.638	.540	.532	.599	.613
Ham, sliced.....	do.....	.517	.539	.514	.515	2.463	2.423	.605	.611
Lard.....	do.....	.333	.338	.329	.338	.346	.347	.347	.347
Lamb.....	do.....	.279	.259	.350	.355	.375	.354	.392	.369
Hens.....	do.....	.292	.306	.400	.338	.430	.424	.439	.439
Salmon, canned.....	do.....	.374	.371	.266	.263	.360	.342	.346	.349
Eggs, strictly fresh.....	Dozen.....	.627	.690	.683	.750	.915	.938	.969	1.021
Eggs, storage.....	do.....	.470	.496	.580	.598	.572	.599	.559	.563
Butter.....	Pound.....	.643	.691	.671	.693	.698	.768	.643	.681
Cheese.....	do.....	.396	.414	.420	.451	.392	.411	.376	.390
Milk.....	Quart.....	.130	.130	.175	.150	.177	.177	.160	.160
Bread.....	Pound <sup>1</sup> .....	.088	.088	.....	.097	.097	.097	.102	.102
Flour.....	Pound.....	.062	.062	.069	.069	.071	.067	.068	.067
Corn meal.....	do.....	.053	.052	.064	.061	.078	.082	.081	.077
Rice.....	do.....	.142	.139	.127	.126	.146	.144	.143	.142
Potatoes.....	do.....	.022	.023	.045	.043	.042	.041	.035	.034
Onions.....	do.....	.024	.024	.047	.046	.049	.049	.047	.047
Beans, navy.....	do.....	.142	.132	.172	.164	.165	.159	.168	.165
Prunes.....	do.....	.170	.182	.202	.185	.180	.183	.199	.200
Raisins, seeded.....	do.....	.151	.149	.192	.186	.151	.152	.159	.163
Sugar.....	do.....	.110	.111	.108	.109	.104	.104	.109	.106
Coffee.....	do.....	.312	.323	.289	.294	.305	.315	.337	.342
Tea.....	do.....	.564	.571	.650	.650	.586	.579	.621	.620

<sup>1</sup> Baked weight.<sup>2</sup> Whole.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 31 CITIES FOR NOV. 15 AND DEC. 15, 1918—Continued.

Article.	Unit.	Norfolk, Va.		Omaha, Nebr.		Peoria, Ill.		Portland, Me.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	Pound...	\$0.482	\$0.454	\$0.368	\$0.367	\$0.353	\$0.353	\$0.569	\$0.575
Round steak.....	do.....	.441	.434	.349	.348	.335	.341	.496	.485
Rib roast.....	do.....	.389	.389	.283	.282	.263	.262	.335	.336
Chuck roast.....	do.....	.310	.312	.252	.244	.236	.235	.298	.295
Plate beef.....	do.....	.235	.240	.183	.186	.196	.186	.....	.....
Pork chops.....	do.....	.462	.433	.378	.384	.374	.362	.468	.448
Bacon, sliced.....	do.....	.620	.580	.604	.612	.587	.588	.549	.552
Ham, sliced.....	do.....	.459	.452	.554	.557	.547	.558	.547	.560
Lard.....	do.....	.372	.364	.345	.345	.343	.343	.350	.348
Lamb.....	do.....	.386	.400	.312	.313	.368	.350	.362	.348
Hens.....	do.....	.434	.434	.312	.296	.326	.315	.442	.445
Salmon, canned.....	do.....	.303	.298	.304	.304	.305	.304	.300	.299
Eggs, strictly fresh.....	Dozen...	.673	.713	.671	.745	.638	.714	.880	.918
Eggs, storage.....	do.....	.580	.604	.553	.551	.525	.562	.570	.595
Butter.....	Pound...	.660	.712	.652	.710	.647	.703	.671	.727
Cheese.....	do.....	.408	.441	.419	.440	.447	.439	.385	.389
Milk.....	Quart...	.180	.180	.148	.147	.119	.118	.157	.158
Bread.....	Pound <sup>1</sup> ...	.099	.099	.100	.100	.100	.100	.100	.100
Flour.....	Pound...	.071	.070	.063	.062	.069	.069	.067	.067
Corn meal.....	do.....	.062	.061	.056	.055	.064	.062	.071	.069
Rice.....	do.....	.150	.148	.149	.149	.142	.143	.139	.138
Potatoes.....	do.....	.041	.038	.027	.026	.027	.026	.032	.030
Onions.....	do.....	.052	.048	.038	.039	.043	.041	.039	.038
Beans, navy.....	do.....	.182	.174	.150	.150	.161	.155	.163	.158
Prunes.....	do.....	.206	.194	.190	.187	.199	.206	.183	.181
Raisins, seeded.....	do.....	.166	.176	.181	.177	.161	.164	.150	.153
Sugar.....	do.....	.107	.108	.110	.110	.110	.110	.107	.107
Coffee.....	do.....	.334	.350	.338	.350	.273	.294	.314	.331
Tea.....	do.....	.773	.800	.703	.712	.667	.704	.622	.613
Article.	Unit.	Portland, Ore.		Providence, R. I.		Richmond, Va.		Rochester, N. Y.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	do.....	\$0.319	\$0.316	\$0.652	\$0.652	\$0.449	\$0.446	\$0.378	\$0.383
Round steak.....	do.....	.312	.306	.544	.536	.420	.420	.362	.366
Rib roast.....	do.....	.288	.285	.430	.422	.349	.349	.307	.309
Chuck roast.....	do.....	.233	.229	.388	.382	.313	.319	.294	.296
Plate beef.....	do.....	.180	.181	.....	.....	.252	.259	.223	.224
Pork chops.....	do.....	.444	.431	.501	.488	.463	.440	.432	.409
Bacon, sliced.....	do.....	.579	.589	.541	.553	.581	.582	.513	.511
Ham, sliced.....	do.....	.531	.548	.609	.617	.503	.516	.517	.528
Lard.....	do.....	.352	.352	.348	.349	.354	.355	.345	.343
Lamb.....	do.....	.328	.326	.405	.379	.433	.420	.341	.328
Hens.....	do.....	.369	.378	.462	.455	.409	.408	.443	.422
Salmon, canned.....	do.....	.365	.367	.341	.343	.250	.250	.306	.308
Eggs, strictly fresh.....	Dozen...	.731	.799	.902	.957	.648	.779	.779	.890
Eggs, storage.....	do.....	.578	.613	.552	.571	.571	.614	.523	.559
Butter.....	Pound...	.699	.716	.639	.675	.678	.745	.632	.715
Cheese.....	do.....	.451	.457	.368	.375	.407	.422	.371	.386
Milk.....	Quart...	.155	.155	.165	.165	.157	.155	.150	.155
Bread.....	Pound <sup>1</sup> ...	.100	.100	.100	.100	.100	.100	.100	.100
Flour.....	Pound...	.067	.065	.067	.067	.069	.068	.066	.066
Corn meal.....	do.....	.075	.075	.070	.068	.061	.061	.065	.065
Rice.....	do.....	.140	.139	.139	.139	.146	.146	.142	.141
Potatoes.....	do.....	.028	.025	.037	.034	.040	.035	.029	.027
Onions.....	do.....	.033	.033	.040	.038	.054	.050	.033	.033
Beans, navy.....	do.....	.152	.138	.167	.162	.181	.167	.151	.145
Prunes.....	do.....	.146	.150	.202	.194	.186	.190	.205	.209
Raisins, seeded.....	do.....	.148	.149	.152	.153	.154	.155	.151	.154
Sugar.....	do.....	.106	.109	.108	.107	.109	.110	.106	.106
Coffee.....	do.....	.317	.329	.351	.369	.296	.312	.300	.314
Tea.....	do.....	.632	.621	.622	.588	.768	.777	.581	.593

<sup>1</sup> Baked weight.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD FOR 31 CITIES FOR NOV. 15 AND DEC. 15, 1918—Concluded.

Article.	Unit.	St. Paul, Minn.		Salt Lake City, Utah.		Scranton, Pa.		Springfield, Ill.	
		Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.	Nov. 15, 1918.	Dec. 15, 1918.
Sirloin steak.....	Pound..	\$0.327	\$0.338	\$0.340	\$0.343	\$0.456	\$0.459	\$0.344	\$0.345
Round steak.....	do.....	.300	.300	.323	.330	.414	.415	.337	.341
Rib roast.....	do.....	.266	.278	.274	.286	.365	.371	.268	.254
Chuck roast.....	do.....	.238	.238	.243	.244	.314	.319	.241	.245
Plate beef.....	do.....	.183	.181	.188	.187	.228	.234	.203	.205
Pork chops.....	do.....	.372	.373	.454	.427	.449	.444	.400	.383
Bacon, sliced.....	do.....	.561	.562	.593	.604	.594	.612	.561	.548
Ham, sliced.....	do.....	.523	.533	.518	.533	.565	.579	.513	.511
Lard.....	do.....	.344	.342	.355	.350	.349	.351	.340	.346
Lamb.....	do.....	.271	.276	.308	.319	.385	.376	.342	.343
Hens.....	do.....	.314	.314	.358	.346	.446	.450	.310	.290
Salmon, canned.....	do.....	.303	.304	.329	.338	.316	.317	.300	.296
Eggs, strictly fresh.....	Dozen.....	.629	.722	.713	.811	.689	.883	.656	.708
Eggs, storage.....	do.....	.488	.506	.549	.598	.553	.589	.552	.603
Butter.....	Pound..	.647	.700	.653	.695	.613	.677	.686	.745
Cheese.....	do.....	.393	.425	.432	.441	.368	.392	.425	.452
Milk.....	Quart.....	.128	.140	.120	.125	.150	.150	.142	.143
Bread.....	Pound <sup>1</sup> .....	.086	.085	.101	.104	.100	.100	.100	.100
Flour.....	Pound..	.064	.064	.057	.057	.069	.068	.066	.067
Corn meal.....	do.....	.061	.059	.075	.077	.078	.074	.068	.069
Rice.....	do.....	.141	.139	.140	.138	.136	.137	.143	.145
Potatoes.....	do.....	.022	.022	.022	.022	.031	.029	.029	.028
Onions.....	do.....	.029	.029	.035	.038	.044	.045	.037	.038
Beans, navy.....	do.....	.142	.140	.163	.160	.167	.167	.153	.148
Prunes.....	do.....	.187	.200	.160	.167	.176	.186	.169	.178
Raisins, seeded.....	do.....	.146	.152	.146	.151	.149	.149	.173	.181
Sugar.....	do.....	.110	.111	.111	.114	.108	.108	.110	.110
Coffee.....	do.....	.315	.331	.352	.357	.333	.333	.301	.329
Tea.....	do.....	.593	.604	.649	.640	.618	.619	.791	.769

<sup>1</sup> Baked weight.

## INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES, 1913 TO DECEMBER, 1918.

Wholesale prices in the United States reached new high levels in 1918. Beginning with January the bureau's weighted index number advanced steadily, reaching the highest level, 207, in September. In October it dropped to 204, increasing again in November to 206. No change in prices as a whole is shown for December, the index standing at the level reached in the preceding month.

Marked decreases from November to December occurred in the four groups of cloths and clothing, metals and metal products, chemicals and drugs, and miscellaneous commodities. In the cloths and clothing group the decrease was from 253 to 246, in the metals and metal products group from 186 to 183, in the chemicals and drugs group from 201 to 182, and in the miscellaneous group from 207 to 204. On the other hand, a noticeable increase took place in the food, etc., group, the index for December standing at 207 as compared with 203 for November. Smaller increases occurred in the farm products and fuel and lighting groups, while no change is shown by the index numbers for the groups of lumber and building materials and house-furnishing goods.

Among important commodities whose wholesale prices averaged lower in December than in November were flaxseed, barley, oats, hay, hogs, peanuts, tobacco, lemons, oranges, lard, mutton, veal, cotton yarns, harness leather, print cloths, silk, alcohol, copper, bar silver, steel billets, steel plates, structural steel, tin plate, linseed oil, turpentine, rosin, alum, glycerin, jute, rope, rubber, and wood pulp. Corn, cattle, butter, cheese, coffee, eggs, bacon, fresh and salt beef, hams, salt pork, milk, cabbage, onions, potatoes, anthracite coal, and lime averaged higher in price, while cotton, rye, wheat, hides, sheep, poultry, canned goods, wheat flour, corn meal, rice, sugar, salt and tea remained practically unchanged in price.

In the period from December, 1917, to December, 1918, the index number of farm products increased from 204 to 221, that of food articles from 185 to 207, and that of cloths and clothing from 206 to 246. During the same period the index number of fuel and lighting increased from 153 to 183, that of metals and metal products from 173 to 183, and that of lumber and building materials from 135 to 163. The index number for house-furnishing goods, which is built on a limited number of tableware articles, increased from 175 to 233, and that of miscellaneous articles, including such important commodities as cottonseed meal, jute, malt, lubricating oil, news-print paper, rubber, starch, soap, plug tobacco, and wood pulp from 166 to 204. In the group of chemicals and drugs the index number decreased from 230 in December, 1917, to 182 in December of the present year, a drop of over 20 per cent.

INDEX NUMBERS OF WHOLESALE PRICES, 1913 TO DECEMBER, 1918, BY GROUPS OF COMMODITIES.

[1913=100.]

Year and month.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Lumber and building materials.	Chemicals and drugs.	House-furnishing goods.	Miscellaneous.	All commodities.
1913.										
Average for year.....	100	100	100	100	100	100	100	100	100	100
January.....	97	99	100	99	107	100	101	100	100	99
April.....	97	96	100	99	102	101	100	100	99	98
July.....	101	101	100	100	98	101	99	100	102	101
October.....	103	102	100	100	99	98	100	100	100	101
1914.										
Average for year.....	103	103	98	92	87	97	103	103	97	99
January.....	101	102	99	99	92	98	101	103	98	100
April.....	103	95	100	98	91	99	101	103	99	98
July.....	104	103	100	90	85	97	101	103	97	99
August.....	109	112	100	89	85	97	100	103	97	102
September.....	108	116	99	87	86	96	106	103	98	103
October.....	103	107	98	87	83	96	109	103	95	99
November.....	101	106	97	87	81	95	108	103	95	98
December.....	99	105	97	87	83	94	107	103	96	97



## INDEX NUMBERS OF WHOLESALE PRICES, 1913, TO DECEMBER, 1918, BY GROUPS OF COMMODITIES—Concluded.

Year and month.	Farm products.	Food, etc.	Cloths and clothing.	Fuel and lighting.	Metals and metal products.	Lumber and building materials.	Chemicals and drugs.	House-furnishing goods.	Miscellaneous.	All commodities.
1915.										
Average for year....	105	104	100	87	97	94	113	101	98	100
January.....	102	106	96	86	83	94	106	101	98	98
February.....	105	108	97	86	87	95	104	101	97	100
March.....	105	104	97	86	89	94	103	101	97	99
April.....	107	105	98	84	91	94	102	101	97	99
May.....	109	105	98	83	96	94	102	101	96	100
June.....	105	102	98	83	100	93	104	101	96	99
July.....	108	104	99	84	102	94	107	101	96	101
August.....	108	103	99	85	100	93	109	101	96	100
September.....	103	100	100	88	100	93	114	101	96	98
October.....	105	104	103	90	100	93	121	101	99	101
November.....	102	108	105	93	104	95	141	101	100	102
December.....	103	111	107	96	114	97	146	101	103	105
1916.										
Average for year....	122	126	127	115	148	101	143	110	121	123
January.....	108	114	110	102	126	99	140	105	107	110
February.....	109	114	114	102	132	100	144	105	106	111
March.....	111	115	117	104	141	101	147	105	109	114
April.....	114	117	119	105	147	102	150	109	111	116
May.....	116	119	122	104	151	102	153	109	114	118
June.....	116	119	123	105	149	101	150	109	121	118
July.....	118	121	126	105	145	98	143	111	122	119
August.....	126	128	128	107	145	100	132	111	123	123
September.....	131	134	131	110	148	100	132	111	126	127
October.....	136	140	137	128	151	101	135	114	132	133
November.....	145	150	146	150	160	103	142	115	135	143
December.....	141	146	155	163	185	105	143	115	136	146
1917.										
Average for year....	188	177	181	169	208	124	185	155	154	175
January.....	147	150	161	170	183	106	144	128	137	150
February.....	150	160	162	178	190	108	146	129	138	155
March.....	162	161	163	181	199	111	151	129	140	160
April.....	180	182	169	178	208	114	155	151	144	171
May.....	196	191	173	187	217	117	164	151	148	181
June.....	196	187	179	193	239	127	165	162	153	184
July.....	198	180	187	183	257	132	185	165	151	185
August.....	204	180	193	159	249	133	198	165	156	184
September.....	203	178	193	155	228	134	203	165	155	182
October.....	207	183	194	142	182	134	242	165	164	180
November.....	211	184	202	151	173	135	232	175	165	182
Decemoer.....	204	185	206	153	173	135	230	175	166	181
1918.										
January.....	205	188	209	169	173	136	216	188	178	185
February.....	207	186	213	171	175	137	217	188	181	187
March.....	211	178	220	171	175	142	217	188	184	187
April.....	217	179	230	170	176	145	214	188	193	191
May.....	212	178	234	172	177	147	209	188	197	191
June.....	214	179	243	171	177	148	205	192	199	193
July.....	221	185	249	178	183	153	202	192	192	198
August.....	229	191	251	178	183	156	207	227	191	202
September.....	236	199	251	179	183	158	206	233	195	207
October.....	223	199	253	179	186	157	204	233	197	204
November.....	219	203	253	182	186	163	201	233	207	206
December <sup>1</sup> .....	221	207	246	183	183	163	182	233	204	206

<sup>1</sup> Preliminary.

## CHANGES IN WHOLESALE PRICES IN THE UNITED STATES.

Information gathered by the Bureau of Labor Statistics in representative markets shows that the wholesale prices of many important commodities continued to increase during the last quarter of 1918.

Among these were cattle, bacon, hams, salt pork, butter, eggs, fresh milk, and anthracite coal. On the other hand, some articles, as hogs, sheep, hides, cotton, cotton and worsted yarn, copper, steel billets, pig tin, pig lead, and spelter decreased in price during the quarter. A number of commodities showed no change in price.

Comparing prices in December with those for January it is seen that some commodities were cheaper. Examples of these are sheep, mutton, corn, corn meal, oats, rye, rye flour, barley, potatoes, cotton, hides, sole leather, pig iron, and steel billets. Large increases between January and December are shown for cattle, beef, hogs, eggs, milk, sugar, chrome calf leather, shoes, and coal.

WHOLESALE PRICES IN JULY, 1914, 1915, 1916, AND 1917, AND IN CERTAIN MONTHS OF 1918, AS COMPARED WITH AVERAGE PRICES IN 1913.

## AVERAGE MONEY PRICES.

Article.	Unit.	1913	July—				1918					
			1914	1915	1916	1917	Jan.	Apr.	July.	Oct.	Nov.	Dec.
FOODSTUFFS.												
(a) Animal.												
Cattle, good to choice steers.	100lbs..	\$ 8.507	\$ 9.219	\$ 9.213	\$ 9.985	\$ 12.560	\$ 13.113	\$ 15.175	\$ 17.625	\$ 17.856	\$ 18.156	\$ 18.360
Beef, fresh, good native steers.	Lb.....	.130	.135	.132	.141	.164	.175	.205	.240	.245	.245	.245
Beef, salt, extra mess.	Bbl....	18.923	17.250	17.500	18.250	30.500	31.500	31.900	34.875	35.500	35.500	35.500
Hogs, heavy.....	100lbs..	8.365	8.769	7.281	9.825	15.460	16.300	17.150	17.720	17.850	17.813	17.575
Bacon, short clear sides.	Lb.....	.127	.141	.111	.157	.248	.293	.271	.276	.286	.285	.301
Hams, smoked, loose.	Lb.....	.166	.177	.161	.190	.240	.295	.308	.303	.336	.354	.367
Lard, prime, contract.	Lb.....	.110	.102	.081	.131	.201	.250	.258	.264	.266	.272	.255
Pork, salt, mess...	Bbl....	22.471	23.625	18.500	27.167	42.250	50.400	53.200	48.500	42.500	44.250	50.000
Sheep, ewes.....	100 lbs..	4.687	4.538	5.469	6.545	8.600	11.144	14.950	10.975	9.469	8.844	8.750
Mutton, dressed..	Lb.....	.103	.095	.109	.131	.145	.192	.243	.205	.151	.163	.150
Butter, creamery, extra.	Lb.....	.310	.270	.261	.276	.376	.487	.415	.432	.554	.610	.670
Eggs, fresh, firsts..	Doz....	.226	.187	.169	.223	.318	.557	.330	.374	.497	.606	.624
Milk.....	Qt.....	.035	.030	.030	.031	.050	.081	.059	.054	.082	.087	.092
(b) Vegetable.												
Wheat, No. 1 northern.	Bu.....	.874	.897	1.390	1.170	2.582	2.170	2.170	2.170	2.216	2.221	2.221
Wheat flour, standard patent.	Bbl....	4.584	4.594	7.031	6.100	12.750	10.085	9.985	10.702	10.210	10.210	10.210
Corn, No. 2, mixed.	Bu.....	.625	.710	.783	.808	2.044	1.775	1.665	1.665	1.385	1.350	1.445
Corn meal.....	100 lbs..	1.599	1.780	1.750	1.982	4.880	4.835	5.350	4.825	3.370	2.963	3.238
Oats, standard, in store.	Bu.....	.376	.369	.529	.405	.764	.799	.872	.765	.693	.736	.710
Rye, No. 2.....	Bu.....	.636	.618	1.036	.966	2.226	1.915	2.648	1.705	1.625	1.636	1.616
Rye flour.....	Bbl....	3.468	3.075	5.533	5.035	11.417	10.356	13.687	10.500	9.169	9.100	9.108
Barley, fair to good malting.	Bu.....	.625	.533	.743	.746	1.391	1.534	1.722	1.125	.957	.958	.946
Rice, Honduras, head.	Lb.....	.051	.054	.049	.045	.070	.079	.087	.094	.091	.091	.091
Potatoes, white.....	Bu.....	.614	1.206	.444	.863	2.375	1.272	.687	1.035	.993	.964	1.023
Sugar, granulated.	Lb.....	.043	.042	.058	.075	.075	.074	.073	.074	.088	.088	.088

<sup>1</sup> Standard war flour.

WHOLESALE PRICES IN JULY, 1914, 1915, 1916, AND 1917, AND IN CERTAIN MONTHS OF 1918, AS COMPARED WITH AVERAGE PRICES IN 1913—Continued.

## AVERAGE MONEY PRICES—Concluded.

Article.	Unit.	1913	July—				1918					
			1914	1915	1916	1917	Jan.	Apr.	July.	Oct.	Nov.	Dec.
TEXTILES AND LEATHER GOODS.												
Cotton, upland, middling.	Lb.....	\$0.128	\$0.131	\$0.092	\$0.130	\$0.261	\$0.324	\$0.317	\$0.312	\$0.325	\$0.295	\$0.304
Cotton yarn, carded, 10/1.	Lb.....	.221	.215	.160	.253	.450	.536	.616	.641	.610	.593	.550
Sheeting, brown, Pepperell.	Yd.....	.073	.070	.060	.078	.140	.171	.240	(1)	(1)	(1)	(1)
Bleached muslin, Lonsdale.	Yd.....	.082	.085	.075	.088	.160	.180	.230	.250	.250	.250	.250
Wool, 1/4 and 3/8 grades, scoured.	Lb.....	.471	.444	.557	.686	1.200	1.455	1.455	1.437	1.437	1.437	1.437
Worsted yarn, 2/32's.	Lb.....	.777	.650	.850	1.100	1.600	2.000	2.150	2.150	2.150	2.000	
Clay worsted suitings, 16-oz.	Yd.....	1.382	1.328	1.508	2.000	3.250	4.065	4.275	4.450	(1)	(1)	(1)
Storm serge, all-wool, 50-in.	Yd.....	.563	.505	.539	.760	1.176	1.308	1.308	1.470	1.642	1.642	1.642
Hides, packers' heavy native steers.	Lb.....	.184	.194	.258	.270	.330	.328	.272	.324	.300	.290	.290
Leather, chrome calf.	Sq. ft..	.270	.275	.280	.460	.540	.530	.550	.640	.630	.630	.630
Leather, sole, oak.	Lb.....	.449	.475	.495	.635	.815	.830	.800	.830	.770	.770	.785
Shoes, men's, Goodyear welt, vici calf, blucher.	Pair....	3.113	3.150	3.250	3.750	4.750	4.750	5.000	5.645	6.500	6.500	6.500
Shoes, women's, Goodyear welt, gun metal, button.	Pair....	2.175	2.260	2.350	2.750	3.500	3.500	3.500	4.500	4.850	4.850	4.850
MINERAL AND METAL PRODUCTS.												
Coal, anthracite, chestnut.	2,240 lbs.	\$5.313	\$5.241	\$5.200	\$5.507	\$5.933	\$6.600	\$6.370	\$6.693	\$7.000	\$7.922	\$8.050
Coal, bituminous, run of mine.	2,000 lbs.	2.200	2.200	2.200	2.200	5.000	3.600	3.600	4.100	4.100	4.100	4.100
Coke, furnace, prompt.	2,000 lbs.	2.538	2.000	2.750	2.750	15.000	6.000	6.000	6.000	6.000	6.000	6.000
Copper, electrolytic	Lb.....	.157	.134	.199	.265	.318	.235	.235	.255	.260	.260	.254
Copper wire, bare, No. 8.	Lb.....	.167	.148	.210	.325	.338	.263	.263	.285	.290	.290	.290
Pig iron, Bessemer	2,240 lbs.	17.133	14.900	14.950	21.950	57.450	37.250	36.150	36.600	36.600	36.600	36.600
Steel billets.....	2,240 lbs.	25.789	19.000	21.380	41.000	100.000	47.500	47.500	47.500	47.500	47.500	45.100
Tin plate, domestic, coke.	100 lbs.	3.558	3.350	3.175	5.875	12.000	7.750	7.750	7.750	7.750	7.750	7.510
Pig tin.....	Lb.....	.449	.311	.391	.389	.620	.842	.880	.932	.796	.740	.715
Pig lead.....	Lb.....	.044	.039	.058	.069	.114	.068	.070	.080	.081	.081	.067
Spelter.....	Lb.....	.058	.051	.220	.113	.093	.079	.070	.087	.091	.087	.084
Petroleum, crude.	Bbl....	2.450	1.750	1.350	2.600	3.100	3.750	4.000	4.000	4.000	4.000	4.000
Petroleum, refined, water-white.	Gal....	.123	.120	.120	.120	.120	.160	.168	.171	.175	.175	.175
Gasoline, motor...	Gal....	.168	.140	.120	.240	.240	.240	.240	.241	.245	.245	.245

<sup>1</sup> No quotation.

WHOLESALE PRICES IN JULY, 1914, 1915, 1916, AND 1917, AND IN CERTAIN MONTHS OF 1918, AS COMPARED WITH AVERAGE PRICES IN 1913—Concluded.

## RELATIVE PRICES.

Article.	1913	July—				1918					
		1914	1915	1916	1917	Jan.	Apr.	July.	Oct.	Nov.	Dec.
FOODSTUFFS.											
(a) Animal.											
Cattle, good to choice steers.....	100	108.4	108.3	117.4	147.6	154.1	178.4	207.2	209.9	213.4	215.8
Beef, fresh, good native steers.....	100	103.8	101.5	108.5	126.2	134.6	157.7	184.6	188.5	188.5	188.5
Beef, salt, extra mess.....	100	91.2	92.5	96.4	161.2	166.5	168.6	184.3	187.6	187.6	187.6
Hogs, heavy.....	100	104.8	87.0	117.5	184.8	194.9	205.0	211.8	213.4	212.9	210.1
Bacon, short clear sides.....	100	111.0	87.4	123.6	195.3	230.7	213.4	217.3	225.2	224.4	237.0
Hams, smoked, loose.....	100	106.6	97.0	114.5	144.0	177.7	185.5	182.5	202.4	213.3	221.1
Lard, prime, contract.....	100	92.7	73.6	119.1	182.7	227.3	234.5	240.0	241.8	247.3	231.8
Pork, salt, mess.....	100	105.1	82.3	120.9	188.0	224.3	236.7	215.8	189.1	196.9	222.5
Sheep, ewes.....	100	96.8	116.7	139.6	183.5	237.8	319.0	234.2	202.0	188.7	186.7
Mutton, dressed.....	100	92.2	105.8	127.2	140.8	186.4	235.9	199.0	146.6	158.3	145.6
Butter, creamery, extra.....	100	87.1	84.2	89.0	121.3	157.1	133.9	139.4	178.7	196.8	216.1
Eggs, fresh, firsts.....	100	82.7	74.8	98.7	140.7	246.5	146.0	165.5	219.9	268.1	276.1
Milk.....	100	85.7	85.7	88.6	142.9	231.4	168.6	154.3	234.3	248.6	262.9
(b) Vegetable.											
Wheat, No. 1 northern.....	100	102.6	159.0	133.9	295.4	248.3	248.3	248.3	253.5	254.1	254.1
Wheat flour, standard patent.....	100	100.2	153.4	133.1	278.1	220.0	217.8	233.5	222.7	222.7	222.7
Corn, No. 2 mixed.....	100	113.6	125.3	129.3	327.0	284.0	266.4	266.4	221.6	216.0	231.2
Corn meal.....	100	111.3	109.4	124.0	305.2	302.4	334.6	301.8	210.8	185.3	202.5
Oats, standard in store.....	100	98.1	140.7	107.7	203.2	212.5	231.9	203.5	184.3	195.7	188.8
Rye, No. 2.....	100	97.2	162.9	151.9	350.0	301.1	416.4	268.1	255.5	257.2	254.1
Rye flour.....	100	88.7	159.5	145.2	329.2	298.6	394.7	302.8	264.4	255.6	262.6
Barley, fair to good malting.....	100	85.3	118.9	119.4	222.6	245.4	275.5	180.0	153.1	153.3	151.4
Rice, Honduras, head.....	100	105.9	96.1	88.2	137.3	154.9	170.6	184.3	178.4	178.4	178.4
Potatoes, white.....	100	196.4	72.3	140.6	386.8	207.2	111.9	168.6	161.7	157.0	166.6
Sugar, granulated.....	100	97.7	134.9	174.4	174.4	172.1	169.8	172.1	204.7	204.7	204.7
TEXTILES AND LEATHER GOODS.											
Cotton, upland, middling.....	100	102.3	71.9	101.6	203.9	253.1	247.7	243.8	253.9	230.5	237.5
Cotton yarn, carded, 10/1.....	100	97.3	72.4	114.5	203.6	242.5	278.7	289.6	276.0	268.3	248.9
Sheeting, brown, Pepperell.....	100	95.9	82.2	106.8	191.8	234.2	328.8	(2)	(2)	(2)	(2)
Bleached muslin, Lonsdale.....	100	103.7	91.5	107.3	195.1	219.5	280.5	304.9	304.9	304.9	304.9
Wool, 1 to 3 grades, scoured.....	100	94.3	118.3	145.6	254.8	308.9	308.9	305.1	305.1	305.1	305.1
Worsted yarn, 2/32s.....	100	83.7	109.4	144.6	205.9	257.4	276.7	276.7	276.7	276.7	257.4
Clay worsted suitings, 16-ounce.....	100	96.1	109.1	141.7	235.2	294.1	309.3	322.0	(2)	(2)	(2)
Storm serge, all wool, 50-inch.....	100	89.7	95.7	135.0	208.9	232.3	332.3	261.1	291.7	291.7	291.7
Hides, packers', heavy native steers.....	100	105.4	140.2	146.7	179.3	178.3	147.8	176.1	163.0	157.6	157.6
Leather, chrome calf.....	100	101.9	103.7	170.4	200.0	196.3	203.7	237.0	233.3	233.3	233.3
Leather, sole, oak.....	100	105.8	110.2	141.4	181.5	184.9	178.2	184.9	171.5	171.5	174.8
Shoes, men's Goodyear welt, vici calf, blucher.....	100	101.2	104.4	120.5	152.6	152.6	160.6	181.3	208.8	208.8	208.8
Shoes, women's Goodyear welt, gun metal, button.....	100	103.9	108.1	126.4	160.9	160.9	160.9	206.9	223.0	223.0	223.0
MINERAL AND METAL PRODUCTS.											
Coal, anthracite, chestnut.....	100	98.6	97.9	103.7	111.7	124.2	119.9	126.0	131.8	149.1	151.5
Coal, bituminous, run of mine.....	100	100.0	100.0	100.0	227.3	162.7	162.7	186.4	186.4	186.4	186.4
Coke, furnace, prompt shipment.....	100	78.8	69.0	108.4	591.0	236.4	236.4	236.4	236.4	236.4	236.4
Copper, electrolytic.....	100	85.4	126.8	168.8	202.5	149.7	149.7	162.4	165.6	165.6	161.8
Copper wire, bare, No. 8.....	100	88.6	125.7	195.6	202.4	157.5	157.5	170.7	173.7	173.7	173.7
Pig iron, Bessemer.....	100	87.0	87.3	128.1	335.3	217.4	211.0	213.6	213.6	213.6	213.6
Steel billets.....	100	73.7	82.9	159.0	387.8	184.2	184.2	184.2	184.2	184.2	174.9
Tin plate, domestic, coke.....	100	94.2	89.2	165.1	337.3	217.8	217.8	217.8	217.8	217.8	211.1
Pig tin.....	100	69.3	87.1	86.6	138.1	187.5	196.0	207.6	177.3	164.8	159.2
Pig lead.....	100	88.6	131.8	156.8	259.1	154.5	159.1	181.8	184.1	184.1	152.3
Spelter.....	100	87.9	379.3	194.8	160.3	136.2	120.7	151.7	156.9	150.0	144.8
Petroleum, crude.....	100	71.4	55.1	106.1	126.5	153.1	163.3	163.3	163.3	163.3	163.3
Petroleum, refined, water-white.....	100	97.6	97.6	97.6	97.6	130.1	136.6	139.0	142.3	142.3	142.3
Gasoline, motor.....	100	83.3	71.4	142.9	142.9	142.9	142.9	143.5	145.8	145.8	145.8

<sup>1</sup> Standard war flour.<sup>2</sup> No quotation.

**FLUCTUATIONS OF CONTROLLED AND UNCONTROLLED PRICES IN THE UNITED STATES.**

A bulletin on price control, entitled "Fluctuations of Controlled and Uncontrolled Prices," has recently been issued in mimeograph form by the price section of the division of planning and statistics of the War Industries Board.<sup>1</sup> Most of the data used in the preparation of this bulletin were taken from the records of the United States Bureau of Labor Statistics and were collected by this bureau for use in computing its index number of wholesale prices. The commodity grouping adopted is the same as that used by the bureau.

In comparing the fluctuations of controlled prices with those not under control, two methods were employed. The first method compares two index numbers for the period from August, 1916, to the current month, one of these index numbers being based on the group of price-fixed articles as it stood in September, 1918, and the other on the groups of articles not subject to price control. As pointed out in the bulletin, this method necessarily treats some commodities as controlled before they were actually under control. Charts are used to illustrate the fluctuations of controlled and uncontrolled prices.

In the second method of comparison, the prices of commodities under control in any given month are compared with the prices of the same commodities in the preceding month and the percentage of change indicated. This method of month to month comparison, unlike the other method, permits price-fixed commodities to be kept strictly in date with price fixing.

The extent to which price control was carried in the various groups of commodities and the manner in which it was gradually extended are also shown in the bulletin. This is done by showing the number of controlled and uncontrolled articles in each group in September, 1918, and also by comparing, for each month during the period of control, the aggregate exchange value of the controlled commodities to the total value of all commodities exchanged. A chronological arrangement of the controlled commodities in accordance with the dates of their first regulation is also presented.

In the following table the index number of controlled prices is constructed from the prices of 78 commodities which by September, 1918, had come under price control. The index number of uncontrolled prices is built on quotations for 193 commodities. A full explanation of the method used in constructing these index numbers is contained in Bul. 181 of the Bureau of Labor Statistics, pages 239 to 256.

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<sup>1</sup> December, 1918. No. 10.



## INDEX NUMBERS OF CONTROLLED AND UNCONTROLLED PRICES, AUGUST, 1916, TO SEPTEMBER, 1918.

[Average prices August, 1916, to July, 1917=100.]

Year and month.	Con- trolled prices.	Uncon- trolled prices.	Total.	Year and month.	Con- trolled prices.	Uncon- trolled prices.	Total.
1916.				1917.			
August.....	74	83	79	September.....	111	121	117
September.....	77	86	82	October.....	103	125	116
October.....	83	88	86	November.....	104	127	117
November.....	91	93	92	December.....	104	126	116
December.....	96	93	94				
1917.				1918.			
January.....	98	96	97	January.....	106	128	119
February.....	99	101	100	February.....	107	129	119
March.....	103	103	103	March.....	107	129	120
April.....	111	110	111	April.....	108	133	122
May.....	122	113	117	May.....	109	133	122
June.....	123	116	119	June.....	109	135	123
July.....	123	117	119	July.....	111	140	128
August.....	119	118	119	August.....	110	145	130
				September.....	112	151	134

The extent to which price fixing had progressed in the several groups of commodities in September, 1918, is shown by the table which follows, the relative importance of the controlled and the uncontrolled commodities being measured by their aggregate values in exchange:

## EXTENT OF PRICE FIXING IN SEPTEMBER, 1918.

Group.	Number of commodities.		Relative importance.	
	Con- trolled.	Uncon- trolled.	Con- trolled.	Uncon- trolled.
All commodities.....	78	193	<i>Per cent.</i> 39.70	<i>Per cent.</i> 60.30
Group I. Farm products.....	8	22	18.04	81.96
Group II. Food, etc.....	10	77	28.22	71.78
Group III. Cloths and clothing.....	18	34	41.35	58.65
Group IV. Fuel and lighting.....	8	6	63.44	36.56
Group V. Metals and metal products.....	19	6	83.83	16.17
Group VI. Lumber and building materials.....	9	21	55.71	44.29
Group VII. Drugs and chemicals.....	2	7	7.95	92.05
Group VIII. House-furnishing goods.....		5		100.00
Group IX. Miscellaneous.....	4	15	17.40	82.60

A comparison of controlled and uncontrolled prices in September, 1918, by groups of commodities, is afforded by the index numbers in the next table:

## INDEX NUMBERS OF CONTROLLED AND UNCONTROLLED PRICES, BY COMMODITY GROUPS, SEPTEMBER, 1918.

[Average prices August, 1916, to July, 1917=100.]

Group.	Controlled prices.	Uncontrolled prices.	Total for group.
All commodities.....	112	151	134
Group I. Farm products.....	107	168	152
Group II. Foods.....	112	131	125
Group III. Cloths and clothing.....	165	147	154
Group IV. Fuels and lighting.....	99	138	110
Group V. Metals and metal products.....	92	130	96
Group VI. Lumber and building materials.....	132	159	143
Group VII. Drugs and chemicals.....	94	152	145
Group VIII. House-furnishing goods.....	.....	145	145
Group IX. Miscellaneous.....	131	169	142

Separate tables of the bulletin give index numbers for all months from August, 1916, to September, 1918, inclusive, for each of the groups shown in the above table. Each table is accompanied with a chart showing relative fluctuations of controlled and uncontrolled prices during the period.

The percentage of change from month to month in controlled prices as compared with uncontrolled prices for all commodities since price fixing began in August, 1917, is given in the bulletin as follows, the plus sign indicating an increase and the minus sign a decrease:

## ALL COMMODITIES.

	Controlled prices.	Uncontrolled prices.
1917.	<i>Per cent.</i>	<i>Per cent.</i>
July to August.....	-21.03	+1.07
August to September.....	-10.97	+2.54
September to October.....	-12.87	+2.92
October to November.....	+ .93	+1.33
November to December.....	- .67	- .75
December to January.....	+ 1.3	+2.23
1918.		
January to February.....	+ .35	+ .76
February to March.....	+ .37	+ .001
March to April.....	- .21	+2.45
April to May.....	+ .76	+ .49
May to June.....	+ .07	+1.45
June to July.....	+ 1.55	+3.60
July to August.....	- .88	+3.85
August to September.....	+ 1.32	+3.60

Statements similar to the foregoing one for all commodities combined are shown for each commodity group, in the third section of the bulletin. The fourth section contains a series of tables showing how price control was gradually extended in the various groups of commodities by indicating by means of percentages the relative importance of controlled and uncontrolled commodities for each month during the period of price fixing. A list of controlled articles not included in the comparisons made in the bulletin is also given.

## COST OF LIVING IN SPOKANE, WASH.

The Chamber of Commerce of Spokane, Wash., which recently conducted an inquiry into the cost of living in that city, has furnished this bureau with a typewritten copy of the results of the investigation. Two thousand questionnaires were distributed among the employees of a wide range of industries, including packing-house and lumber industries, department stores, wholesale houses, laundries, and mills. Of the 2,000 blanks sent out, only 240 were returned filled out in usable form, and the report is therefore based on the information from these 240 replies. The data obtained were for the month of October, 1918. The following table shows the average expenditures, for that month, of the 240 families, classified by number of members per family:

AVERAGE EXPENDITURES IN OCTOBER, 1918, FOR EACH OF THE PRINCIPAL ITEMS OF THE COST OF LIVING, OF 240 FAMILIES OF EACH SPECIFIED SIZE.

[The figures in this table are averages based on detailed figures given in the report and differ in some cases from the averages arrived at by the investigators.]

Item of expenditure.	Average expenditure for each item by families having—					Average expenditure (240 families).
	2 members (52 families).	3 members (78 families).	4 members (53 families).	5 members (32 families).	6 members (25 families).	
Rent.....	\$16.11	\$15.91	\$16.38	\$14.43	\$14.90	\$15.75
Fuel and light.....	8.11	9.17	8.87	10.95	11.78	9.38
Meat.....	8.58	9.49	10.09	11.02	14.65	10.17
Groceries.....	28.45	31.90	38.99	42.14	49.16	35.88
Clothing.....	15.95	16.36	17.36	18.19	23.75	17.51
Car fare.....	3.79	4.01	4.25	3.71	4.74	4.05
Insurance.....	3.79	5.01	4.35	4.08	5.81	4.56
Amusements.....	3.46	4.04	3.11	2.01	2.43	3.27
Miscellaneous.....	7.89	8.54	7.51	7.23	7.12	7.85
Total.....	96.14	104.45	110.91	113.76	134.34	108.44
Average for year, all items.....	1,153.68	1,253.40	1,330.92	1,365.12	1,612.08	1,301.28

## FOOD CONTROL.

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### FOOD PRODUCTION AND CONTROL IN THE UNITED STATES.

As showing the favorable situation with respect to food supplies in the United States at the close of 1918, the annual report of the Secretary of Agriculture states that, notwithstanding adverse climatic conditions, the aggregate yield of wheat and other leading cereals was greater both in 1917 and in 1918 than in any other year except 1915. The acreage planted in wheat in 1918 exceeded the previous record by 3,500,000, while the wheat production for the current year was estimated at 918,920,000 bushels—a figure next to the record wheat crop of the Nation. The estimated yield of corn was considerably above the five-year prewar average in quantity as well as quality.

Turning to live stock, the report shows that the number of pounds of beef for 1918 is given at 8,500,000,000, as against 6,079,000,000 pounds for 1914, the year preceding the war; and that the total of beef, pork, and mutton for 1918 is estimated at 19,495,000,000 pounds, as against 15,587,000,000 pounds for 1914. The value of all crops produced in 1918 and of live stock of all kinds on farms on January 1 was estimated, on the basis of prices that have recently prevailed, at more than double the annual average value in the five-year period 1910 to 1914. These increased values reveal that monetary returns to the farmer have increased proportionately with those of other groups of producers.

Referring to the increased interest in land for homes and farms, the report states that there is still room for many more people on farms. Of the tillable land embraced in the United States proper, only about 32 per cent was under cultivation in 1918.

The guaranteed price of wheat for the 1919 crop, fixed by the President's proclamation of September 2, 1918, in accordance with the terms of the Lever Act, at \$2.26 per bushel for "basic" wheats at Chicago, is not in any way affected by the end of the war, according to a statement made by the Food Administration. This guarantee expires June 1, 1920, until which date the present Government prices will prevail. Time limitations on trading for future deliveries in corn, oats, rye, and barley were removed on December 6, 1918, and exchanges throughout the country were notified accordingly. It was announced, however, that conditions would not warrant abrogation or modification of the present limit on speculative account.

All restrictions on the use of wheat flour in baking were removed by the Food Administration under date of November 13. Milling regulations were revoked December 17. In explanation of these removals the Food Administration stated that—

Last spring the Food Administration was extremely anxious about the wheat shortage and the public was asked to restrict its consumption of wheat down to the barest necessity in order to meet the needs of the Allies. With a surplus of only 20,000,000 bushels of wheat, the American people, through conservation, enabled the Food Administration to ship 141,000,000 bushels of wheat. In spite of this conservation, when we reached the 1918 harvest there was less than a 10-day supply in America.

When the new crop came in it proved to be very large but not too large to take care of the needs at that time. It was the desire of the Food Administration not to be caught another season with any shortage of this most valuable foodstuff; and with the idea that it was necessary not only to continue shipments of wheat to Europe, but to build up a reserve for the 1919 spring offensive, the Food Administration continued to ask the people to use wheat sparingly.

The signing of the armistice changed the situation with wheat immediately, just as it did with all measures taken with the needs of a continuing war in view. Wheat supplies in distant countries were made available by the cessation of the submarine menace, and the assurance of a good crop in 1919, undisturbed by war, relieved somewhat the necessity of building up as large a reserve as was anticipated. In other words, it is probable that our normal actual consumption of wheat, implying elimination of waste in which our people have been thoroughly schooled, will be permissible and still allow us to keep the Food Administration's pledge in the shipping of great quantities of bread stuffs to hungry Europe.

Last year's situation with fodder grains plentiful and wheat scarce has been entirely reversed and the necessity now points to a more careful use of the grains needed for animal feed and a freer use of wheat.

It can not be too strongly emphasized that even under present conditions no wheat must be wasted. It is a well-known fact that a diet which includes little meat naturally increases the consumption of bread and at this time, when the shortage of meat is acute, it is good to know that the increased consumption of bread is not unpatriotic.

Concerning its removal of restrictions on the use of sugar in households and in public eating places, announced under date of December 3, the Food Administration stated that the object in asking for economy in the use of sugar was to insure a supply that would be adequate to meet the needs of the Allies who would be dependent on the same sources as the United States so long as the war lasted. With the signing of the armistice the situation was immediately changed and a return to the normal use of sugar became permissible. During the five months from July to November the American people saved no less than 775,000 tons of sugar over their normal consumption.

Effective December 23, the 12 general orders governing public eating places were rescinded by the Food Administration.<sup>1</sup> These orders, which were designed as a war measure to restrict food con-

<sup>1</sup> These orders were published in full in the MONTHLY LABOR REVIEW for November, 1918 (pp. 114-116).



sumption at the time the devices of meatless and wheatless days and meals and the substitution of one food for another were abandoned, went into effect on October 21. In rescinding the orders, the Food Administration emphasized the need for continued care in the use of food in order that the country might meet its pledge to relieve to the fullest extent possible the famine conditions abroad.

In accordance with the policy of releasing trades from the restraints of war legislation as rapidly as practicable, a proclamation of the President, effective January 10, 1919, announced the withdrawal of license requirement under the Food Control Act in the following cases:

All persons, firms, corporations, or associations engaged in the business of importing, manufacturing (including milling, mixing, or packing), storing, or distributing (including buying and selling) of sirups and molasses; dried beans, pea seed, or dried peas; poultry; fresh or frozen fish (except salt-water fishermen licensed under proclamation of January 10, 1918); fresh fruits or vegetables; canned peas, beans, tomatoes, corn, salmon, sardines, or tuna; mild-cured, hard-cured, salted, dried, smoked, pickled, or otherwise preserved salmon; dried prunes, apples, peaches, or raisins; bread in any form, and cake, crackers, biscuit, pastry, or other bakery products; white arsenic or other insecticides containing arsenic; tomato soup, tomato catsup, and other tomato products; alimentary paste; green coffee; casings, made from the intestines of animals, for sausage and for other food commodities; feeds from certain specified commodities; peanut meal and soya-bean meal; all commercial mixed feeds; condensed, evaporated, or powdered milk; buckwheat or buckwheat products; all products of wheat or rye other than wheat or rye flour or wheat mill feeds.

All persons, firms, corporations, or associations engaged in the business of distributing oat meal, rolled oats, oat flour, corn grits, corn meal, hominy, corn flour, starch from corn, corn sirup, glucose and raw cornflakes, wheat flour and rye flour and barley flour, rice and rice flour, any feeds produced from wheat, raw milk.

All persons, firms, corporations, or associations engaged in the business of storing any food or feed commodities except persons, firms, corporations, or associations engaged in the business of storing wheat, corn, oats, rye, barley, or rice, as owners or lessees or operators of warehouses or elevators, or persons, firms, corporations, or associations operating cold-storage warehouses.

## EMPLOYMENT AND UNEMPLOYMENT.

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### RECONSTRUCTION ACTIVITIES OF THE UNITED STATES EMPLOYMENT SERVICE.

An article in the January issue of the MONTHLY LABOR REVIEW (pp. 119-125) described the plan which has been formulated by the United States Employment Service for assisting to suitable employment members of the military and naval forces as they are demobilized and industrial workers who are required by circumstances to seek other positions. As exigencies demand, these plans are necessarily being modified, and as experience develops, new projects which seem imperative to carry out the work of the Service more effectively are being inaugurated.

In this connection should be noted the establishment of a junior section within the Employment Service to handle the problems of employment of the Nation's youth, or, more accurately, to promote the vocational guidance of boys and girls between the ages of 16 and 21. The importance of seriously considering this matter may be realized when it is stated that reliable estimates indicate that 14 per cent of the wage earners in the United States are in this age group. Figures, however, are unnecessary to show the intimate relation between the growth of the numbers of unemployable and the lack of system and forethought with which the youth of this country enter the ranks of the workers. It is to meet and correct this situation that the new junior section is designed. It is felt that many of the Nation's employment problems will be solved if the placement of wage earners between 16 and 21 years of age is handled judiciously during the next five years. Placement of juvenile workers by the Employment Service was handled as carefully during the war period as abnormal pressure would permit. In several of the large cities special junior placement was developed and will be continued under the general policies of the new junior section which is part of the Field Organization Division of the Employment Service.

Two specialists have been appointed to direct the work of the new section. Chief of the section is Jesse B. Davis, president of the Junior College of Grand Rapids, Mich., principal of the Central High School, and director of vocational guidance for that city. He is assisted by Mrs. Anna Y. Reed, of Seattle, well known as a vocational placement expert.

In the general order sent out to the Federal directors authorizing the establishment of the junior section its functions are described as "the guidance and placement of boys and girls under 21 years of age." It is stated that "economic and other conditions are yearly driving increasing numbers of boys and girls into industry. Their immature minds and partly developed faculties need proper direction. A word of counsel and guidance at this time, or the lack of it, may make or mar their future. Here exists a fruitful field for operation, and herein lies the need for promoting a practical and helpful organization."

Under the regulations establishing the junior section every such division in a local office must be under the jurisdiction of a specially qualified officer, to be known as junior counselor. Where conditions warrant, there should be a male and a female counselor, the first specially qualified for advisory work with boys, the second for advisory work with girls. In offices too small to justify the appointment of a separate counselor for this work, a qualified examiner may be detailed for part-time work, or public-spirited citizens such as teachers or social workers may be secured as part-time counselors at nominal compensation. In all cases the junior counselor must be an expert in educational guidance and should have at hand all available information regarding local educational or training opportunities for the worker.

In the general instructions to junior counselors the following are outlined as "specific duties:"

- (a) To influence boys and girls to remain in school as long as possible.
- (b) To give aid toward the right start for those who have had to leave school to go to work.
- (c) To arouse the ambitions of boys and girls to fit themselves for definite life careers.
- (d) To direct youth who are employed toward some form of trade, technical, or business school for special training.
- (e) To promote the needed opportunities for vocational education in the community.
- (f) To follow up all applicants in their training and at their work to see that they have the best available advantages of study and labor. This process should continue until they are well established in their vocational plans.

Close cooperation with the public schools is stressed as an important part of the work of the junior sections. No boy or girl who is leaving school at any grade to go to work should ever be accepted for placement by a junior counselor without obtaining a report from the principal of the school which the boy or girl proposes to leave. The first duty of the counselor is to persuade the boy or girl to return to school if this is possible and desirable.

Cooperation of all other agencies interested in juvenile problems should be sought. For this purpose the Federal directors are urged to appoint local advisory committees on recommendation of the

superintendents of the local offices. These committees should include representatives of the public schools, employers, workers' organizations, and all social agencies dealing with youth, with a junior counselor of the Employment Service as secretary.

**EMPLOYMENT SERVICE AND RESUMPTION OF PUBLIC AND PRIVATE CONSTRUCTION WORK.**

There has been created in the Department of Labor a new division known as the Division of Public Work and Construction Development, the purpose of which is to encourage the resumption of public and private construction which fell off considerably during the war. Secretary Wilson's attitude on this important question is indicated in the following statement:

Building construction will help to provide employment for returning soldiers and for workmen dismissed from war industries. One of the largest sources of prospective employment is the building trade and its allied factory industries.

In the case of private construction, a resumption of activity will also lessen the congestion of population, improve conditions affecting the public health, and convert inactive property into active property—which supplies the means that enables communities to support the functions of governments.

During the war the Nation practically concentrated all its efforts on the production of goods for immediate consumption—war materials, food, clothes. The failure to produce the normal quota of goods for future consumption has made these scarce and high priced, and as they are essential to further production they affect the cost of production, and, consequently, the cost of living. Chief among such goods are building and other real estate improvements, including public works, as roads, bridges, etc. The scarcity of buildings, for example, creates high rents.

On the basis of reports received from a number of States the Department of Agriculture has estimated that about \$300,000,000 will be expended in this country for road building this season and that about 50 per cent of the total will go for labor. This opens a field for the Employment Service in its efforts to place returned soldiers and sailors who may not otherwise be provided for. The Secretary of War has strongly urged the advancement of public improvement in order to absorb labor, his interest in the matter being expressed by the following telegram which was approved by the Secretary of Labor and was sent out late in 1918 to 48 State councils of national defense and 4,000 county councils of national defense.

Reemployment of discharged soldiers, sailors, and war workers released from war industries is one of the most important tasks now before the country. We strongly urge that in sections where there is a surplus of labor all public improvement be advanced in order to absorb labor. We ask that you use all influence with State, county, and municipal authorities to this end. Preliminary steps should be taken immediately in order that necessary authority may be secured in time for operations upon opening of construction season.

So far as opportunity for the employment of soldiers is concerned a recent survey made by the Department of Agriculture indicates that of 38 States replying to specific questions as to the probable

requirements for workers in the various trades and for unskilled laborers, 29 gave definite figures showing a total estimated need for 11,637 skilled and 91,904 unskilled workers.

#### PROGRESS IN THE PLACEMENT OF SOLDIERS.

Very satisfactory progress in placing soldiers in civil employment is being made by the Employment Service through its representatives in 78 demobilization camps throughout the country. Several thousand applicants are being registered daily. Camp commanders are giving hearty cooperation and in many instances have directed company commanders to cooperate to the fullest extent possible. At first men were hesitant to avail themselves of the opportunity offered, and in some instances it was discovered that the men feared that registration with the camp representative of the Employment Service would be an admission on their part that no job was awaiting them and that such action on their part would tend to withhold their discharge. This fear, however, was soon removed through a campaign of education.

The method pursued by camp representatives in getting the men listed and of caring for them is modeled after the following general plan:

The soldiers are gotten together, interviewed, questioned as to previous occupations, special fitness for that and other business, trade, or profession, the information being entered on cards and these cards assorted by States. When the man is to be discharged he is urged to proceed directly to his home to visit his family and friends and while there to call on the local bureau for returning soldiers and sailors. The camp representative's reason for this is that it will be best for the men to proceed directly to their home towns, and, further, that doing so will place them directly in contact with the local bureaus, thus giving a wider distribution of the men.

In many instances, however, the men about to be discharged wish to find employment in other places. In each case the man's card is sent by the camp representative to the Federal director of the United States Employment Service for the State to which the soldier is going. The Federal director, in turn, sends the cards for each county to the superintendent of that district, and, where necessary, the cards are distributed down to the small communities, so that when the men reach their destinations the Employment Service at those places is prepared for them and has ready a list of jobs best fitted for each particular man. This system places the man in close touch with the exact community in which he desires to locate.

As an illustration of this system, one day's work at one of the camps may be taken. Sixty men were to be discharged. Of these, one salesman desired to be located in Birmingham, Ala.; one railroad fireman, in Hattiesburg, Miss.; one commercial salesman, in Los Angeles, Cal.; one riveter, in Brooklyn, N. Y.; one mechanic, in Minneapolis, Minn.; ten farmers, in Georgia; and one bookkeeper, one painter, one railroad clerk, one chauffeur, and one shipyard helper, in Savannah, and so on. The cards of these men were sent directly to the Federal directors of the States mentioned and by them dis-



tributed on down the line, resulting in the placement of each of the men so referred. The camp representative gives to each man explicit information as to how to proceed on reaching his destination in order to obtain accurate information as to the jobs open in his particular line.

In another camp, during December, 12,559 men were discharged. Of these 6,954 stated they did not need assistance, 2,777 had assurance of getting their old jobs back, 902 were referred to new positions in that vicinity, and 1,926 were given letters to their local United States employment office, where they have also been listed. A careful record of name, address, and serial number of the soldier, as well as the name, address, and character of the business of the employer, was obtained in each instance.

Group placements are not uncommon. In one instance a captain and practically his entire company were placed on a construction job with the captain as foreman of the gang. Many officers also are obtaining positions through the Employment Service. Nine such were sent from a single camp to one employer.

#### ESTABLISHMENT OF FARM SERVICE DIVISION AND HANDICAP BUREAU.

In recognition of the fact that food production is a most essential industry in the United States, and as a preliminary to a campaign to insure that adequate supply of farm labor will be available for the demands of next spring and summer, the Farm Labor Division ranking with the other five major divisions<sup>1</sup> of the Employment Service has been established. Its special duties are outlined in the general order creating the division, as follows:

(a) With the approval of the Field Organization Division to create and perfect an efficient organization within the United States Employment Service which shall devote its efforts wholly to the placement of farm labor.

(b) To deal with all matters relating to farm labor that come to the administrative offices.

(c) Assisting the assistant to the director general, who will be in charge of recruiting and directing the activities of the harvesters in the "wheat belt" in the Central West.

The United States Employment Service has announced the creation of a new division known as the Handicap Bureau, for the purpose of finding suitable occupations for men and women of mature years, as well as for those who through some physical disability have difficulty in securing suitable employment.

The work of the Handicap Bureau has already been started in Massachusetts. The first monthly report shows that 1,367 men and women beyond the prime of life have been placed in good positions. The youngest of those placed is 50 and the oldest 72. The Illinois

<sup>1</sup> An article on the readjustment of the administrative function of the Employment Service appeared in the MONTHLY LABOR REVIEW for October, 1918 (pp. 261-265).

handicap bureau reports that it has found positions for 412 crippled soldiers who were wounded while with the American Expeditionary Forces in France.

The Service has applications from tens of thousands of men and women between the ages of 45 and 95, as well as from those who have some physical disability, indicating the great need for a separate division specializing in this work. Plans have been perfected for the organization of handicap bureaus in every State in the Union, and these State bureaus will be in full operation in the near future.

#### NORMAL COURSE FOR EMPLOYMENT SERVICE EXAMINERS.

To develop a more highly trained and efficient force in order to make standard the use of a common agency, under the Government, for labor distribution and placement, a normal training course for examiners was conducted by the Employment Service in Washington from January 6 to 18, 1919. Fifty representatives of the Service from 15 States presented credentials. The course and subjects of discussion were as follows:

*First day.*—Explanation of, reasons for, and methods of conference and training in State; purpose and development of United States Employment Service; present industrial conditions; competitive basis but maintaining advanced standards gained in war period; necessity for knowing local conditions; the limited but vital part of the employment bureau in the field of industrial adjustment.

#### INDUSTRY AND THE EXAMINER.

*Second day.*—Round table on office layout; general discussion of work to date; functions of director general; contracts with Department of Labor, etc.; what the examiners should note in modern industrial production; special agencies with which examiners must work; need for local survey of community; industrial, labor, and Government agencies; knowledge of their standards.

*Third day.*—Round table on interviewing and placement; plans for demobilization of soldiers and war workers; enlightened industry and the United States Employment Service.

*Fourth day.*—Interviewing and placement; fiscal and personal regulations; special considerations in placing women.

*Fifth day.*—Round table on special departments; field organization; coordination of sections and groups within service; the examiner and his contact with employers; organized labor and the service.

*Sixth day.*—Trade tests; the morale of the service; dinner and good fellowship.

#### STATE ORGANIZATION.

*Eighth day.*—Functions of Federal director; State organization—contact with labor and jobs; clearance in States; round table on reports and forms; trade tests.

*Ninth day.*—Organization of local district; labor community boards; survey of community needs and possibilities; clearance summing up; round table on files and filing.

*Tenth day.*—Organization and work in local office; sources of work; round table on job soliciting; employment experiences abroad and successful extension here.

*Eleventh day.*—Special problems in junior placement; special problems relating to handicapped; round table on recruiting.

*Twelfth day.*—Round table on casual labor—industrial, railroad, farm, day work (domestic); the organization of the casual labor market; written examination; summing up of course and methods of training in States; the potential permanent value of the United States Employment Service.

*Thirteenth day.*—Individual conferences; instructions on methods of training and rating examiners.

#### DESCRIPTIONS OF OCCUPATIONS BY THE UNITED STATES BUREAU OF LABOR STATISTICS.

Realizing the necessity of having some standard whereby employers in hiring men will be able to secure those qualified to fill the positions, and placement clerks of the employment offices can determine definitely whether applicants are qualified to fill such positions, the Employment Service of the United States Department of Labor asked the Bureau of Labor Statistics to prepare descriptions of occupations, first in the most essential industries and eventually in all industries of the country. The bureau has been at work for years on descriptions of occupations in the industries included in its regular wage studies and so had considerable material on hand. The task of rewriting the descriptions of occupations already made and of gathering information regarding other occupations in industries not covered by the Bureau of Labor Statistics in its studies and putting this in form to meet the needs of the Employment Service has been very difficult. The principal occupations in the more important industries have already been covered or are being prepared. The descriptions as soon as completed are put into the hands of the superintendents of employment offices, employment managers, employers, trade-unionists, and others interested. Ten handbooks have been sent out and several others are in the course of preparation. Those already published cover the following industries and industrial groups:

1. Metal working; building and general construction; railroad transportation; shipbuilding.
2. Mines and mining.
3. Office employees.
4. Slaughtering and meat packing.
5. Logging camps and sawmills.
6. Textiles and clothing.
7. Water transportation.
8. Cane sugar refining; flour milling.
9. Boots and shoes; harness and saddlery; tanning.
10. Medicinal manufacturing.

The industries for which descriptions are in course of preparation include:

Street railways.

Electrical manufacturing, distribution and maintenance.

Chemical manufacturing.

Paint and varnish.

Coal and water gas.

Paper making.

Printing trades.

Rubber boots, shoes, coats, hose, and automobile tires.

This work is of a pioneer nature and the descriptions are considered to be tentative only. Criticisms and suggestions are urged, because it is only by these means that mistakes can be corrected and the descriptions improved. No attempt has been made to give details of methods of manufacture, but rather a concise and clear statement covering the duties of the occupation and the qualifications necessary to perform the work satisfactorily. It is planned to continue the work until all important industrial vocations are covered. When all industries have been completed it may be found advisable to publish, in one volume, a revised edition of the descriptions.

In order to secure the best possible definitions, agents were sent to various manufacturing establishments to obtain first-hand information from which standard descriptions of the different occupations could be written. Numerous difficulties were encountered, it being found that the occupational names used in one part of the country or in a certain establishment often had an entirely different meaning in another section or another establishment. Frequently it was found that an operation usually performed by one person under one occupation name in an establishment would in other establishments require several persons represented by as many different occupation names. In the preparation of the descriptions every effort has been made to harmonize the material received from different sources and to cover all occupations peculiar to the industry under consideration, at the same time avoiding repetitions caused by different occupation names for the same operation.

After assembling such material as was available for writing the descriptions, rough outlines were prepared and submitted for criticism and suggestion to employers and employees thoroughly acquainted with the occupations in each industrial group. Suggestions thus obtained were incorporated into the definitions and they were then printed in the form of galley proof. As a last precaution to secure accuracy these galleys were mailed to firms and labor organizations throughout the country for criticism and revision, and numerous conferences were held with representatives of these firms and organizations before the proof was finally revised and printed.

The descriptions as published give for each occupation a brief statement of the duties the employee has to perform and the qualifications he must have to fill the position. The educational qualifications are given separately so far as they could be ascertained. The

descriptions undertake to give to each occupation name a definite meaning which will apply to any establishment in any part of the country. Numerous cross references are also given in an effort to cover fully all designations of occupations. To facilitate the use of the descriptions a code word is assigned to each occupation by the use of which the employer is enabled to send a request to the employment agency for a man to fill any desired position. Preceding the descriptions of occupations, indexes of the occupation names and of the code words are given.

It is realized that some important occupations have probably been omitted, and that in some cases subdivisions may have been carried too far. These faults can be corrected only by the aid of suggestions and criticisms arising from experience in the use of the descriptions in filling positions. It is requested that constructive criticisms and suggestions be sent to the United States Bureau of Labor Statistics so that eventually there will be developed a national standard of occupational descriptions which will be effective in the distribution and stabilizing of employment all over the country.

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#### ISSUANCE OF PERMITS FOR IMPORTATION OF MEXICAN AND WEST INDIAN LABORERS DISCONTINUED.

During the war considerable numbers of Mexicans<sup>1</sup> entered the United States to work on the farms, on railroads, in mines, and on Government construction. Laborers who had formerly worked on Government construction in the Canal Zone came to supply war needs, and Bahamans were used for farm labor in Florida, to man small vessels of the Florida fishing fleet, and to perform manual labor on Government contracts. The need for these workers no longer exists, and reestablishment of restrictions has been considered advisable. Accordingly the Department of Labor ordered that on December 18, 1918, the granting of permits for the importation of Mexican and West Indian laborers should be discontinued, announcing that it would recognize down to January 15, 1919, all outstanding permits.<sup>2</sup> Aliens permitted to enter the country temporarily for war emergency work are being repatriated gradually. The vacating of orders providing for the temporary admission of such workers caused some misunderstanding in Mexico, and inquiry was made of the Secretary of Labor by the Secretary of State in order to ascertain

<sup>1</sup> See MONTHLY LABOR REVIEW for November, 1918 (pp. 266-271), for regulations by the Department of Labor for admission of Mexican laborers.

<sup>2</sup> This order was later modified, permitting the entry of farm laborers from the Bahama Islands for employment on the east coast of Florida until June 30, 1919.



the former's attitude respecting alleged contemplated deportation of laborers. The Secretary of Labor replied as follows:

The department is in receipt of your memorandum of December 23, signed by Mr. Boaz Long, relative to Mexican agricultural and industrial laborers. In reply thereto I am pleased to state that evidently there is a misunderstanding regarding the terms as well as the intent of this department's order, which was put in force on the 18th of this month [December].

Questions arising as a result of the end of hostilities, concerning not only Mexican laborers but also those from other countries, brought the matter up for consideration. Laborers from these various countries had been admitted as a war necessity, and as demobilization is taking place not only of the forces of the Army and Navy, but also of laborers engaged in war industries, it was considered an absolute necessity, as notice to all interested, that the department should without delay state its policy concerning temporary laborers from beyond our confines.

In respect to all classes of laborers who came from Mexico (i. e., laborers for agricultural, railroad, Government construction, and mining work), the department ordered that from and after December 18 no new permits for the admission of additional laborers would be approved, and that all permits issued or approved on or before December 18 should be permitted to be filled, provided the laborers should arrive at a port of entry on or before January 15, 1919.

As the department had knowledge that the cotton and sugar beet growers, the railroads, and other employers of labor had caused notice to be sent broadcast in this country and in Mexico in order to secure a supply of labor, it did not desire to act hastily in the matter, and for that reason it provided that upon all permits made prior to December 18 the laborers contracted for could enter the United States provided they did so on or before January 15, 1919. It also permitted all Mexican laborers now in the United States by virtue of departmental orders, either as agricultural laborers or as workers on the railroads, to remain; in the former case "throughout the coming agricultural season, and in the border States (Texas, New Mexico, Arizona, and California) until such time as may hereafter be fixed by the department"; and concerning the latter, that all such laborers already within the United States "should be permitted to remain until further order"; and that as regards laborers brought here to do Government contract work, as long as they continue at such contract work, sponsored by the Government, they can continue to remain here, and when such work is completed they shall be repatriated, "no time being fixed in either event." As regards miners, it is provided that "those already here be permitted to remain only for such further period as investigation and consideration in each instance may seem to justify."

It will be seen that the department has considered the questions involved from all standpoints, and has endeavored to proceed in such a way as to give no just cause for complaint, either for lack of notice to the laborers at the border awaiting entry, or to those on the way there, or to those already in the country.

It is proper to state in this connection that the admission of laborers referred to was effected under and by virtue of departmental orders, general and special, made with especial reference to such laborers and owing to the war emergency in which this country found itself at the time; the intent of such orders being temporarily to relieve the applicants of the illiteracy test, the contract labor law, and the payment of the head tax. All such departmental orders, since the 18th day of December, have been vacated, and no further admissions thereunder from and after January 15, 1919, will be permissible. It should be further remembered that laborers from Mexico, admissible under existing law, are in no way deterred or prevented from applying at the United States immigration stations for entry in the usual way.

The fear expressed in your memorandum "that Mexican agricultural and industrial laborers who came to our country while the war was being waged are soon to be ordered deported," is not borne out by the facts. As a result of the vacation of the departmental orders providing for the admission of laborers as above set forth, no deportations have been ordered. Of course, any alien admitted to the country while the same were in force, and violating any of the conditions of said orders, or the laws of the United States, would, after due hearing, be subject to deportation in due course of administration.

#### ORDERS AFFECTING OTHER LABORERS.

As to the Porto Rican laborers, it should be explained that they are not classified with other types of war emergency labor. They stand in a class by themselves; the immigration law does not apply to them, and there are other reasons than war emergencies involved in their admission. No change of policy is made with respect to them.

As regards laborers from the Bahama Islands and Jamaica (the latter coming from the Canal Zone), no further permits being granted for their importation, those admitted as agricultural laborers have been permitted to remain for the agricultural season or until the particular work for which they were imported ends.<sup>1</sup> Those admitted for Government work are being repatriated, as the supplanting of Government arrangements for their employment by transfers to private concerns is not approved.

The same order applies to Mexican laborers who came for farming, railroad, mining, and construction work. In order to avoid unnecessary hardship to laborers whose admission has heretofore been authorized, a reasonable time is fixed for the complete operation of the order. Mexican farm laborers already in this country have been allowed to remain for the crop season just ended.

Railroad laborers admitted from Mexico may remain until further order with the understanding that the Railroad Administration will make the best use of them by transferring those who have been working in the more northern sections to sections where the climatic conditions are better adapted to them. If that can not be done, steps will be taken to return them to Mexico. Those brought here to work in mines will be returned as promptly as individual cases will permit. The matter of their stay is being considered in conference with the Railroad Administration.

The Department of Labor aims to bring about a total abrogation of war emergency labor permits, but feels that as to such for whose admission permission has been given this must be achieved gradually and sufficient notice given so that no just cause for complaint may arise.

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<sup>1</sup> See note 2, p. 125.

## EMPLOYMENT IN SELECTED INDUSTRIES IN DECEMBER, 1918.

The Bureau of Labor Statistics received and tabulated reports concerning the volume of employment in December, 1918, from representative establishments in 13 manufacturing industries.

Comparing the figures of December, 1918, with those of identical establishments for December, 1917, it appears that in four industries there was an increase in the number of people employed and in nine a decrease. Car building and repairing shows the largest increase, 25.4 per cent, and the greatest decrease, 21.5 per cent, is shown in men's ready-made clothing.

Eleven of the 13 industries show an increase in the total amount of the pay roll for December, 1918, as compared with December, 1917. The most important increase, 98.5 per cent, is shown in car building and repairing, which is due principally to the wage increases granted by the Director General of Railroads. Increases of 38.7 and 32.4 per cent, respectively, are shown in iron and steel and paper making. The decreases, 9.4 and 5.2 per cent, appear in woolen and men's ready-made clothing, respectively.

## COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN DECEMBER, 1917, AND DECEMBER, 1918.

Industry.	Estab-lish-ments reporting for Decem-ber both years.	Period of pay roll.	Number on pay roll in December—		Per cent of increase (+) or decrease (-).	Amount of pay roll in December—		Per cent of increase (+) or decrease (-).
			1917	1918		1917	1918	
Automobile manufacturing	48	1 week..	108,498	114,427	+ 5.5	\$2,608,839	\$3,058,385	+17.2
Boots and shoes.....	70	do.....	54,025	51,108	- 5.4	853,101	1,085,137	+27.2
Car building and repairing.	38	½ month.	40,471	50,734	+25.4	1,575,543	3,127,374	+98.5
Cigar manufacturing.....	55	1 week..	21,252	19,095	-10.2	271,239	316,152	+16.6
Men's ready-made clothing	33	do.....	23,201	18,204	-21.5	404,171	383,159	- 5.2
Cotton finishing.....	17	do.....	14,979	13,787	- 8.0	244,158	281,802	+15.4
Cotton manufacturing.....	53	do.....	52,332	50,347	- 3.8	683,563	872,730	+27.7
Hosiery and underwear....	56	do.....	31,260	29,748	- 4.8	384,671	471,876	+22.7
Iron and steel.....	92	½ month.	170,387	173,395	+ 1.8	8,882,515	12,319,365	+38.7
Leather manufacturing.....	32	1 week..	15,256	13,832	- 9.3	271,950	316,402	+16.3
Paper making.....	57	do.....	29,195	30,133	+ 3.2	503,472	666,701	+32.4
Silk.....	47	2 weeks.	19,533	17,356	-11.1	519,155	627,734	+20.9
Woolen.....	50	1 week..	51,952	42,034	-19.1	863,080	781,825	- 9.4

The next table shows the number of persons actually working on the last full day of the reported pay period in December, 1917, and December, 1918. The number of establishments reporting on this question is small, and this fact should be taken into consideration when studying these figures.

## COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATION IN DECEMBER, 1917, AND DECEMBER, 1918.

Industry.	Establishments reporting for December, both years.	Period of pay roll.	Number actually working on last full day of reported pay period in December—		Per cent of increase (+) or decrease (—).
			1917	1918	
Automobile manufacturing.....	26	1 week.....	61,177	63,796	+ 4.3
Boots and shoes.....	27	.....do.....	14,366	12,204	-15.0
Car building and repairing.....	38	$\frac{1}{2}$ month.....	33,793	44,318	+31.1
Cigar manufacturing.....	20	1 week.....	4,914	4,631	- 5.8
Men's ready-made clothing.....	5	.....do.....	9,658	8,663	-10.3
Cotton finishing.....	13	.....do.....	10,676	9,841	- 7.8
Cotton manufacturing.....	34	.....do.....	27,994	26,908	- 3.9
Hosiery and underwear.....	17	.....do.....	13,554	13,029	- 3.9
Iron and steel.....	68	$\frac{1}{2}$ month.....	126,353	128,240	+ 1.5
Leather manufacturing.....	15	1 week.....	9,451	8,751	- 7.4
Paper making.....	22	.....do.....	13,053	12,616	- 3.3
Silk.....	24	2 weeks.....	12,356	10,920	-11.6
Woolen.....	41	1 week.....	40,906	30,975	-24.3

Comparative data for December and November, 1918, appear in the following table. The figures show that in 9 industries there was an increase in the number of persons on the pay roll in December as compared with November, and in 4 industries a decrease. The largest increase, 7.3 per cent, appears in cotton manufacturing; while the greatest decreases, 8.2 and 7 per cent, are shown in woolen and automobile manufacturing, respectively.

In comparing December of this year with November, 11 industries show an increase in the amount of money paid to employees and 2 show a decrease. The most important increase, 32.5 per cent, appears in boots and shoes, while the two decreases, 4.9 per cent and 0.1 per cent are shown in car building and repairing and automobile manufacturing, respectively. The large increases over November shown in many of the industries are largely due to the broken employment in November caused by peace celebrations and the Spanish influenza.

## COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS IN NOVEMBER, 1918, AND DECEMBER, 1918.

Industry.	Establishments reporting for November and December.	Period of pay roll.	Number on pay roll in—		Per cent of increase (+) or decrease (—).	Amount of pay roll—		Per cent of increase (+) or decrease (—).
			November, 1918.	December, 1918.		November, 1918.	December, 1918.	
Automobile manufacturing.....	47	1 week..	80,396	74,736	-7.0	\$1,968,472	\$1,965,898	- 0.1
Boots and shoes.....	70	.....do.....	50,069	51,590	+3.0	828,263	1,097,695	+32.5
Car building and repairing.....	42	$\frac{1}{2}$ month..	56,271	55,744	- .9	3,596,451	3,419,777	- 4.9
Cigar manufacturing.....	56	1 week.....	18,882	19,393	+2.7	288,146	326,979	+13.5
Men's ready-made clothing.....	34	.....do.....	19,170	18,655	-2.7	369,082	390,460	+ 5.8
Cotton finishing.....	17	.....do.....	13,372	13,787	+3.1	243,691	281,802	+15.6
Cotton manufacturing.....	52	.....do.....	46,634	50,040	+7.3	690,195	869,279	+25.9
Hosiery and underwear.....	55	.....do.....	28,483	28,617	+ .5	378,287	455,970	+20.5
Iron and steel.....	91	$\frac{1}{2}$ month..	169,290	172,749	+2.0	11,302,906	12,280,194	+ 8.6
Leather manufacturing.....	32	1 week.....	13,621	13,832	+1.5	275,406	316,402	+14.9
Paper making.....	53	.....do.....	23,407	24,229	+3.5	498,582	564,898	+13.3
Silk.....	44	2 weeks..	12,815	12,892	+ .6	376,983	449,201	+19.2
Woolen.....	50	1 week.....	45,802	42,034	-8.2	738,341	781,825	+ 5.9

A comparatively small number of establishments reported as to the number of persons working on the last full day of the reported pay periods. The following table gives in comparable form the figures for November, 1918, and December, 1918. The small number of establishments represented should be noted when using these figures.

COMPARISON OF EMPLOYMENT IN IDENTICAL ESTABLISHMENTS ON LAST FULL DAY'S OPERATIONS IN NOVEMBER, AND DECEMBER, 1918.

Industry.	Establishments reporting for November and December.	Period of pay roll.	Number actually working on last full day of reported pay period in—		Per cent of increase (+) or decrease (-).
			November, 1918.	December, 1918.	
Automobile manufacturing.....	24	1 week.....	29,638	26,558	-10.4
Boots and shoes.....	31	.....do.....	14,039	14,441	+ 2.9
Car building and repairing.....	42	$\frac{1}{2}$ month.....	49,216	48,285	- 1.9
Cigar manufacturing.....	17	1 week.....	3,821	4,155	+ 8.7
Men's ready-made clothing.....	7	.....do.....	8,365	8,743	+ 4.5
Cotton finishing.....	13	.....do.....	9,092	9,427	+ 3.7
Cotton manufacturing.....	35	.....do.....	25,480	27,333	+ 7.3
Hosiery and underwear.....	21	.....do.....	12,647	13,068	+ 3.3
Iron and steel.....	81	$\frac{1}{2}$ month.....	135,164	137,533	+ 1.8
Leather manufacturing.....	18	1 week.....	10,030	10,075	+ .4
Paper making.....	22	.....do.....	10,327	10,258	- .7
Silk.....	24	2 weeks.....	7,775	7,806	+ .4
Woolen.....	41	1 week.....	34,969	30,975	-11.4

#### CHANGES IN WAGE RATES.

In 6 of the 13 industries there were establishments reporting wage-rate increases and in one, automobile manufacturing, a decrease during the period November 15 to December 15, 1918. No change was reported in 6 industries. A number of firms did not answer the inquiry relating to wage-rate changes, but in such cases it is probably safe to assume that none were made.

Automobile manufacturing: A decrease of 0.0221 cent in the average hourly productive rate was reported by one establishment.

Boots and shoes: An increase of 20 per cent, which was retroactive to November 1, 1918, was paid, under protest, to 50 per cent of the employees in one establishment, and 4 per cent of the help in another plant received increases of 13 and 13½ per cent. Two other plants gave their employees 10 per cent in war savings stamps. One firm granted a few increases, but no statement was given as to the amount of the increase or the number of employees affected.

Car building and repairing: An increase of 15 per cent was granted to 20 per cent of the force in one car and foundry plant.

Cigar manufacturing: An increase of 25 per cent was granted to 25 per cent of the employees in one factory, and a 20 per cent increase to 12 per cent of the force was given by another factory. A bonus of 7½ per cent and also one of 5 per cent were given by one plant and two other plants reported bonuses, but did not state the per cent of the bonuses or the number of employees receiving the same.



Cotton finishing: An increase of 5 per cent was reported by one firm, but no further data were given.

Iron and steel: One plant granted an increase of 15 per cent to 33 per cent of the force, 10 per cent to 6 per cent, and 8 per cent to 33 per cent, all of which were retroactive to August 4, 1918; and 27 per cent received an increase of 5 cents per hour, which was retroactive to September 29, 1918. An average increase of  $12\frac{1}{2}$  per cent, also retroactive to August 4, 1919, to all of the men was reported by one concern. Four plants reported that the rate paid to puddlers was increased 15 per cent per ton, to puddle rollers and bar iron finishers, 10 per cent, and to skelp finishers, 8 per cent, over the rates in effect August 4, 1918; one plant granted the laborers an increase of 5 cents per hour and the pieceworkers 15 per cent from September 29, 1918. The hammermen and forgemen in one establishment received an increase of 5 cents an hour; another plant reported the adoption of the basic eight-hour day and an increase of 5 cents per hour, but failed to state the number of employees affected; while the laborers in two other plants were given an increase of 5 cents per hour. These increases were all retroactive to September 29, 1918.

Paper manufacturing: An increase of about 9 per cent affecting about 3 per cent of the employees was reported by one establishment and a 6 per cent increase was granted to 1 per cent of the force in another plant.

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#### INDEX NUMBERS OF EMPLOYMENT AND OF PAY ROLL, JANUARY, 1915, TO DECEMBER, 1918.

Index numbers showing relatively the variation in the number of persons employed and in pay-roll totals in 13 industries by months from January, 1915, to December, 1918, have been compiled and are presented in the two tables following. These index numbers are based on the figures for "Employment in selected industries," appearing in this and preceding issues of the REVIEW. The seven industries shown in the first table are the only ones for which the bureau has comparable data as far back as January, 1915. Therefore, January, 1916, is taken as the basis of comparison.

The number of persons whose names appeared on the pay roll for the base month is represented by 100. The amount of money carried on the pay rolls is likewise represented by 100. To illustrate, if the number of persons employed in the iron and steel industry in January, 1916, is taken as 100, then the number employed in that industry in December, 1918, was 138; that is, it had increased 38 per cent; and if the money pay roll in January, 1916, be taken as 100, the pay roll in December, 1918, represented 279; or, in other words, the amount paid in wages was more than two and one-half times as much in December, 1918, as in January, 1916.

The increase in the amount of pay roll for car building and repairing during the past few months is due mainly to the increase in wage rates granted by the Director General of Railroads. These rate increases were retroactive, but the figures for this industry have not been revised, as the amount of the additional wages due and payable, under the new rates, for each month is not available.

INDEX NUMBERS OF EMPLOYMENT AND OF PAY ROLL, JANUARY, 1915, TO DECEMBER, 1918.

[January, 1916=100.]

Month and year.	Boots and shoes.		Cotton finishing.		Cotton manufacturing.		Hosiery and underwear.		Iron and steel.		Silk.		Woolen manufacturing.	
	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.
1915.														
January.....	87	80	85	81	101	98	87	76	74	62	91	83	88	81
February.....	87	77	94	90	101	103	91	81	71	65	93	90	88	80
March.....	83	71	91	89	103	105	91	85	77	72	93	92	91	84
April.....	77	61	93	92	102	103	94	85	80	75	90	85	93	88
May.....	79	66	93	93	103	104	96	90	82	74	90	88	94	86
June.....	80	71	87	86	102	99	98	92	85	81	90	85	89	79
July.....	81	73	92	85	103	99	96	90	87	75	89	85	92	79
August.....	82	76	90	88	101	100	94	89	90	83	91	87	90	78
September.....	82	76	90	87	101	101	98	89	93	87	92	87	99	90
October.....	90	89	94	92	102	94	100	98	97	91	94	94	99	82
November.....	94	97	104	94	103	99	101	100	97	98	97	100	102	94
December.....	109	103	97	100	102	98	104	105	97	101	98	100	103	98
1916.														
January.....	100	100	100	100	100	100	100	100	100	100	100	100	100	100
February.....	100	99	101	105	101	108	101	105	102	113	97	105	102	108
March.....	101	101	103	107	101	110	103	108	105	115	100	109	102	109
April.....	99	97	98	103	101	111	104	108	104	115	101	108	104	110
May.....	98	99	95	110	101	116	105	111	108	126	99	108	105	117
June.....	99	102	96	110	102	115	105	110	109	128	100	110	103	112
July.....	100	101	96	107	102	112	104	102	110	111	101	100	101	110
August.....	99	98	97	107	100	112	102	102	113	125	100	103	97	104
September.....	98	98	96	109	100	114	104	108	115	130	99	104	101	111
October.....	98	99	96	110	100	110	106	112	115	135	100	109	102	108
November.....	102	113	99	114	100	115	107	119	117	138	98	108	103	116
December.....	107	125	101	126	102	123	108	124	118	144	100	112	105	128
1917.														
January.....	108	126	99	123	101	121	107	121	122	152	100	112	107	132
February.....	108	128	99	122	102	123	108	120	123	149	99	114	106	131
March.....	107	126	99	124	101	125	109	124	124	159	98	118	108	131
April.....	105	117	96	121	101	122	106	117	124	148	97	115	105	124
May.....	104	122	98	132	100	127	108	126	127	176	95	118	106	140
June.....	105	132	98	134	100	135	107	128	129	176	93	113	104	139
July.....	102	123	94	124	101	135	105	126	130	165	93	107	104	140
August.....	97	122	94	123	99	129	103	122	134	183	91	107	102	136
September.....	91	121	96	125	98	133	104	125	133	179	89	107	104	142
October.....	93	121	95	128	98	135	105	133	135	212	88	111	107	155
November.....	101	137	98	140	100	153	106	144	136	214	88	111	110	168
December.....	101	162	100	146	101	160	108	148	136	207	88	111	112	175
1918.														
January.....	101	161	96	132	100	153	105	134	134	184	86	102	107	159
February.....	102	158	96	129	95	140	107	135	135	190	88	104	105	139
March.....	103	172	98	141	100	162	108	159	137	206	89	120	109	172
April.....	99	166	94	147	98	168	108	161	136	206	88	123	109	186
May.....	97	166	93	149	96	173	107	166	138	236	87	127	106	180
June.....	96	173	93	158	96	179	107	165	139	235	87	124	106	180
July.....	98	176	97	169	97	192	108	175	137	220	85	121	105	185
August.....	96	173	95	161	97	189	107	171	138	245	83	123	104	199
September.....	95	183	92	165	95	193	105	175	137	249	79	127	103	191
October.....	89	171	88	152	87	163	95	155	138	282	79	128	95	162
November.....	92	156	89	147	92	164	101	148	135	257	76	107	98	148
December.....	95	207	92	170	98	206	101	179	138	279	77	127	90	156

## INDEX NUMBERS OF EMPLOYMENT AND OF PAY ROLL, FEBRUARY, MARCH, OR NOVEMBER, 1915 TO DECEMBER, 1918.

[January, 1916=100.]

Month and year.	Automobile manufacturing.		Car building and repairing.		Cigar manufacturing.		Men's ready-made clothing.		Leather manufacturing.		Paper making.	
	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.	Number on pay roll.	Amt. of pay roll.
<b>1915.</b>												
February.....			71	71			98	98				
March.....			80	87	106	91	92	86				
April.....			67	71	90	88	80	70				
May.....			86	91	98	92	94	86				
June.....			87	97	94	94	95	95				
July.....			92	104	96	99	97	107				
August.....			89	92	92	94	83	86				
September.....			95	97	97	93	80	83				
October.....			99	108	106	109	84	95				
November.....	99	108	104	113	108	116	88	107	97	91	84	92
December.....	100	100	108	133	106	111	81	93	101	103	96	99
<b>1916.</b>												
January.....	100	100	100	100	100	100	100	100	100	100	100	100
February.....	112	111	104	121	95	94	98	105	112	111	105	109
March.....	114	117	109	132	99	97	100	106	111	105	103	106
April.....	112	114	110	132	93	96	97	106	110	108	104	107
May.....	113	119	109	133	90	96	102	105	106	109	106	112
June.....	109	115	111	134	91	98	105	116	104	112	108	118
July.....	116	105	108	126	91	99	105	122	106	113	107	117
August.....	117	119	109	125	90	97	97	118	110	118	109	122
September.....	123	132	113	128	93	105	93	112	101	111	102	118
October.....	132	148	111	132	97	112	95	116	111	129	103	122
November.....	129	155	117	145	93	110	101	126	113	131	101	124
December.....	125	135	116	154	96	117	92	117	116	141	114	138
<b>1917.</b>												
January.....	133	137	111	136	97	111	107	117	124	141	118	135
February.....	134	149	112	134	98	113	107	123	121	145	117	135
March.....	135	158	109	142	100	117	110	132	119	142	117	136
April.....	133	153	104	130	92	106	110	123	114	133	116	135
May.....	130	156	105	144	92	113	113	135	109	133	113	141
June.....	125	146	104	144	94	118	118	144	106	129	115	144
July.....	118	141	108	134	94	117	113	151	105	126	111	139
August.....	120	136	107	146	87	107	108	141	101	130	103	138
September.....	125	153	96	129	91	114	103	136	104	136	109	143
October.....	126	160	103	153	98	127	101	139	104	144	110	148
November.....	122	165	108	166	103	137	104	154	111	157	111	161
December.....	121	156	113	170	103	136	107	162	114	172	114	160
<b>1918.</b>												
January.....	119	137	113	151	103	129	102	147	111	163	112	146
February.....	119	142	112	154	101	131	105	155	108	154	109	147
March.....	123	158	111	167	104	141	101	159	106	165	113	168
April.....	124	161	108	166	103	142	101	154	102	161	112	171
May.....	124	172	109	177	88	121	101	168	101	175	113	174
June.....	126	175	102	163	94	138	101	170	104	192	113	181
July.....	122	170	110	196	96	139	102	172	106	192	114	191
August.....	118	177	116	240	92	121	98	163	105	194	114	204
September.....	120	182	119	242	93	135	94	154	102	188	114	203
October.....	121	192	125	271	87	125	86	146	98	177	106	194
November.....	123	174	126	263	92	137	85	139	99	172	112	191
December.....	114	174	125	250	95	155	83	147	100	198	116	217

## CANADIAN GOVERNMENT'S PLAN TO HANDLE UNEMPLOYMENT.

ESTABLISHMENT OF EMPLOYMENT OFFICES.<sup>1</sup>

A plan to effect the placement in suitable employment of the thousands who, by reason of the cessation of hostilities, are now being dismissed from the military and industrial forces of Canada,

<sup>1</sup> Data taken from the Canadian Official Record (Ottawa), Dec. 23, 1918, p. 7.

has been developed and is outlined in an Order-in-Council signed on December 17, 1918. By this order regulations governing the establishment and administration of Dominion and Provincial Government employment offices under the Employment Offices Coordination Act<sup>1</sup> are set up, the central point of the scheme being the maintenance, by the Department of Labor, of Dominion clearing houses for the interprovincial distribution of labor. The Minister of Labor is to be assisted in the administration of the Employment Offices Coordination Act by an advisory council known as the Employment Service Council, appointed by the minister. This council shall also recommend ways to prevent unemployment. It is provided that the Provincial Governments shall have direction over their own employment offices, subject to the terms of the agreement with the Minister of Labor under the act, and every Province shall establish clearing houses to provide for distribution of labor within the Province as well as to cooperate with the Dominion Government clearing house in the interprovincial distribution of labor as mentioned above. The full text of the Order-in-Council is as follows:

#### THE DEPARTMENT OF LABOR.

1. It shall be the duty of the Department of Labor under the Employment Offices Coordination Act—

(a) To encourage the Provincial Governments to open new employment offices, to develop those already in operation, and to establish provincial clearing houses which shall endeavor to meet any unsatisfied demand for employment by drawing upon any supply within the Province or if such is not available by securing labor through the Dominion clearing house from any surplus in other Provinces.

(b) To maintain one or more Dominion clearing houses for the interprovincial distribution of labor.

(c) To provide for the cooperation of provincial employment offices and provincial clearing houses with existing noncommercial employment agencies, with a view to the gradual absorption of such agencies.

(d) To promote uniformity of methods in provincial employment offices.

(e) To establish a system of inspection of provincial employment offices.

(f) To collect and publish information as to the condition of the labor market.

(g) To exercise supervision over private advertising for labor.

(h) To print at the expense of the Department of Labor all forms used by the employment offices.

(i) To carry out, with the approval of the minister the recommendations of the Employment Service Council of Canada.

(j) To pay to the Provincial Governments upon the compliance with these regulations amounts due them under the Employment Offices Coordination Act, as shown in the reports required of them by the Minister of Labor.

2. In the discharge of these duties the Department of Labor shall cooperate with the several departments of the Government in any matters requiring common or united action and each department of the Government and the officers thereof shall assist and cooperate with the Department of Labor and its officers.

<sup>1</sup> A brief summary of this act appeared in the MONTHLY LABOR REVIEW for October, 1918, p. 265.

## THE EMPLOYMENT SERVICE COUNCIL OF CANADA.

1. To assist in the administration of the Employment Offices Coordination Act and to recommend ways of preventing unemployment, the minister of labor shall, with the approval of the governor in council, establish an advisory council to be known as the Employment Service Council of Canada. Such council shall consist of one member each appointed by the Provincial Governments; two members appointed by the Canadian Manufacturers' Association; two members appointed by the Trade and Labor Congress of Canada; one member appointed by the Railway War Board; one member appointed by the railway brotherhoods; two members appointed by the Canadian Council of Agriculture; three members appointed by the Department of Labor, two of whom shall be women; one member appointed by the returned soldiers; one member appointed by the Soldiers' Civil Reestablishment Department.

2. The members of the Employment Service Council of Canada, including the chairman, shall hold office for three years and shall be eligible for reappointment.

## THE PROVINCIAL GOVERNMENTS.

1. The Provincial Governments shall have direction of their own employment offices, subject to the terms of the agreement with the Minister of Labor under the Employment Offices Coordination Act.

2. Each Province shall establish a clearing house to provide for the distribution of labor within the Province and to cooperate with the Dominion clearing house for the interprovincial distribution of labor. The provincial clearing house shall furnish such reports, as to employment conditions, as the Dominion clearing house may require.

3. In connection with the employment office administration of each Province there shall be an advisory council equally representative of employers and employees, appointed by the lieutenant governor in council. It shall be the duty of the advisory council to safeguard the interest of employers and employees of the Province in the distribution of labor; to direct the policy of the local advisory committees and to cooperate with the Dominion Employment Service Council of Canada.

## THE EMPLOYMENT OFFICES.

1. The employment offices shall endeavor to fill vacancies in all occupations and shall serve both male and female employees.

2. The Provincial Government shall establish for such employment offices as they deem advisable, local advisory committees consisting of equal numbers of persons representing employers and employees in the locality, together with a chairman agreed upon by a majority both of the persons representing employers and of the persons representing employees or in default of such agreement appointed by the Provincial Government.

3. It shall be the duty of the local advisory committees to assist the superintendents of the employment offices in the discharge of their duties and to cooperate with the provincial advisory committees in the work of applying the national employment policy to the industry of the Province.

4. As to wages and conditions, the following regulations shall be observed:

(a) The officer in charge of an employment office in notifying applications for employment and vacancies to employers and applicants, respectively, shall undertake no responsibility with regard to wages or other conditions, beyond supplying the employer or applicant, as the case may be, with any information in his possession as to the rate of wages desired or offered.

(b) Copies of summaries of any agreements mutually arranged between associations of employers and workmen for the regulation of wages or other conditions of labor in any trade, may, with the consent of the various parties to such agreements, be filed at



an employment office, and any published rule made by public authorities with regard to like matters may also be filed. Documents so filed may be open to inspection on application.

(c) No person shall suffer any disqualification or be otherwise prejudiced on account of refusing to accept employment found for him through an employment office where the ground of refusal is that a trade dispute exists or that the wages offered are lower than those current in the trade in the district where the employment is found.

5. In dealing with strikes and lockouts the employment offices shall observe the following regulations:

(a) Any employer or association of employers or group or association of workmen may file at an employment office a statement with regard to a strike or lockout existing or threatened, affecting their trade or a branch of their trade, in the district. Any such statement shall be in the form provided for the purpose and shall be signed by a person authorized by the association for that purpose. Such statement shall be confidential except as hereunder provided and shall only be in force for seven days from the date of filing, but may be renewed within that period for a like period and so on from time to time.

(b) If any employer who appears to be affected by a statement so filed notifies an employment office of a vacancy or vacancies for workmen of the class affected, the officer in charge shall inform him of the statement that has been filed and give him an opportunity of making a written statement thereon. The officer in charge in notifying any such vacancies to any applicant for employment, shall also inform him of the statements that have been received.

(c) The Provinces may adopt any further regulations with regard to strikes and lockouts which they deem necessary.

#### APPOINTMENT OF DIRECTOR OF LABOR RESEARCH.<sup>1</sup>

In view of the labor conditions in Canada incident to the ending of the war and the consequent necessity for developing and standardizing the provincial employment offices so as to work out the unemployment problem with the least possible friction and inconvenience to employers and workers, it has been found advisable to establish under the Minister of Labor an office known as the Director of Labor Research and Employment Service. This was done by Order-in-Council passed on December 16, 1918, as follows:

Whereas the Minister of Labor reports that in view of labor conditions in Canada incident to military demobilization and the sudden cessation of the production of war munitions, the result of the existing armistice, and pursuant to section 10 of the Employment Offices Coordination Act, he has made a certain regulation to enable the more effective and expeditious operation of the act and recommends that the same be approved by the Governor General in council.

Therefore his excellency the Governor General in council, under the powers conferred upon him by the said section 10 of the said Employment Offices Coordination Act, is pleased to approve and doth hereby approve of the said regulation in the terms following:

An office shall be and is hereby established under the Minister of Labor to be known as that of the Director of Labor Research and Employment Service, and the duties of that office to be performed under the supervision of the Minister of Labor shall be—

1. To treat with the Provincial Governments as to the establishment and development of employment offices, the standardization of such offices, and their coordination into a national system.

<sup>1</sup> Data taken from the Canadian Official Record (Ottawa), Dec. 24, 1918, p. 3.

2. To supervise the clearing houses established under the act.
3. To negotiate the annual agreements between the Dominion and Provincial Governments required under the act.
4. To inspect provincial employment offices.
5. To study and report on unemployment and ways and means of lessening unemployment and on employment conditions, including wages and hours, industrial accidents and diseases, and on ways and means of improving conditions of employment.
6. To perform such other duties as may be referred to such office from time to time by the Minister of Labor.

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### GERMAN LABOR MARKET AFTER THE WAR.

Conditions in the German labor market after the war form the subject of an article in the *Konfektionär*<sup>1</sup> by Georg Gothein, a member of the Reichstag, who says that trade-union circles take a pessimistic view of the problem of finding immediate employment for the eight or nine million men who are at present in the Army and the millions of munition workers and express the fear that there will be a large amount of unemployment.

The number of men killed or disabled in the war and the number untrained in the trades in consequence of their having been called to the colors at an early age may be estimated at quite 3,000,000 between the age of 19 and 49 years. Even when the men in the last of the three categories just mentioned have become fully proficient the loss of labor will still work out at about 2,000,000 adults. The conclusion of peace will further entail the loss of 2,000,000 prisoners of war and hundreds of thousands of interned foreigners who have been engaged in agriculture. In peace time not fewer than 850,000 migratory laborers from abroad were employed in Germany; most of them were retained in Germany at the outbreak of war, and it is impossible to say how many will return home and how many remain. Galicia will need all its agricultural laborers, and most of the men who came from Poland after their long separation from home and their families are eager to leave and would starve rather than return to Germany forthwith.

Herr Gothein sums up the prospects of the various trades as follows:

#### AGRICULTURE.

There is bound to be a considerable shortage of labor which will especially affect large and moderate-sized estates. Men out of employment, especially in the textile industry, owing to shortage of raw materials, will find in agriculture ample opportunities for work. It is certain that all who were formerly employed in agriculture and forestry will be discharged from the army as soon as there is any

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<sup>1</sup> *Konfektionär*, Berlin, Oct. 17, 1918.

certainty of peace being concluded. In 1907 agriculture and forestry found employment for 5,284,000 males, but in 1913 these numbers can hardly have reached 5,200,000. Hardly more than 2,500,000 are on military service, for agriculture employs a comparatively large number of youths and also men no longer of military age, while it must be remembered that many men have already been released. Consequently, the need for adult labor will not be met to nearly the required extent by the numbers returning from the war.

#### MINING.

These industries in 1913 employed 1,189,700 persons of whom 1,133,709 were adult males. The mines also are finding employment for considerable numbers of prisoners, interned persons, and voluntary laborers from Poland. During the war dead work has been reduced to a minimum, and owing to shortage of labor the normal output of peace time could not be nearly attained. During the war no new seams of coal have been worked and no new galleries driven, but these must be started at once on the conclusion of peace. The mines will be in a position to absorb all the labor set free by demobilization and to employ fresh labor as well. This holds good too for potash and ore mines, even if, as regards the former, there is no need for new shafts. Both in foreign countries and in Germany there will be a very large demand for coal, ore, and potash after the war, and its satisfaction will be largely a question of transport.

#### IRON AND STEEL INDUSTRY.

The smelting industry, of which by far the most important branch is iron smelting, will be faced by such an enormous demand that it will take many years to satisfy it. Endless work will be necessary to meet the demand both at home and abroad for street-car and railway rails and sleepers, for thick sheet iron for shipbuilding as well as for railway carriages and steam boilers, for girders and angle iron for tall buildings and bridges, for thin plates for accumulators and sheet-metal implements of all kinds, for iron for engines and tools, for tubing and wrought-iron goods, etc. Production for the past four years has been almost entirely for the army, and peacetime requirements will be all the larger. France, Russia, Belgium, Italy, and Roumania will depend mainly on German iron for the work of reconstruction, and even England will find it difficult to dispense with it. Accordingly, the German iron industry may look forward to a time of prosperity as brilliant as during the war and will receive every skilled workman with open arms if it is not found necessary to restrict its coal requirements after the war. Matters are the same with the zinc, lead, and copper smelting industries.

## STONE AND EARTHENWARE INDUSTRY.

This industry in 1913 employed 647,608 workers, of whom 537,089 were adult males. Even if employment in the brick works is dependent on the season of the year in which peace is concluded, that is not the case with stone and other quarries, with the cement industry, and with mason's work. This latter is, it is true, dependent on the season of the year to a certain extent, but the work in this industry is so much in arrears that it will mean more labor than in normal times. In any case, there will be rather a shortage of labor than a lack of employment. This group of industries contains the entire porcelain and glass industry, both of which have been obliged to curtail their efforts to an increasing extent during the war. There is an enormous demand for porcelain, earthenware, and glass goods, both at home and abroad, and the more so since important countries of production and export, e. g., England, France, Belgium, and Austria, have been obliged to restrict their output to the uttermost. Since this industry is not compelled to rely on foreign countries for its raw materials, it will be enabled to recommence at once and find employment for the labor streaming back to it.

## METAL INDUSTRY.

Metal working and the manufacture of machinery, tools, instruments, and apparatus in 1913 employed 1,853,588 workers, of whom 1,528,573 were adult males. It will take some months to transform the industry so as to enable it to meet peace requirements, even if most concerns have already made preparations to that end, but this transformation itself will require large numbers of workers. When demobilization takes place all engineers, foremen, engine fitters, mechanics, and factory officials will be discharged forthwith, so as not to delay this transformation. When this is accomplished there will be far more employment than before the war in this industry. Europe alone requires vast quantities of agricultural machinery and implements. In every country it will be necessary to replace worn-out railway engines and rolling stock, while the shipping industry is equally in need of engines to replace those which have been lost or worn out. It is true that during the war this industry has been able to employ women to an extent hitherto regarded as impossible, and employ them with advantage in the manufacture of goods in bulk such as bombs and small-arms munitions. It is not improbable that numbers of these women will be dismissed when they can be replaced by skilled men since they usually give up work on their marriage. With the return of their husbands and of soldiers anxious to marry, a large number of these women will give up work, or will be absorbed by the textile industry by degrees as it gets into working

order again. But some of them will remain in the industry, and since there is more work to be done than before the war they will not be robbing the men of their posts. It must always be remembered that there will be two or three million fewer men available than before, and, moreover, when it is a matter of physical labor, women can not compete with men.

#### CHEMICAL INDUSTRY.

This industry in 1913 employed 180,600 workers, of whom 146,000 were adult males. There will be ample employment in this industry after the war, even if there are no more war orders to execute. There is a vast demand throughout the world for German aniline dyes and pharmaceutical and other articles. During the war the industry has evolved new methods of manufacture which will continue to be of great importance, e. g., the production of nitrates, which has not only rendered German agriculture independent of Chile saltpeter but promises to become an important export industry.

#### PAPER INDUSTRY.

This industry is suffering severely from a shortage of wood, coal, and resin. When military authorities cease to consume such quantities of wood and cellulose, and the munitions industry such quantities of coal, ample supplies of these important raw materials will once more be available for the paper industry. Of the 200,000 workers engaged in this industry in 1913 only 115,000 were male adults. Since, at present, the output is very limited it has room for many returning soldiers.

#### WOODWORKING INDUSTRY.

In 1913, of the 454,000 hands employed in this industry, 383,000 were adult males. Including, as it does, the furniture making and joining industry, it can look forward to a period of great prosperity after the war. There is a great demand for furniture. It was impossible to replace worn-out furniture during the war, while new furniture could only be obtained in exceptional cases. Second-hand furniture has commanded prices often twice as high as peace prices. The demand will be so enormous when thousands of men set up households of their own that it will take years to satisfy it. There is at present a lack of timber, glue, shellac, furniture polish, and varnish, but when once the war is over these will quickly be forthcoming. In any case there will be no lack of employment. The same will be true of the whole building industry. In the first place endless repairs of all kinds have had to be postponed, which will make a heavy demand on labor, which will also be required for transforming concerns occupied with war requirements. There will



also be in many places a large demand for new buildings, for even if the population has declined rather than increased, there is bound to be a shortage of houses after four years. Large numbers of the population have changed and will continue to change their place of residence and will require new houses. The industry will give employment to all old hands and to many new ones.

#### LEATHER, TEXTILE, AND CLOTHING INDUSTRIES.

These industries alone will not be in a position to resume work at full pressure so speedily. The leather trade lacks hides and in part tanning materials and fats, and it will take some time to obtain these to the required extent from abroad, even if the trade is favored in the matter of cargo space. The war has occasioned such an enormous consumption of leather that the supply of hides has become very small throughout the world. In 1913 the industry employed 121,000 workmen, of whom 91,500 were adult males, and it will be some time before employment reaches the peace-time figure. The case is the same in the textile industry. Germany lacks wool, cotton, and jute. The world's supplies of cotton and wool have seriously decreased during the war. Of the 956,000 workers employed in the German textile industry in 1913 adult males numbered over 400,000. Some of these will find employment in the manufacture of substitute materials, but others will at first have to seek another calling. The clothing industry will also suffer, although of the 431,000 hands employed in 1913 only 112,000 were adult males. The majority might be employed on the manufacture of substitute materials and on repairs, and there will not be a large number temporarily out of work, since clothing must be provided and substitute materials are not very durable.

To sum up, it may be assumed that in certain branches of industry employing in all before the war between 1,500,000 and 1,600,000 workers, there will be a certain amount of unemployment, whereas in industries which employed 10,000,000 workers and in agriculture with its 5,200,000 there will be a serious shortage of labor. It will not be easy to employ at once all the returning soldiers and those discharged from the national service, but there will be a shortage not of employment but of labor.

PROPOSALS FOR REMEDYING UNEMPLOYMENT IN SWITZERLAND.<sup>1</sup>

The proposals for remedying unemployment which the committee appointed by the Federal Council (*Bundesrat*) have adopted are to the following effect:

All wageworkers in private industrial undertakings, who at piece or time rates earn less than 14 francs (\$2.70) per day, shall be entitled to unemployment relief when out of employment. In case of reduced operation the employer shall not dismiss workers but shorten the working hours. If this decrease of hours amounts at most to only five hours per week, or 10 per cent of the usual working hours, the employer shall not be bound to compensate the workers for the lost time, but if it amounts to more than 10 and not over 60 per cent of the usual working hours, the employer shall in addition to the normal wage for the work performed pay a bonus which together with the wage shall not exceed 90 per cent of the usual wages. If the shortening of working hours amounts to more than 60 per cent, or if the establishment is shut down entirely, the compensation to the workers shall be paid in equal parts by the employer, by the Canton in which the worker is domiciled, and by the State. Workers must accept any suitable work assigned to them, otherwise they forfeit their claim to an allowance. Disputes shall be settled by an arbitration board composed of three nonpartisan members and two representatives each of employers and workers.

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<sup>1</sup> Soziale Praxis und Archiv für Volkswohlfahrt, Die Vorschläge für die Arbeitslosenfürsorge in der Schweiz, vol. 27, No. 50. Berlin, Sept. 12, 1918.

## AGREEMENTS BETWEEN EMPLOYERS AND EMPLOYED.

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### COLLECTIVE BARGAINING AGREEMENT BETWEEN BETHLEHEM SHIP-BUILDING CORPORATION AND METAL WORKERS.

By an agreement, to which the Bethlehem Shipbuilding Corporation and certain international unions comprising the metal-trades department of the American Federation of Labor are parties, signed on January 7, 1919, provision is made for the recognition of the union as representing the employees, and for the consideration of all matters affecting wages, hours, and conditions of labor by a committee of five employees and five representatives of the company. This collective bargaining agreement affects approximately 75,000 workers in plants of the corporation at Quincy, Mass., San Francisco, Baltimore, Wilmington, and elsewhere. The text of the agreement is as follows:

AGREEMENT, made this 7th day of January, 1919, between the Bethlehem Shipbuilding Corporation (Ltd.), a Delaware corporation (hereinafter called the company), and the metal-trades department of the American Federation of Labor (hereinafter called the department).

WITNESSETH: That, whereas, the department is an organization composed of national and international unions (hereinafter called the unions) affiliated with the American Federation of Labor, many of the members of the said unions being in the employ of the company in its various plants, and

Whereas the company recognizes the said unions collectively as a suitable agency to represent its employees in questions arising as to wages, hours of labor, and general working conditions, and

Whereas the department is authorized by the express consent of each union which is a member of the department to enter into an agreement with the company providing for the relations of the unions with the company;

Now, therefore, it is agreed as follows:

(1) The unions shall select a committee of five members (hereinafter called the internationals' committee) which shall represent the unions in questions arising between the unions and the company.

(2) The members of the internationals' committee shall be selected in such manner, for such terms, and with such provisions for alternates as the unions may from time to time determine.

(3) The internationals' committee may appoint agents, delegates, or officers who shall have such authority in dealing with the separate managements of the plants of the company, or with the employees' committees in such plants, or on behalf of such employees' committees, as shall be expressly conferred by the internationals' committee.

(4) The internationals' committee, or any member thereof, or any person expressly authorized by said committee shall have access to any plant of the company on the

business of the internationals' committee, in accordance with rules and regulations agreed to by the internationals' committee and the company's committee.

(5) The relations of the unions with the company and with the separate managements of its plants (including in the term *unions* all departments, councils, federations, central, local, or other organizations affiliated with the American Federation of Labor, and all agents or officers thereof) in matters affecting wages, hours of labor, or working conditions are to be carried on exclusively through the internationals' committee, or in accordance with the rules of said committee from time to time established, and not otherwise.

(6) It is understood that the employees will select local or plant committees that will function in the same manner as provided for in the Shipbuilding Labor Adjustment Board awards, subject to such changes or modifications as may from time to time be agreed upon by the internationals' committee and the company's committee.

(7) The company shall appoint a committee of five members (hereinafter called the company's committee) to meet with the internationals' committee at regular intervals and otherwise subject to the joint call of the chairmen. The members of the company's committee shall be appointed in such manner, for such term, and with such provisions for alternates as the company may from time to time determine.

(8) The internationals' committee and the company's committee shall jointly hear or consider all grievances or other questions affecting wages, hours of labor, or working conditions which have failed of adjustment, and any other matters as to which such joint consideration will tend to avoid misunderstandings, or will improve the condition of the industry and of its employees. Any officer representing a union shall have the right to be present at a hearing in the subject of which the interests of his organization are specially concerned, or to confer with the committees, sitting jointly, on any question which in his judgment requires consideration or adjustment.

(9) The internationals' committee shall pay the compensation and expenses of its own officers, agents, or delegates, but the company will pay the reasonable compensation and expenses of its employees for time actually spent in service on craft or other committees in accordance with provisions and rules from time to time made and agreed upon by the internationals' committee and the company's committee.

(10) A national or international union, any of the members of which are employees of the company, and which is not a member of the department, may become a party to this agreement by notice to the department and to the company of its intention to conform to the provisions hereof. Any such union may withdraw from the agreement upon notice to the department and the company. Either the department or the company may terminate this agreement at any time by giving 30 days' notice in writing.

IN WITNESS WHEREOF, Bethlehem Shipbuilding Corporation (Ltd.) has caused these presents to be signed and its corporate seal to be hereto affixed by Eugene G. Grace, its president, and Joseph W. Powell, a vice president, and the metal-trades department of the American Federation of Labor has caused these presents to be signed by James O'Connell, its president, and A. J. Berres, its secretary, all on the day and year first above written.

BETHLEHEM SHIPBUILDING CORPORATION (LTD.),  
By E. G. GRACE, *President*,  
J. W. POWELL, *Vice President*.  
METAL TRADES DEPARTMENT,  
By JAS. O'CONNELL, *President*,  
A. J. BERRES, *Secretary-Treasurer*.

## WAGES AND HOURS OF LABOR.

### ORDERS AFFECTING WAGES AND EMPLOYMENT OF EMPLOYEES OF UNITED STATES CONTROLLED TELEGRAPH SYSTEMS.

#### WAGE INCREASES FOR EMPLOYEES.

In an order issued by the Postmaster General early in the year, effective on January 1, 1919, a general wage increase is granted to employees (except at nonfunctional offices) in all departments of the telegraph systems now under Government control. The order fixes maximum and minimum salaries ranging from \$200 down to \$40 per month, and provides for overtime pay of employees in nonfunctional offices. The text of the order is as follows:

On and after January 1, 1919, the salaries of all employees of all departments of the telegraph systems under Government control, except at nonfunctional offices, shall be increased as follows:

Employees who on January 1, 1919, had been in the service continuously for six months and not more than one and a half years, 5 per cent.

Employees who on January 1, 1919, had been in the service continuously for more than one and a half years, 10 per cent.

These percentage increases shall not apply to premium rates nor to premium earnings. The increases as above to be reckoned on the salaries in effect as of December 31, 1918.

No increase shall serve to advance any individual salary to more than \$200 per month, or to apply in cases or to any extent where its application would result in an increase of more than \$35 per month since January 1, 1918.

No increase in the traffic department forces to increase any individual salary classified below beyond the limit set out therein as a maximum monthly rating; and additional amounts will be added to individual salary rates where the percentage increase above does not raise the salary to the minimum monthly rating specified for the particular classification:

	Maxi- mum.	Mini- mum.
Assistant chief operator.....	\$200	\$90
Wire chief.....	200	90
Night wire chief.....	190	90
Late night wire chief.....	190	90
Assistant wire chief.....	185	90
Testboard attendant.....	175	90
Automatic chiefs.....	185	90
Automatic attendants.....	175	70
Repeater chief.....	185	90
Repeater attendants.....	175	90
Equipment chiefs.....	175	90
Equipment attendants.....	150	60
Typewriter attendants.....	100	50



	Maxi- mum.	Mini- mum.
Dynamo and battery attendants.....	110	60
Janitors.....	75	25
Elevator men.....	75	25
Morse supervisor.....	175	90
C. N. D. supervisor.....	175	90
Automatic supervisor.....	125	75
Telephone supervisor.....	125	75
Morse operators.....	160	70
Multiplex and printer operators.....	105	55
C. N. D. keyboard operators.....	105	55
Telephone operators.....	105	55
Route clerks.....	100	40
Tube clerks.....	100	40
Service clerks.....	100	50
File clerks.....	90	40
Office messengers, T. & R.....	60	35
Claim clerks.....	100	50
Time clerks.....	100	50
Statistical clerks.....	100	50
Clerks (not otherwise classified).....	100	50
Chief clerks.....	150	60
T. & R. clerks.....	100	50

Increases are not to be regarded as applying to those whose regular occupation is with other concerns and whose occupation with the telegraph companies is classed as "other employment employees."

Employees at nonfunctional offices to be paid at their regular salary rating for hours worked in excess of 8 up to a maximum of 10 hours per day. For extra service in excess of 10 hours per day, time and a half to be paid.

Whenever the increased compensation of nonfunctional employees with respect of time worked in excess of 8 but not in excess of 10 hours per day is less than the amount he or she would receive at the percentage increase for his or her class provided for functional office employees, the basic compensation shall be increased to an amount sufficient to make up the difference.

Employees who are engaged on Sunday shall be paid at the regular rates of compensation described above or be granted compensatory time during the following week as he or she may elect.

The above increases shall not apply to employees known as messengers.

The above increases are made after a careful investigation of a petition filed by the employees of one of the telegraph companies through its officers, who recommended that certain increases be made. The Department feels that the telegraph employees are entitled to an increase, but revenue conditions at this time would not justify these increases hereby authorized, unless by a careful plan of elimination of waste incident to duplication and by effecting other economies which will not impair the efficiency of the service, the revenue conditions can be made to meet such increases. Believing that this can be done, the order for such increases is accordingly issued.

#### OPEN-SHOP POLICY.

Some misunderstanding having arisen as to the attitude of the Government on the matter of the employment of union and non-union men, the Postmaster General in the following order (Order

No. 2067) has taken the position that the Government "will not distinguish between nonunion and union men:"

*To all telegraph and telephone companies:*

Information has reached the department that representations are being made throughout the country that it is the desire of the Government that employees of the telegraph and telephone companies should join the Commercial Telegraphers Union, the International Brotherhood of Electrical Workers, or other unions. These representations have no foundation in fact whatever. In its operation of the telegraph and telephone systems the Post Office Department will not distinguish between nonunion and union employees. Persons will be employed solely because of their fitness for the positions to which they seek employment and must not be employed, discharged, favored, or discriminated against because they do or do not belong to any particular organization.

Officers and employees of the telegraph and telephone systems will comply strictly with the provisions of this order.

A. S. BURLESON,  
*Postmaster General.*

#### VACATIONS WITH PAY FOR TELEGRAPH EMPLOYEES.

Provision has been made by the Postmaster General, effective January 1, 1919, for the granting of annual vacations to employees of the telegraph companies, with pay at their regular ratings as follows:

All regularly assigned employees who have been in the service of the company continuously for two years or more shall receive two weeks' vacation, and those who have been in the service continuously for one year shall receive one week's vacation.

Unassigned employees without other employment who have worked for the company the equivalent of full time for the periods given above shall also receive vacations subject to the same regulations as the regularly assigned employees.

The telegraph business being a seasonal one, vacation schedules shall necessarily be arranged to meet the local conditions. It will not be expedient to arrange vacations for all during the so-called vacation season, hence vacations must be taken when assigned, regardless of the season.

These vacations are intended for rest and recreation, and employees are not expected to engage in other employment during such vacations. Vacations can not be transferred in whole or in part to other employees and shall be taken during the year in which they are due. They can not be saved up from year to year and thereby extended into a longer period. If for any reason the vacation is not taken, no additional compensation will be allowed.

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#### RECENT WAGE AWARDS BY NATIONAL ADJUSTMENT COMMISSION.

The National Adjustment Commission, which adjusts and controls wages, hours, and conditions of labor in the loading and unloading of vessels both in coastwise service and deep-sea service, recently announced two awards—one affecting the wage scale for licensed deck and engine-room officers in the Atlantic and Gulf service, and the other applicable to men engaged in the loading and unloading of cotton and tobacco at the various ports of the Gulf district. In the former case the new scale is the largest ever paid for those positions in this or any other country, but the advanced compensation has

been awarded in recognition of the increased cost of living. In this case the petitioning parties were the Marine Engineers' Beneficial Association; American Association of Masters, Mates, and Pilots; Ocean Association of Marine Engineers; and Neptune Association of Masters, Mates, and Pilots. Other parties interested were the United States Shipping Board; American Steamship Association; American Steamship-Licensed Officers' Association, (Inc.); and owners and operators of ocean-going steamships in the Atlantic and Gulf service. The award became effective on January 1, 1919.

#### WAGE SCALE FOR LICENSED DECK AND ENGINE-ROOM OFFICERS.

Petitions having been received from the above-named petitioning parties for the abolition of bonuses, readjustment of wages and reclassification of vessels, the matter was left for decision by agreement to a special committee consisting of a representative of the licensed officers appointed by the Secretary of Labor, a representative of the American Steamship Association and an impartial chairman appointed by the Shipping Board.

Owing to the fact that the armistice was signed after the agreement for this arbitration had been made, an honest difference of opinion has arisen between the members of this board as to the extent to which the terms of this award shall be mandatory on American vessels.

This board is unanimous, however, in its decision that this award shall be mandatory on all vessels owned or under requisition by the United States Shipping Board.

Owing to the continued urgent national necessity in relation to shipping, this board is also unanimous in urging on all private owners and operators of vessels not requisitioned that the wages set in this award shall be voluntarily paid by them in order that the conditions in this industry may continue stable and the possibility of any interruption in the traffic may be avoided.

After full hearing granted to all the parties on December 4, 1918, commission makes the following award:

1. The classes of vessels upon which wages shall be based are as follows:<sup>1</sup>

Class A—Single screws, over 20,001 power tons; twin screws, over 15,001 power tons; Class B—Single screws, 12,001 to 20,000 power tons; twin screws, 9,001 to 15,000 power tons; Class C—Single screws, 7,501 to 12,000 power tons; twin screws, 5,501 to 9,000 power tons; Class D—Single screws, 5,001 to 7,500 power tons; twin screws, 3,501 to 5,500 power tons; Class E—Single screws, below 5,001 power tons; twin screws, below 3,501 power tons.

2. The wages for licensed officers shall be as follows:

#### WAGE SCALE FOR LICENSED OFFICERS OF THE DECK AND ENGINE DEPARTMENTS.

Licensed officers.	Class A.	Class B.	Class C.	Class D.	Class E.
Masters.....	\$375. 00	\$337. 50	\$325. 00	\$312. 50	\$300. 00
Chief engineer.....	287. 50	268. 75	250. 00	231. 25	212. 50
First officers and first assistant engineers.....	206. 25	200. 00	193. 75	187. 50	181. 25
Second officers and second assistant engineers.....	187. 50	181. 25	175. 00	168. 75	162. 50
Third officers and third assistant engineers.....	168. 75	162. 50	156. 25	150. 00	143. 75
Fourth officers and fourth assistant engineers.....	150. 00	143. 75			
Junior engineers.....	125. 00				

3. The above rates are flat and do not contemplate the payment of bonuses in any form whatsoever.

<sup>1</sup> The figures in this classification are inclusive.

4. The above rates shall constitute a single universal scale applicable to licensed officers on steamships plying from Atlantic and Gulf ports and shall include coastwise, West Indies, South American, and trans-Atlantic services.

5. The above rates shall become effective for all licensed officers signing on, on and after January 1, 1919, and shall remain in full force and effect until May 1, 1919, and shall be subject to revision at any time thereafter upon the termination of 30 days after written notice served by any one of the interested parties to the United States Shipping Board at Washington, D. C.

6. In issuing this award the commission has had in mind the conditions which have developed subsequent to the signing of the armistice, including that fact that the wages herein set are for a period of change and readjustment both internally and internationally. The commission has felt that during this period of readjustment in which there seems to be no immediate prospect of reduction in the cost of living that the present rate of compensation paid in the coastwise service should not be diminished but should be made universal for all services from Atlantic and Gulf ports. The commission has further felt that in view of the action of the Shipping Board abolishing the payment of bonuses to all members of the crew other than licensed officers, it should also abolish that extra compensation which was paid for trans-Atlantic war zone risk. It has accordingly set a rate which does away with that part of the extra war risk compensation which was formerly paid for war zone voyages in excess of what was paid for voyages in the coastwise service. The commission was also of opinion that wage increases which might have been favorably considered during conditions of warfare would not now be warranted, owing to the unsettled conditions following cessation of hostilities.

#### NEW WAGE SCALE FOR MEN ENGAGED IN LOADING AND UNLOADING VESSELS.

The award applicable to men engaged in loading and unloading cotton and tobacco at various ports of the Gulf district is the result of a petition by the International Longshoremen's Association and affiliated locals of screwmen employed as above noted, the other parties interested in the adjustment being deep-sea steamship companies and contracting stevedores at the ports of the Gulf district. The text of the award, which takes effect as of November 11, 1918, is as follows:

The question of readjustment of wages and working conditions of men engaged in the loading and unloading of cotton and tobacco at the various ports of the Gulf district was considered by the National Adjustment Commission at meetings convening at New Orleans, La., October 30, 1918, and reconvening October 31, 1918, and after hearing the parties and their testimony the commission awards with respect to deep-water vessels as follows:

The commission find no such uniformity of conditions as to warrant the establishment of uniform wages and working conditions for men engaged in the loading and unloading of cotton and tobacco throughout the Gulf district beyond the establishment of a basic eight-hour day, which is hereby established.

It is awarded that in other respects wages and working conditions shall remain the same at Galveston in accordance with agreements now in force in that port, with instructions that the obligation and terms of employment of the men shall include putting on the hatches.

The above award shall take effect as of November 11, 1918, and shall remain in effect until and including September 30, 1919, unless the National Adjustment Commission of its own motion upon grounds of national policy shall sooner reopen and modify the terms thereof.

It is also awarded that so long as working conditions remain the same as at present at the port of New Orleans, the tariff shall be at the rate of \$36 per gang of 5 men per day, regular time. The commission, however, finds that many of the terms and conditions prescribed in the agreement now in force are objectionable in that they tend to induce unreasonable interruption and curtailment of work, and hereby directs that the revision of the agreement be considered by all parties, acting through duly accredited committees, under the direction and subject to the approval of the New Orleans Local Adjustment Commission, with right of appeal to the National Adjustment Commission, and that if the parties can not agree, the matter of the revision of said agreement be taken up by the New Orleans Local Adjustment Commission.

#### WAGE INCREASE FOR CERTAIN WIRELESS OPERATORS.

A special commission authorized by the United States Shipping Board has made an award affecting wireless operators on vessels operating from Atlantic and Gulf ports, effective January 1, 1919, as follows:

In the matter referred to the undersigned commission<sup>1</sup> by the Marconi Wireless Telegraph Co., certain owners of vessels using radio equipment, the Marconi Radio Telegraphers' Association, and the United States Shipping Board, the commission has unanimously reached the following decision:

Wages to be paid wireless operators on vessels operated from Atlantic and Gulf ports, effective January 1, 1919:

All chief operators, \$110; all assistant operators, \$85.

There are to be no trans-Atlantic or coastwise bonuses. There are to be no sliding scales.

#### METHOD OF COMPUTING WAGES OF RAILROAD EMPLOYEES FIXED BY DIRECTOR GENERAL.

In order to make clear the method to be followed by the Railroad Administration in computing the wages of railroad employees whose pay was increased by provisions of Supplement No. 8<sup>2</sup> to General Order No. 27, the Director General has issued an interpretation (No. 1), the full text of which is as follows:

#### OVERTIME MONTHLY, WEEKLY, OR DAILY PAID EMPLOYEES.

ARTICLE I.—Eight consecutive hours, exclusive of the meal period, constituting a day's work from the effective date of Supplement No. 8 to General Order No. 27, the increases provided for therein and applicable to monthly, weekly, and daily paid employees specified in Article I, paragraphs (a), (b), (c), and (h), and Article II of Supplement No. 8, are based upon the recognized number of working days constituting a calendar year (including Sundays and (or) holidays where they have been considered a part of the employees assignment), and the rates of pay in effect January 1, 1918, prior to the application of General Order No. 27, exclusive of overtime. The following examples illustrate the method to be used in establishing the straight-time hourly rate as the basis of payment for overtime service:

Example (a): Employees working 30 days per month on the monthly, weekly, or daily basis, at a wage amounting to \$85 per month on January 1, 1918, prior to the

<sup>1</sup> This commission was composed of Robert P. Bass, chairman; Franklin D. Mooney, and Wm. S. Brown.

<sup>2</sup> The provisions of Supplement No. 8 are given in the MONTHLY LABOR REVIEW for October, 1918 (pp. 135-138).



application of General Order No. 27, would on September 1, 1918, under Supplement No. 8, Article I (a), automatically advance to the basic rate of \$90 per month, plus \$25 increase, establishing the rate of \$115, or \$1,380 per year. In computing the pro-rata rate per hour for overtime pay for monthly, weekly, or daily paid employees, take the number of working days constituting a calendar year, multiply by 8 and divide the annual salary by the total hours, exclusive of overtime and disregarding time absent on vacations, sick leave, holidays, or for any other cause. In determining the hourly rate, fractions less than one-fourth of 1 cent shall be as one-fourth of 1 cent; over one-fourth and under one-half, as one-half cent; over one-half and under three-fourths, as three-fourths; over three-fourths, as 1 cent.

Example (b).—Yearly wage,  $\$1,380 \div 2,880$  hours = 40.97, or 41 cents per hour.

Example (c).—Yearly wage,  $\$1,500 \div 2,880$  hours = 52.1, or 52.25 cents per hour.

Example (d).—Yearly wage,  $\$1,800 \div 2,880$  hours = 62.5 cents per hour.

Example (e).—Yearly wage,  $\$2,100 \div 2,880$  hours = 72.91, or 73 cents per hour.

Example (f).—Yearly wage,  $\$24,000 \div 2,880$  hours = 83.33, or 83.5 cents per hour.

NOTE.—It is to be understood that 2,880 hours is illustrative only; the hours per year will vary as the assigned work days in a year vary.

ART. II.—On February 21, 1918, the Director General issued General Order No. 8, paragraph 3 thereof, reading as follows:

"The broad question of wages and hours will be passed upon and reported to the Director General as promptly as possible by the present railroad wage commission. Pending a disposition of these matters by the Director General, all requests of employees involving revision of schedules of general changes in conditions affecting wages and hours will be held in abeyance by both the managers and employees. Wages, when determined upon, will be made retroactive to January 1, 1918, and adjusted accordingly. Matters of controversy arising under interpretations of existing wage agreements and other matters not relating to wages and hours, will take their usual course, and in the event of inability to reach a settlement, will be referred to the Director General."

If employees coming within the scope of Supplement No. 8 to General Order No. 27 were paid a punitive rate for overtime after the regular day's work, Sundays, and on holidays prior to February 21, 1918, the same conditions should apply on the eight-hour basis. Any punitive overtime rate established for employees under this interpretation since February 21, 1918, except as established by the Director General, is unauthorized and can not be recognized.

Example (a): Employees working 10 hours per day January 1, 1918, prior to the application of General Order No. 27, and who were, prior to February 21, 1918, paid at the rate of time and one-half time for overtime, should be paid as follows:

8 a. m. to 12 noon, 4 hours' work; 12 noon to 1 p. m., 1 hour for meal excluded; 1 p. m. to 5 p. m., 4 hours' work; 5 p. m. to 7 p. m., 2 hours at rate of time and one-half time. Elapsed time, 11 hours. Time for meal, 1 hour deducted. Overtime, 2 hours. Total time to be paid for, 11 hours.

Example (b): Overtime commences immediately following the eighth consecutive hour of continuous service after deducting the meal period.

On the basis of pro rata time for the ninth and tenth hour:

8 a. m. to 12 noon, 4 hours' work; 12 noon to 1 p. m., 1 hour for meal excluded; 1 p. m. to 5 p. m., 4 hours' work; 5 p. m. to 7 p. m., 2 hours overtime, pro rata rate; 7 p. m. to 9 p. m., 2 hours overtime, one and one-half times pro rata rate. Elapsed time, 13 hours. Time for meal, 1 hour deducted. Continuous service, 12 hours. Total time to be paid for, 13 hours.

Example (c): Employees working straight through 8 consecutive hours:

6 a. m. to 2 p. m., 8 hours' work; 2 p. m. to 4 p. m., 2 hours' overtime, pro rata rate; 4 p. m. to 6 p. m., 2 hours' overtime, one and one-half times pro rata rate. Elapsed time, 12 hours. Continuous service, 12 hours. Total time to be paid for, 13 hours.

## HOURLY RATES.

ART. III. The employees coming under the provisions of paragraphs (e), (f), and (g) of Article I of Supplement No. 8 to General Order No. 27, who were on January 1, 1918, prior to the application of General Order No. 27, paid on a basis of 10 hours or more to constitute a day, for whom hourly rates have been established as per the above-specified paragraphs, shall, on and after September 1, 1918, the effective date of Supplement No. 8, receive one-eighth of the wages received for 10 hours on January 1, 1918, prior to the application of General Order No. 27, as their basic hourly rate, to which shall be added 13 cents per hour for the employees coming under the provisions of paragraphs (e) and (f), observing the minimum rate; and 12 cents per hour for the employees coming under the provisions of paragraph (g), provided the hourly rate thus obtained shall not exceed the maximum rate of 40 cents per hour.

Example (a): Employees coming under the provisions of Article I (e), on a 10-hour basis, rate \$3.75 per day; one-eighth of 375 equals 46.87, or 47 cents per hour, adding the increase of 13 cents per hour, produces a rate of 60 cents per hour.

The same method of procedure will apply to the employees coming under the provisions of Article I (f).

Example (b): Employees coming under the provisions of Article I (g), on a 10-hour basis, rate \$2.35 per day; one-eighth of 235 equals 29.37, or 29.5 cents per hour, adding the increase of 12 cents per hour, produces a rate of 41.5 cents per hour, the rate would revert to the maximum of 40 cents.

NOTE.—To determine the hourly rate to be paid employees on the hourly basis and for whom 10 hours or more were the established hours of service, use the method and examples (a) and (b) of above Article III, for both classes working less than 10 hours and over 8 hours, one-eighth of the wage received for the number of hours recognized as a day's work.

## PAY FOR CALLS.

ART. IV. Employees who are notified or called to work outside the 8 consecutive hours, exclusive of the meal period and continuous service, constituting their regular assignment, shall be paid a minimum allowance of 3 hours for 2 hours' work or less; if held over 2 hours, time and one-half time will be paid, computed on the minute basis.

Example (a):

8 a. m. to 12 noon, 4 hours' work; 12 noon to 1 p. m., 1 hour for meal excluded; 1 p. m. to 5 p. m., 4 hours' work; 6 p. m. to 7.30 p. m.,  $1\frac{1}{2}$  hours overtime, one and one-half times pro rata rate. Elapsed time,  $11\frac{1}{2}$  hours. Time for meal, 1 hour. Break in continuous service, 1 hour. Time for call, 3 hours, minimum guarantee. Total time to be paid for, 11 hours.

ART. V. Exclusive of employees whose regular assignment includes Sundays and (or) holidays, employees notified or called to work on Sundays and (or) holidays will be paid not less than the minimum allowance of 3 hours, and where no existing agreement or practice is more favorable, such employees will be paid as per examples (a) and (b) of Article II.

ART. VI. Payment of overtime at a rate in excess of pro rata will be computed from and added to the pro rata rate.

ART. VII. Unless acceptable to a majority of employees in a department or subdivision thereof, the meal period shall not be less than 30 minutes or more than 1 hour.

ART. VIII. Where unjustifiable inequalities develop or exist in the rates of pay for relatively the same service and responsibility, as between employees of the same class within the respective groups, as specified in Supplement No. 8 to General Order No. 27, the regional directors are hereby authorized to establish uniform rates of pay by zones or districts throughout their respective regions, under the following conditions:

(a) The maximum rates established by Supplement No. 8 to General Order No. 27 must not be exceeded (note exception in (d) following).

(b) Rates established by Supplement No. 8 to General Order No. 27 must not be reduced.

(c) The specified differentials in the established maximum rates for hourly workers to be preserved.

(d) Where differentials in wage rates existed for common labor in favor of tunnel gangs and tunnel and elevated common labor, such differentials should be maintained, but in no case extended to create a greater differential than heretofore existed.

(e) All rates herein provided for shall be filed by the regional directors with the board of railroad wages and working conditions.

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### HOURS AND OUTPUT IN THE WOOL INDUSTRY.<sup>1</sup>

The investigation on which this report is based covered 126 establishments, in 13 different States, with a total of 91,230 employees, the data being obtained partly from schedules filled out by the establishments and partly through visits of field agents to the mills. In addition to data concerning hours the report contains a detailed description of the major processes of wool manufacturing, with reference to fatigue and the health hazard of operatives. It contains, also, some discussion of general features of the wool industry, such as hours, wages, and the extent to which the machine dominates the worker.

At the time of the investigation, there was a striking uniformity of hours in the woolen industry. In 90 per cent of the establishments included, the work hours were from 54 to 56 per week. "Only about 5 per cent of the workers were in establishments where the weekly schedule was less than 54 hours; less than 5 per cent were in establishments where it exceeded 56 hours." With but one exception all of the 126 establishments observed the Saturday half holiday. This practically universal observance, however, did not indicate an equally universal satisfaction with the arrangement:

Some employers were in favor of a readjustment by which the daily schedule would be lengthened on five days of the week, with a full Saturday off. One reason for this was that the Saturday half holiday tends to give an unduly high cost of production for Saturday morning work.

Reports were received from 85 establishments as to output following a reduction in hours. Many of these reductions had taken place some years ago. "Approximately three-fifths of the reported reductions in hours occurred in 1912 and 1913; a considerable number of establishments, however, made reductions in 1916 and 1917." In the majority of cases, the information was given in the form of statements reflecting the judgment of the respective manufacturers as based upon experience. In 13 cases, establishments supplied

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<sup>1</sup> Hours of work as related to output and health of workers. Wool Manufacturing. Research Report No. 12, December, 1918. National Industrial Conference Board. Boston. 69 pp.

statistical comparisons of output before and after the reduction in hours. In the general tabulation no distinction is made between the returns from these two groups of establishments.

For the 85 establishments from which reports were received concerning changes in output and hours, the following table shows the situation:

CHANGES IN OUTPUT ACCOMPANYING REDUCTION IN HOURS OF WORK, IN 85 ESTABLISHMENTS, BY HOUR GROUPS.

Hours reduced to—	Production maintained or increased. <sup>1</sup>			Hours reduced to—	Production decreased.		
	Pre- vious hours.	Num- ber of estab- lish- ments.	Num- ber of em- ployees.		Pre- vious hours.	Num- ber of estab- lish- ments.	Num- ber of em- ployees.
50 hours.....				50 hours.....	{ 57 54	{ 1 1	{ 2,527
53 hours.....	56	1	124	53 hours.....	{ 60 59 58	{ 2 1 17	{ ..... ..... 53,655
54 hours.....	{ 58 56 58 56	{ 2 4 3 4	{ 1,498 ..... 2,340	54 hours.....	{ 57 56 55	{ 2 30 3	{ ..... ..... 1,857
55 hours.....	58	2	565	55 hours.....	{ 58 57	{ 4 2	{ ..... 443
56 hours.....	58	{ 1 3	{ 140 1,834	56 hours.....	58	1	.....
57 hours.....	60	1	75	57 hours.....			
Total.....		21	6,576	Total.....		64	58,482
Per cent.....		24.7	10.1	Per cent.....		75.3	89.9

<sup>1</sup> Increases are shown in italics.

From the standpoint of accurate determination the results here shown can not be taken as showing the effect of a reduction of hours for two reasons: First, in the majority of cases they are not based on statistical studies of production before and after a change in hours, but represent only the judgment of the manufacturer respecting output at periods anywhere from one to five or even six years ago; and second, in a matter of such complexity as output, an increase or decrease accompanying a change in hours is not necessarily due to that change.

As to the first point it is stated that the reports based on the judgment of the manufacturers were "in substantial accord with the results indicated by analysis of statistical comparisons of output which were supplied by 13 of these establishments.<sup>1</sup> Collectively,

<sup>1</sup> This statement is perhaps open to question. As shown in the table given above, of the 68 establishments which reduced hours to 54 only 6 (8.8 per cent) showed an increase in production. In another section of the report (p. 44) occurs this statement: "Of 11 establishments included in the 54-hour group which furnished supplemental statistical comparisons compiled from book records, 5 reported output as increased, 3 that the reduction was less, proportionately, than the reduction in hours, while in 2 the reduction was approximately proportional and 1 stated that it was greater than proportional." This shows 45.5 per cent of the statistical comparisons giving an increase of output under reduced hours, a considerable increase over the 8.8 per cent of the table. Nothing is said, however, as to the number of employees in these establishments.

therefore, the information assembled in this report offers a sufficient basis for valid conclusions."

As to the second point, the report recognizes the difficulty of assigning a reduction in output to any one cause, and considerable space is devoted to a discussion of the various factors affecting production. Machine time, we are told, does not dominate the industry to the extent it does in cotton manufacturing, and the worker's skill and application play a larger part in securing good results. The character of the product, the quality of the material used, the speed of machinery, the efficiency of the management and racial or other changes in the make-up of the body of mill workers must all be taken into account.

Reduction of output, it is pointed out, was more common in large than in small plants. Thus, of 68 establishments which reduced hours to 54 a week, 40 employed under and 28 over 500 workers apiece; in the first group 25 per cent and in the second only 10.7 per cent reported that production was maintained or increased. "A most natural explanation of this is that the larger companies were, prior to the reduction in hours, better organized, so that there was less opportunity to make up for the loss in time."

The conclusions reached as to output are thus summed up:

Despite the difficulties involved in an evaluation of the evidence presented in this report, there can be no reasonable doubt that the adoption of a 54-hour schedule in the wool manufacturing industry has in a large majority of cases involved a loss in output \* \* \*. In evaluating this experience it should be recognized that where the decrease in output is very small the compensating savings in overhead expense, such as power, heat, and lighting, and wear and tear of machinery, may prove at least a partial offset \* \* \*. To epitomize the experience it may fairly be concluded that the 54-hour schedule in the wool manufacturing industry has involved a net loss in output, but that, taking the industry as a whole, the loss has not resulted in a heavy burden upon production.

In regard to health, the majority of manufacturers reporting thought the change in hours had had no effect upon the employees' health, but apparently this statement represented only the manufacturer's impression, and was not based upon any careful study:

Records which would permit of satisfactory analysis do not at present exist. While many wool establishments are now making careful observations of sickness among their workers, comparatively few were keeping records at the time of the latest reduction in hours, and even in these cases the data frequently are not comparable. Until health conditions have been carefully observed and recorded for a large number of workers under different hours-of-work schedules, conclusive judgment as to the effect of changes in hours alone is impracticable.



**UNION SCALES IN BOOK AND JOB PRINTING TRADES, AND OF CHAUFFEURS, TEAMSTERS, AND DRIVERS.**

The union scales of wages and hours of labor as of May 15, 1918, and May 15, 1917, have been published in the MONTHLY LABOR REVIEW as follows: In the September, 1918, issue for the principal occupations in the building, granite and stone, and metal trades, and in freight handling in important industrial cities of the North Atlantic section of the United States; in the October issue, for the same occupations in the leading industrial cities of the North Central States; in the November issue for the same occupations in the leading cities of the South Atlantic, South Central and Western States; in the December issue, for the principal occupations in the bakery, millwork, and printing trades, and of chauffeurs, teamsters, and drivers, in the leading industrial cities of the North Atlantic, and South Atlantic States; in the January, 1919, issue for the principal occupations in the bakery, millwork, and newspaper printing trades in the chief industrial cities of the North Central, South Central, and Western States. In continuation of this subject there are published in this issue of the REVIEW, the union scales as of the above named dates of the principal occupations in the book and job printing trades and of chauffeurs, teamsters, and drivers in the leading industrial cities of the North Central, South Central, and Western States. Known changes since May 15, 1918, are indicated in footnotes. The scales as of the two dates are printed in parallel columns for convenient comparison between the two years.

The information was collected by special agents of the United States Bureau of Labor Statistics in personal calls on the local union officials.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917.

## PRINTING AND PUBLISHING: BOOK AND JOB.

## BINDERY WOMEN.

Geographical division and city.	May 15, 1918.					May 15, 1917.				
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- ay.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holl- days.			Per hour.	Per week, full time.		
NORTH CENTRAL.										
Chicago, Ill.:										
Blank book sewers, gold layers and sizers, ma- chine wire stitchers, flat paging and numbering or Singer sewing machine operators.....	Cents. 28.1	Dolls. 13.50	1 1/2	2	2 8-8-48	.....	Cents. 25.0	Dolls. 12.00	2 8-8-48	.....
Machine sewers, thread.....	27.1	13.00	1 1/2	2	2 8-8-48	.....	27.1	13.00	2 8-8-48	.....
Perforating, punching and ruling machine operators.	26.0	12.50	1 1/2	2	2 8-8-48	.....	22.9	11.00	2 8-8-48	.....
Gathering machine packers	25.0	12.00	1 1/2	2	2 8-8-48	.....	25.0	12.00	2 8-8-48	.....
Folders, inserters, tippers, tissuurers, strippers, gath- erers, collaters, and coun- ters—ticket room.....	25.0	12.00	1 1/2	2	2 8-8-48	.....	20.8	10.00	2 8-8-48	.....
Book wrappers.....	20.8	10.00	1 1/2	2	2 8-8-48	.....	18.8	9.00	2 8-8-48	.....
Des Moines, Iowa.....	22.9	11.00	1 1/2	2	8-8-48	.....	20.8	10.00	8-8-48	.....
Indianapolis, Ind.....	26.0	12.50	1 1/2	2	8-8-48	.....	21.0	10.08	8-8-48	.....
Kansas City, Mo.....	18.8	9.00	1 1/2	2	2 8-8-48	.....	16.7	8.00	2 8-8-48	.....
Milwaukee, Wis.....	17.7	8.50	1 1/2	2	2 8-8-48	.....	(4)	(4)	(4)	.....
St. Louis, Mo.:										
First class.....	24.0	11.55	6 1/2	2	8-8-48	.....	21.9	10.50	8-8-48	.....
Second class.....	21.8	10.45	6 1/2	2	8-8-48	.....	19.8	9.50	8-8-48	.....
SOUTH CENTRAL.										
Dallas, Tex.....	20.8	10.00	1 1/2	2	8-8-48	.....	20.8	10.00	8-8-48	.....
Houston, Tex.:										
First class.....	24.1	11.55	6 1/2	2	8-8-48	.....	22.9	11.00	8-8-48	.....
Second class.....	20.8	10.00	6 1/2	2	8-8-48	.....	19.8	9.50	8-8-48	.....
Little Rock, Ark.....	18.8	9.00	1 1/2	2	8-8-48	.....	18.8	9.00	8-8-48	.....
Nashville, Tenn.....	16.7	8.00	1 1/2	2	8-8-48	.....	16.7	8.00	8-8-48	.....
New Orleans, La.....	12.5	6.00	1 1/2	1 1/2	8-8-48	.....	12.5	6.00	8-8-48	.....
WESTERN.										
Denver, Colo.....	28.1	13.50	9 1/2	2	8-8-48	.....	25.0	12.00	8-8-48	.....
Los Angeles, Cal.....	20.8	10.00	6 1/2	2	8-8-48	.....	18.8	9.00	8-8-48	.....
Portland, Oreg.:										
First-class blank-book work	27.1	13.00	1 1/2	1 1/2	8-8-48	.....	22.9	11.00	8-8-48	.....
Journeywomen.....	25.0	12.00	1 1/2	1 1/2	8-8-48	.....	20.8	10.00	8-8-48	.....
San Francisco, Cal.....	25.0	12.00	1 1/2	1 1/2	8-8-48	.....	20.8	10.00	8-8-48	.....
Seattle, Wash.....	31.3	15.00	1 1/2	1 1/2	8-8-48	.....	25.0	12.00	8-8-48	.....
Spokane, Wash.....	31.3	15.00	1 1/2	1 1/2	8-8-48	.....	(4)	(4)	(4)	.....

<sup>1</sup> Double time after 9 p. m.

<sup>2</sup> Hours vary, but total 48 per week.

<sup>3</sup> More than half of the members received more than the scale; amount not reported.

<sup>4</sup> No scale in effect on May 15, 1917.

<sup>5</sup> Double time after midnight.

<sup>6</sup> Double time after 10 p. m.

<sup>7</sup> Scale became 20.8 cents on June 15, 1918.

<sup>8</sup> More than half of the members received more than the scale; amount not reported. Scale became 20.8 cents on Aug. 15, 1918.

<sup>9</sup> Double time after 4 hours.

<sup>10</sup> A bonus of \$1.50 per week was added on Sept. 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## BOOKBINDERS.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL.										
Chicago, Ill.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Binding-machine operators.	49.0	23.50	1 1/2	2	28-8-48	.....	43.8	21.00	28-8-48	
Caser helpers, pasters, and pressers; repairers, book.	44.8	21.50	1 1/2	2	28-8-48	.....	39.6	19.00	28-8-48	
Casers-in, machine, A.....	47.9	23.00	1 1/2	2	28-8-48	.....	42.7	20.50	28-8-48	
Casers-in, machine, B; cov- erers, machine.....	46.9	22.50	1 1/2	2	28-8-48	.....	41.7	20.00	28-8-48	
Cutters, binder's stock.....	46.9	22.50	1 1/2	2	28-8-48	.....	41.7	20.00	28-8-48	
Cutters, head, stock; case makers, hand or ma- chine; finishers, plank work or cloth and job, printed work; marblers; rounders and backers, machine.....	51.0	24.50	1 1/2	2	28-8-48	.....	45.8	22.00	28-8-48	
Cutters, machine.....	50.0	24.00	1 1/2	2	28-8-48	.....	44.8	21.50	28-8-48	
Gilders and pasters, ma- chine.....	46.9	22.50	1 1/2	2	28-8-48	.....	41.7	20.00	28-8-48	
Gilders, edge.....	51.0	24.50	1 1/2	2	28-8-48	.....	45.8	22.00	28-8-48	
In charge of stock and cut- ting machines.....	54.2	26.00	1 1/2	2	28-8-48	.....	49.0	23.50	28-8-48	
Operating automatic fold- ing machine.....	46.9	22.50	1 1/2	2	28-8-48	.....	41.7	20.00	28-8-48	
Operating 2 folding ma- chines.....	53.1	25.50	1 1/2	2	28-8-48	.....	47.9	23.00	28-8-48	
Operating 3 folding ma- chines.....	59.4	28.50	1 1/2	2	28-8-48	.....	54.2	26.00	28-8-48	
Operating indexing ma- chine; trimmers, book...	47.9	23.00	1 1/2	2	28-8-48	.....	42.7	20.50	28-8-48	
Rulers.....	55.2	26.50	1 1/2	2	28-8-48	.....	50.0	24.00	28-8-48	
Stampers, head.....	57.3	27.50	1 1/2	2	28-8-48	.....	52.1	25.00	28-8-48	
Stampers, machine.....	51.0	24.50	1 1/2	2	28-8-48	.....	45.8	22.00	28-8-48	
Cincinnati, Ohio:										
Cutters, head.....	44.8	21.50	1 1/2	2	8-8-48	.....	44.8	21.50	8-8-48	
Cutters, paper stock.....	38.5	18.50	1 1/2	2	8-8-48	.....	38.5	18.50	8-8-48	
Cutters, splitters.....	42.7	20.50	1 1/2	2	8-8-48	.....	42.7	20.50	8-8-48	
Forwarders; joggers, paper.	37.5	18.00	1 1/2	2	8-8-48	.....	37.5	18.00	8-8-48	
Cleveland, Ohio.....	45.8	22.00	1 1/2	2	8-8-48	.....	37.5	18.00	8-8-48	
Columbus, Ohio.....	46.9	22.50	1 1/2	1 1/2	8-8-48	.....	40.6	19.50	8-8-48	
Detroit, Mich.:										
Cutters; finishers and for- warders, blank work.....	43.8	21.00	4 1/2	2	8 3/4-4 1/2-48	12	43.8	21.00	8 3/4-4 1/2-48	
Folders operating 1 ma- chine.....	43.8	21.00	4 1/2	2	8 3/4-4 1/2-48	12	43.8	21.00	8 3/4-4 1/2-48	
Folders operating 2 ma- chines.....	47.9	23.00	4 1/2	2	8 3/4-4 1/2-48	12	47.9	23.00	8 3/4-4 1/2-48	
Folders operating 4 ma- chines.....	50.0	24.00	4 1/2	2	8 3/4-4 1/2-48	12	50.0	24.00	8 3/4-4 1/2-48	
Folders operating 5 ma- chines.....	52.1	25.00	4 1/2	2	8 3/4-4 1/2-48	12	52.1	25.00	8 3/4-4 1/2-48	
Rulers.....	43.8	21.00	4 1/2	2	8 3/4-4 1/2-48	12	43.8	21.00	8 3/4-4 1/2-48	
Rulers, head rulers, 3 ma- chines.....	50.0	24.00	4 1/2	2	8 3/4-4 1/2-48	12	50.0	24.00	8 3/4-4 1/2-48	
Rulers, head rulers, 4 ma- chines.....	52.1	25.00	4 1/2	2	8 3/4-4 1/2-48	12	52.1	25.00	8 3/4-4 1/2-48	
Rulers, head rulers, 7 or more machines.....	62.5	30.00	4 1/2	2	8 3/4-4 1/2-48	12	62.5	30.00	8 3/4-4 1/2-48	

<sup>1</sup> Double time after 3 hours and on Saturdays after completion of 48-hour week.

<sup>2</sup> Hours vary, but total 48 per week.

<sup>3</sup> Scale became 47.9 cents on Oct. 1, 1918.

<sup>4</sup> Double time after midnight.

<sup>5</sup> 8 3/4 hours on Monday.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## BOOKBINDERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.	Cents.	Dolls.	Regular rate multiplied by—				Cents.	Dolls.		
Des Moines, Iowa.....	43.8	21.00	1½	2	8-8-48		38.5	18.50	8-8-48	
Indianapolis, Ind.....	52.1	25.00	1½	2	8-8-48		45.8	22.00	8-8-48	
Kansas City, Mo.: Cutters, paper; finishers, first class.....	45.8	22.00	1½	1 1½	8-8-48		43.8	21.00	8-8-48	
Forwarders, first class.....	45.8	22.00	1½	1 1½	8-8-48		43.8	21.00	8-8-48	
Forwarders, second class.....	340.6	19.00	1½	1 1½	8-8-48		38.5	18.50	8-8-48	
Rulers, first class.....	45.8	22.00	1½	1 1½	8-8-48		43.8	21.00	8-8-48	
Rulers, second class.....	41.7	20.00	1½	1 1½	8-8-48		39.6	19.00	8-8-48	
Milwaukee, Wis.: First man.....	43.8	21.00	1½	2	8-8-48	(4)	(4)	(4)		
Second man.....	41.7	20.00	1½	2	8-8-48	(4)	(4)	(4)		
Minneapolis, Minn.....	37.5	18.00	5 1½	2	8-8-48		37.5	18.00	8-8-48	
Omaha, Nebr.....	52.1	25.00	1½	2	8½-4½-48	12	43.8	21.00	8½-4½-48	
St. Louis, Mo.: Cutters; folders, machine; forwarders.....	48.1	23.10	5 1½	2	8-8-48		43.8	21.00	8-8-48	
Finishers, first class.....	57.3	27.50	5 1½	2	8-8-48		52.1	25.00	8-8-48	
Finishers, second class.....	52.7	25.30	6 1½	2	8-8-48		47.9	23.00	8-8-48	
Rulers, first class.....	55.0	26.40	5 1½	2	8-8-48		50.0	24.00	8-8-48	
Rulers, second class.....	50.4	24.20	5 1½	2	8-8-48		45.8	22.00	8-8-48	
St. Paul, Minn.: Forwarders, blank work; finishers, blank work; rulers.....	41.7	20.00	5 1½	2	8½-4½-48	12	41.7	20.00	8-8-48	
Forwarders, printed work; cutters.....	37.5	18.00	5 1½	2	8½-4½-48	12	37.5	18.00	8-8-48	
SOUTH CENTRAL.										
Birmingham, Ala.....	44.8	21.50	1½	2	8-8-48		44.8	21.50	8-8-48	
Dallas, Tex.....	46.9	22.50	6 1½	2	8-8-48		37.5	18.00	8-8-48	
Houston, Tex.....	48.1	23.10	7 1½	2	8-8-48		45.8	22.00	8-8-48	
Little Rock, Ark.: Cutters.....	43.8	21.00	1½	2	8-8-48		43.8	21.00	8-8-48	
Finishers, forwarders, and rulers.....	343.8	21.00	1½	2	8-8-48		40.6	19.50	8-8-48	
Louisville, Ky.....	45.8	22.00	1½	2	8½-4½-48	12	(4)	(4)	(4)	
Nashville, Tenn.....	8 37.5	18.00	1½	2	8-8-48		37.5	18.00	8-8-48	
New Orleans, La.: Finishers, forwarders, and rulers.....	9 37.5	18.00	1½	1½	8-8-48		37.5	18.00	8-8-48	
Forwarders, half bound.....	10 34.4	16.50	1½	1½	8-8-48		31.3	15.00	8-8-48	
Cutters.....	11 31.3	15.00	1½	1½	8-8-48		13 31.3	15.00	8-8-48	

1 For Sundays; for holidays, double time.

2 Hours vary, but total 48 per week.

3 More than half of the members received more than the scale; amount not reported.

4 No scale in effect on May 15, 1917.

5 Double time after midnight.

6 Double time after 4 hours.

7 Double time after 10 p. m.

8 Scale became 43.8 cents on June 15, 1918.

9 More than half of the members received more than the scale; amount not reported. Scale became 46.9 cents for journeymen and 57.3 cents for foremen on Aug. 15, 1918.

10 Scale became 46.9 cents on Aug. 15, 1918.

11 67 per cent of the members received \$3 and 33 per cent received \$4.50 per week more than the scale. Scale became 46.9 cents on Aug. 15, 1918.

12 33 per cent of the members received \$3 and 33 per cent received \$4 per week more than the scale.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

BOOKBINDERS—Concluded.

Geographical division and city.	May 15, 1918.					May 15, 1917.				
	Rate of wages—				Hours— Full days; Saturdays; full week.	Moe. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days, Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
WESTERN.										
	Cents.	Dolls.	Regular rate multiplied by—				Cents.	Dolls.		
Butte, Mont.:										
All-round men	81.3	39.00	1 1/2	2	8-8-48		72.9	35.00	8-8-48	
Cutters	62.5	30.00	1 1/2	2	8-8-48		52.1	25.00	8-8-48	
Finishers, forwarders, and rulers.	71.9	34.50	1 1/2	2	8-8-48		62.5	30.00	8-8-48	
Denver, Colo.	55.2	26.50	2 1/2	2	8-8-48		50.0	24.00	8-8-48	
Los Angeles, Cal.	43.8	21.00	1 1/2	2	8-8-48		40.6	19.50	8-8-48	
Portland, Oreg.	50.0	24.00	2 1/2	2	8-8-48		43.8	21.00	8-8-48	
Salt Lake City, Utah	50.0	24.00	3 1/2	2	8-8-48		45.8	22.00	8-8-48	
San Francisco, Cal.	54.2	26.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48	
Seattle, Wash.:										
Cutters, finishers, forward- ers, and rulers.	53.1	25.50	1 1/2	1 1/2	8-8-48		53.1	25.50	8-8-48	
Rulers, head.	57.3	27.50	1 1/2	1 1/2	8-8-48		57.3	27.50	8-8-48	
Spokane, Wash.:										
All-round men	53.1	25.50	1 1/2	1 1/2	8-8-48		52.1	25.00	8-8-48	
Cutters, and forwarders.	53.1	25.50	1 1/2	1 1/2	8-8-48		46.9	22.50	8-8-48	
Finishers; rulers, head.	53.1	25.50	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48	

COMPOSITORS.

NORTH CENTRAL.									
Chicago, Ill.:									
English	57.3	27.50	5 1/2	2	8-8-48		50.0	24.00	8-8-48
Bohemian	57.7	27.70	5 1/2	2	8-8-48		52.1	25.00	8-8-48
German	57.3	27.50	2	2	8-8-48		50.0	24.00	8-8-48
Norwegian	56.3	27.00	5 1/2	2	8-8-48		50.0	24.00	8-8-48
Polish and Swedish	57.3	27.50	5 1/2	2	8-8-48		52.1	25.00	8-8-48
Proof readers (Swedish)	59.4	28.50	5 1/2	2	8-8-48		54.2	26.00	8-8-48
Cincinnati, Ohio.	46.9	22.50	1 1/2	1 1/2	8-8-48		46.9	22.50	8-8-48
Cleveland, Ohio:									
English	50.0	24.00	3 1/2	1 1/2	8-8-48		43.8	21.00	8-8-48
English	60.0		1	2	8-8-48		58.0		8-8-48
Columbus, Ohio.	52.1	25.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48
Davenport, Iowa, and Mo-									
line and Rock Island, Ill.	55.0	26.40	1 1/2	2	8-8-48		47.9	23.00	8-8-48
Des Moines, Iowa.	52.1	25.00	1 1/2	1 1/2	8-8-48		45.8	22.00	8-8-48
Detroit, Mich.	54.7	26.25	3 1/2	2	8-8-48		50.0	24.00	8-8-48
Grand Rapids, Mich.	38.5	18.50	1 1/2	2	8-8-48		38.5	18.50	8-8-48
Indianapolis, Ind.	52.1	25.00	3 1/2	2	8-8-48		45.8	22.00	8-8-48
Kansas City, Mo.	50.0	24.00	1 1/2	1 1/2	8-8-48		45.8	22.00	8-8-48
Milwaukee, Wis.:									
English	47.9	23.00	3 1/2	2	8-8-48		47.9	23.00	8-8-48
German	47.9	23.00	1 1/2	2	8-8-48		47.9	23.00	8-8-48
Minneapolis, Minn.	45.8	22.00	2 1/2	11 2	8-8-48		45.8	22.00	8-8-48

1 Double time after 10 p. m.

2 Double time after 4 hours.

3 Double time after midnight.

4 Scale became 65.6 cents on Sept. 1, 1918.

5 Double time after 3 hours, and on Saturday after completion of 48-hour week.

6 Hours vary, but total 48 per week.

7 More than half of the members received more than the scale; amount not reported.

8 Per 1,000 ems.

9 Scale became 54.2 cents on July 1, 1918.

10 Scale became 54 cents on June 1, 1918.

11 For New Year's, Thanksgiving, and Memorial days, time and one-half.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## COMPOSITORS—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.					
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.			
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.				
NORTH CENTRAL—concluded.												
	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>				
Omaha, Nebr.:												
English and Bohemian	53.1	25.50	2 1 1/2	1 1/2	8-8-48		46.9	22.40		8-8-48		
German	53.1	25.50	2 1 1/2	1 1/2	8-8-48		53.1	25.50		8-8-48		
Peoria, Ill.	45.0	21.60	1 1/4	1 1/2	8-8-48		40.0	19.20		8-8-48		
St. Louis, Mo.:												
English	52.7	25.30	4 1 1/2	2	8-8-48		47.9	23.00		8-8-48		
German	47.9	23.00	4 1 1/2	2	8-8-48		47.9	23.00		8-8-48		
St. Paul, Minn.	45.8	22.00	5 1 1/2	2	8-8-48		45.8	22.00		8-8-48		
Wichita, Kans.	43.8	21.00	7 1 1/2	1 1/2	8-8-48		43.8	21.00		8-8-48		
SOUTH CENTRAL.												
Birmingham, Ala.	44.8	21.50	9 60c.	(10)	8-8-48		44.8	21.50		8-8-48		
Dallas, Tex.	57.3	27.50	11 1 1/2	2	8-8-48		52.1	25.00		8-8-48		
Houston, Tex.	55.8	26.77	6 1 1/2	2	8-8-48	4	52.1	25.00		8-8-48		
Little Rock, Ark.	43.8	21.00	1 1/2	1 1/2	8-8-48		43.8	21.00		8-8-48		
Louisville, Ky.	43.8	21.00	11 1 1/2	2	8-8-48		39.6	19.00		8-8-48		
Memphis, Tenn.	48.1	23.10	9 64c.	14 2	8-8-48		47.1	22.60		8-8-48		
Nashville, Tenn.	53.1	25.50	1 1/2	2	8 1/2-5 1/2-48	12	44.8	21.50		8 1/2-5 1/2-48		
New Orleans, La.	43.8	21.00	15 1 1/2	1 1/2	8-8-48		43.8	21.00		8-8-48		
WESTERN.												
Butte, Mont.	65.6	31.50	17 1 1/2	2	8-8-48		65.6	31.50		8-8-48		
Denver, Colo.	59.4	28.50	18 1 1/2	2	8-8-48		54.2	26.00		8-8-48		
Los Angeles, Cal.	52.1	25.00	1 1/2	2	8-8-48		50.0	24.00		8-8-48		
Portland, Oreg.	59.4	28.50	1 1/2	1 1/2	8-8-48		53.5	25.68		8-8-48		
Salt Lake City, Utah	54.2	26.00	11 1 1/2	1 1/2	8-8-48	3	54.2	26.00		8-8-48		
San Francisco, Cal.	58.3	28.00	11 1 1/2	2	8-8-48		54.2	26.00		8-8-48		
Seattle, Wash.	59.4	28.50	1 1/2	1 1/2	8-8-48		56.3	27.00		8-8-48		
Spokane, Wash.	56.3	27.00	11 1 1/2	1 1/2	8-8-48		53.1	25.50		8-8-48		

<sup>1</sup> More than half of the members received more than the scale; amount not reported.

<sup>2</sup> Double time after 3 hours.

<sup>3</sup> 36 per cent of the English members received \$2.50 per week more than the scale.

<sup>4</sup> Double time after 11 p. m.

<sup>5</sup> Double time after 4 hours.

<sup>6</sup> For New Year's, Thanksgiving, and Memorial days, time and one-half.

<sup>7</sup> Time and one-half after 10 p. m.

<sup>8</sup> Hours vary, but total 48 per week.

<sup>9</sup> Rate in cents per hour.

<sup>10</sup> Overtime rate, plus 50 cents per day.

<sup>11</sup> Double time after midnight.

<sup>12</sup> 44 hours per week, May to August, inclusive.

<sup>13</sup> More than half of the members received more than the scale; amount not reported. Scale became 49.2 cents on July 1, 1918.

<sup>14</sup> For Sundays; for holidays time and one-half.

<sup>15</sup> Double time after 10.30 p. m.

<sup>16</sup> Scale became 75 cents on June 1, and 78.1 cents on Sept. 1, 1918.

<sup>17</sup> Double time after 10 p. m.

<sup>18</sup> Double time after 10 p. m., and on Saturday after 5 p. m.

<sup>19</sup> 45 hours per week, June to August, inclusive.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

ELECTROTYPERS: Batterymen and builders.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- ay.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- ays.			Per hour.	Per week, full time.		
NORTH CENTRAL.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Chicago, Ill. ....	50.0	24.00	1 1/2	2	8 1/2-44-48	12	47.9	23.00	8 1/2-44-48	
Cincinnati, Ohio:										
Batterymen .....	37.5	18.00	4 1/2	2	8 1/2-44-48	12	33.3	16.00	8 1/2-44-48	
Builders .....	39.6	19.00	4 1/2	2	8 1/2-44-48	12	37.5	18.00	8 1/2-44-48	
Cleveland, Ohio .....	41.7	20.00	6 1/2	2	8 1/2-53-48	12	37.5	18.00	8 1/2-53-48	
Columbus, Ohio .....	37.5	18.00	1 1/2	2	8 1/2-53-48	12	28.1	13.50	8 1/2-53-48	
Davenport, Iowa, and Moline and Rock Island, Ill. ....	47.9	23.00	7 1/2	2	8-8-48		47.9	23.00	8-8-48	
Detroit, Mich. ....	50.0	24.00	8 1/2	2	8 1/2-44-48	12	43.8	21.00	8 1/2-44-48	
Grand Rapids, Mich. ....	37.5	18.00	4 1/2	2	8 1/2-44-48	12	25.0	12.00	8 1/2-44-48	
Indianapolis, Ind. ....	43.2	19.00	4 1/2	2	8-4-44	12	43.2	19.00	8-4-44	
Kansas City, Mo. ....	50.0	24.00	1 1/2	2	8-8-48		50.0	24.00	8-8-48	
Milwaukee, Wis. ....	39.6	19.00	7 1/2	2	8-8-48		36.5	17.50	8-8-48	
Minneapolis, Minn. ....	39.6	19.00	1 1/2	2	8 1/2-44-48	12	39.6	19.00	8 1/2-44-48	
Omaha, Neb. ....	37.5	18.00	1 1/2	2	8-8-48		37.5	18.00	8-8-48	
St. Louis, Mo. ....	43.5	20.90	4 1/2	2	8 1/2-44-48	12	37.5	18.00	8 1/2-44-48	
St. Paul, Minn. ....	39.6	19.00	1 1/2	2	8 1/2-44-48	12	39.6	19.00	8 1/2-44-48	
SOUTH CENTRAL.										
Birmingham, Ala. ....	37.5	18.00	1 1/2	2	8 1/2-44-48	12	37.5	18.00	8 1/2-44-48	
WESTERN.										
Denver, Colo. ....	39.6	19.00	11 1/2	2	8-8-48		39.6	19.00	8-8-48	
Seattle, Wash. ....	53.3	24.00	1 1/2	1 1/2	8-5-45	12	37.5	18.00	8-8-48	

ELECTROTYPERS: Finishers and molders.

NORTH CENTRAL.										
Chicago, Ill.:										
Finishers .....	58.3	28.00	1 1/2	2	8 1/2-44-48	12	56.3	27.00	8 1/2-44-48	
Molders .....	60.4	29.00	1 1/2	2	8 1/2-44-48	12	60.4	29.00	8 1/2-44-48	
Cincinnati, Ohio:										
Finishers .....	47.9	23.00	4 1/2	2	8 1/2-44-48	12	45.8	22.00	8 1/2-44-48	
Molders .....	52.1	25.00	4 1/2	2	8 1/2-44-48	12	50.0	24.00	8 1/2-44-48	
Cleveland, Ohio:										
Finishers .....	52.1	25.00	6 1/2	2	8 1/2-53-48	12	47.9	23.00	8 1/2-53-48	
Molders .....	56.3	27.00	6 1/2	2	8 1/2-53-48	12	52.1	25.00	8 1/2-53-48	
Second molders .....	50.0	24.00	6 1/2	2	8 1/2-53-48	12	43.8	21.00	8 1/2-53-48	
Columbus, Ohio .....	47.9	23.00	1 1/2	2	8 1/2-53-48	12	43.8	21.00	8 1/2-53-48	

1 Double time after 9 p. m. and on Saturday after 4 p. m.

2 Time and one-half on Saturday afternoon.

3 More than half of the members received more than the scale; amount not reported.

4 Double time after 10 p. m. and on Saturday after 5 p. m.

5 Scale became 50 cents on June 1, 1918.

6 Double time after midnight, and on Saturday after 5 p. m.

7 Double time after 9 p. m.

8 Double time after 8.30 p. m. and on Saturday after 3.30 p. m.

9 Hours vary, but total 48 per week.

10 Scale became 47.9 cents on July 1, 1918.

11 Double time after 10 p. m.

12 More than half of the members received more than the scale; amount not reported. Scale became 60 cents on July 1, 1918.

13 Scale became 58.3 cents on June 1, 1918.

14 Scale became 60.4 cents on June 1, 1918.

15 Scale became 56.3 cents on June 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## ELECTROTYPERS: Finishers and molders—Concluded.

Geographical division and city.	May 15, 1918.					May 15, 1917.				
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—concluded.										
Davenport, Iowa, and Mo- line and Rock Island, Ill.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Finishers.....	56.3	27.00	2 1/2	2	8-8-48	.....	56.3	27.00	8-8-48	
Molders.....	60.4	29.00	2 1/2	2	8-8-48	.....	60.4	29.00	8-8-48	
Des Moines, Iowa.....	56.3	27.00	3 1/2	4 2	8-8-48	12	54.2	26.00	8-8-48	
Detroit, Mich.....	56.3	27.00	6 1/2	4 2	8-8-48	12	52.1	25.00	8-8-48	
Grand Rapids, Mich.....	50.4	24.20	1 1/2	2	8-8-48	12	37.5	18.00	8-8-48	
Indianapolis, Ind.:										
Finishers.....	50.0	22.00	6 1/2	4 2	8-4-44	12	50.0	22.00	8-4-44	
Molders.....	52.3	23.00	6 1/2	4 2	8-4-44	12	52.3	23.00	8-4-44	
Kansas City, Mo.....	50.0	24.00	1 1/2	2	8-8-48	.....	50.0	24.00	8-8-48	
Milwaukee, Wis.....	50.0	24.00	2 1/2	2	8-8-48	.....	50.0	24.00	8-8-48	
Minneapolis, Minn.:										
Finishers.....	50.0	24.00	8 1/2	4 2	8-4-48	12	50.0	24.00	8-4-48	
Molders.....	56.3	27.00	8 1/2	4 2	8-4-48	12	56.3	27.00	8-4-48	
Omaha, Nebr.....	52.1	25.00	1 1/2	2	8-8-48	.....	52.1	25.00	8-8-48	
St. Louis, Mo.:										
Finishers.....	55.0	26.40	6 1/2	4 2	8-4-48	12	47.9	23.00	8-4-48	
Molders.....	57.3	27.50	6 1/2	4 2	8-4-48	12	50.0	24.00	8-4-48	
St. Paul, Minn.:										
Finishers.....	50.0	24.00	8 1/2	4 2	8-4-48	12	50.0	24.00	8-4-48	
Molders.....	56.3	27.00	8 1/2	4 2	8-4-48	12	56.3	27.00	8-4-48	
SOUTH CENTRAL.										
Birmingham, Ala.....	50.0	24.00	1 1/2	2	8-4-48	12	50.0	24.00	8-4-48	
Dallas, Tex.:										
Finishers.....	37.5	18.00	1 1/2	2	8-8-48	.....	37.5	18.00	8-8-48	
Molders.....	41.7	20.00	1 1/2	2	8-8-48	.....	41.7	20.00	8-8-48	
Memphis, Tenn.....	45.8	22.00	1 1/2	1 1/2	8-8-48	.....	45.8	22.00	8-8-48	
Nashville, Tenn.:										
Finishers.....	43.8	21.00	1 1/2	2	8-5-48	12	43.8	21.00	8-5-48	
Molders.....	47.9	23.00	1 1/2	2	8-5-48	12	47.9	23.00	8-5-48	
New Orleans, La. <sup>9</sup> .....	40.0	18.00	1 1/2	1 1/2	8-5-45	12	40.0	18.00	8-5-45	
WESTERN.										
Denver, Colo.:										
Finishers.....	47.9	23.00	12 1/2	2	8-8-48	.....	47.9	23.00	8-8-48	
Molders.....	54.2	26.00	12 1/2	2	8-8-48	.....	54.2	26.00	8-8-48	
Los Angeles, Cal.....	56.3	27.00	14 1/2	1 1/2	8-8-48	.....	56.3	27.00	8-8-48	
Portland, Oreg.....	56.3	27.00	1 1/2	1 1/2	8-8-48	.....	56.3	27.00	8-8-48	
San Francisco, Cal.....	62.5	30.00	1 1/2	2	8-8-48	.....	56.3	27.00	8-8-48	
Seattle, Wash.....	66.7	30.00	1 1/2	1 1/2	8-5-45	12	52.1	25.00	8-8-48	

<sup>1</sup> More than half of the members received more than the scale; amount not reported.

<sup>2</sup> Double time after 9 p. m.

<sup>3</sup> Double time after 10 p. m., and on Saturday after 6 p. m.

<sup>4</sup> Time and one-half on Saturday afternoon.

<sup>5</sup> Double time after 8.30 p. m., and on Saturday after 3.30 p. m.

<sup>6</sup> Double time after 10 p. m. and on Saturday after 5 p. m.

<sup>7</sup> Hours vary but total 48 per week.

<sup>8</sup> Double time after 9 p. m. and on Saturday after 4 p. m.

<sup>9</sup> Also batterymen and builders.

<sup>10</sup> Hours worked; maximum 8 hours on Saturday, 48 per week.

<sup>11</sup> Scale became 54.2 cents on July 1, 1918.

<sup>12</sup> Double time after 10 p. m.

<sup>13</sup> Scale became 60.4 cents on July 1, 1918.

<sup>14</sup> Double time after midnight.

<sup>15</sup> More than half of the members received more than the scale; amount not reported. Scale became 62.5 cents on July 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## LINOTYPE OPERATORS.

Geographical division and city.	May 15, 1918.					May 15, 1917.				
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL.										
Chicago, Ill.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
English.....	60.2	28.90	1 1/2	2	8-8-48		50.0	24.00	8-8-48	
Bohemian.....	65.9	23.74	1 1/2	2	6-6-36		59.0	21.24	6-6-36	
German.....	57.3	27.50	2	2	8-8-48		50.0	24.00	8-8-48	
Norwegian.....	62.0	29.76	1 1/2	2	8-8-48		50.0	24.00	8-8-48	
Swedish.....	59.4	28.90	1 1/2	2	8-8-48		55.0	26.40	8-8-48	
Cincinnati, Ohio:										
English.....	54.2	26.00	1 1/2	1 1/2	8-8-48		54.2	26.00	8-8-48	
German.....	39.6	19.00	4 50c.	4 50c.	8-8-48		39.6	19.00	8-8-48	
Cleveland, Ohio.....	62.5	30.00	6 1/2	2	8-8-48		62.5	30.00	8-8-48	
Columbus, Ohio.....	52.1	25.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48	
Davenport, Iowa, and Rock Island, Ill.:	55.0	26.40	1 1/2	2	8-8-48		47.9	23.00	8-8-48	
Indianapolis, Ind.:	56.3	27.00	6 1/2	2	8-8-48		56.3	27.00	8-8-48	
Kansas City, Mo.:	62.5	30.00	1 1/2	1 1/2	8-8-48		57.3	27.50	8-8-48	
Milwaukee, Wis.:	54.2	26.00	5 1/2	2	8-8-48		54.2	26.00	8-8-48	
Des Moines, Iowa.....	54.2	26.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48	
Detroit, Mich.:	60.5	29.04	7 1/2	2	8-8-48		60.5	29.04	8-8-48	
Grand Rapids, Mich.:	45.8	22.00	1 1/2	2	8-8-48		45.8	22.00	8-8-48	
Minneapolis, Minn.:	52.1	25.00	9 1/2	10 2	8-8-48		52.1	25.00	8-8-48	
Omaha, Nebr.:	53.1	25.50	11 1/2	1 1/2	8-8-48		53.1	25.50	8-8-48	
Peoria, Ill.:	45.0	21.60	1 1/2	1 1/2	8-8-48		40.0	19.20	8-8-48	
St. Louis, Mo.:										
English.....	59.6	28.60	12 1/2	2	8-8-48		54.2	26.00	8-8-48	
German.....	54.2	26.00	12 1/2	2	8-8-48		54.2	26.00	8-8-48	
St. Paul, Minn.:	52.1	25.00	9 1/2	10 2	8-8-48		52.1	25.00	8-8-48	
Wichita, Kans.:	48.4	23.25	13 1/2	1 1/2	8-8-48		48.4	23.25	8-8-48	
Monotype operators.....	46.9	22.50	13 1/2	1 1/2	8-8-48		46.9	22.50	8-8-48	
SOUTH CENTRAL.										
Birmingham, Ala.:	57.3	27.50	4 75c.	1481.3	8-8-48		57.3	27.50	8-8-48	
Dallas, Tex.:	102.0		1	1	8-8-48		102.0		8-8-48	
Monotype operators.....	62.5	30.00	6 1/2	2	8-8-48		(16)	(16)	(16)	
Houston, Tex.:	102.5		1 1/2	2	17 8-8-48	4	102.5		17 8-8-48	
Monotype operators.....	70.0	33.60	9 1/2	2	17 8-8-48	4	57.3	27.50	17 8-8-48	
Little Rock, Ark.:	50.0	24.00	5 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48	
Louisville, Ky.:	52.1	25.00	5 1/2	2	8-8-48		50.0	24.00	8-8-48	
Memphis, Tenn.:	56.3	27.00	18 1/2	19 2	8-8-48		56.3	27.00	8-8-48	
Nashville, Tenn.:	56.3	27.00	1 1/2	2	8-8-48	12	50.0	24.00	8-8-48	
New Orleans, La.:	53.3	24.00	20 1/2	1 1/2	7 1/2-7 1/2-45		53.3	24.00	7 1/2-7 1/2-45	
Do.....	105.0		20 1/2	1 1/2	7 1/2-7 1/2-45		105.0		7 1/2-7 1/2-45	

1 Double time after 3 hours and on Saturday after completion of 48-hour week.

2 Hours vary, but total 48 per week.

3 More than half of the members received more than the scale; amount not reported.

4 Rate in cents per hour.

5 Double time after midnight.

6 More than half of the members received more than the scale; amount not reported. Scale became 60.4 cents on July 1, 1918.

7 Double time after 9 p. m.

8 Scale became 61.5 cents on June 1, 1918.

9 Double time after 4 hours.

10 Except New Years, Memorial, and Thanksgiving Days, time and one-half.

11 Double time after 3 hours.

12 Double time after 11 p. m.

13 Time and one-half after 10 p. m.

14 Overtime rate plus 50 cents per day.

15 Per 1,000 ems, nonpareil.

16 No scale in effect on May 15, 1917.

17 44 hours per week, May to August, inclusive.

18 Double time after completion of 48-hour week.

19 For Sundays; for holidays, time and one-half.

20 Double time after 10.30 p. m.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

LINOTYPE OPERATORS—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.		
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.	
WESTERN.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>	
Denver, Colo.	59.4	28.50	1 1/2	2	8-8-48		54.2	26.00	8-8-48
Los Angeles, Cal.	62.5	30.00	1 1/2	2	8-8-48		60.4	29.00	8-8-48
Portland, Oreg.	68.8	33.00	2 103c.	2 103c.	8-8-48		65.6	31.50	8-8-48
Salt Lake City, Utah	56.3	27.00	4 1/2	1 1/2	8-8-48		56.3	27.00	8-8-48
San Francisco, Cal.	68.8	33.00	6 1/2	1 1/2	8-8-48		65.0	31.20	8-8-48
Seattle, Wash.	78.6	33.00	1 1/2	1 1/2	7-7-42		78.6	33.00	7-7-42
Spokane, Wash.	66.7	30.00	6 1/2	1 1/2	7 1/2-7 1/2-45		66.7	30.00	7 1/2-7 1/2-45

MACHINE TENDERS.

NORTH CENTRAL.									
Chicago, Ill.:									
English.	60.2	28.90	7 1/2	2	8-8-48		50.0	24.00	8-8-48
Swedish.	60.2	28.90	7 1/2	2	8-8-48		55.0	26.40	8-8-48
Cincinnati, Ohio.	54.2	26.00	1 1/2	1 1/2	8-8-48		54.2	26.00	8-8-48
Cleveland, Ohio.	62.5	30.00	6 1/2	2	8-8-48		62.5	30.00	8-8-48
Des Moines, Iowa.	54.2	26.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48
Detroit, Mich.	60.5	29.04	1 1/2	2	8-8-48		60.5	29.04	8-8-48
Kansas City, Mo.	62.5	30.00	1 1/2	1 1/2	8-8-48		62.5	30.00	8-8-48
Milwaukee, Wis.	54.2	26.00	6 1/2	2	8-8-48		54.2	26.00	8-8-48
Minneapolis, Minn.	52.1	25.00	11 1/2	12	8-8-48		52.1	25.00	8-8-48
St. Louis, Mo.	59.6	28.60	13 1/2	2	8-8-48		54.2	26.00	8-8-48
SOUTH CENTRAL.									
Houston, Tex.	72.9	35.00	11 1/2	2	14 8-8-48	4	72.9	35.00	14 8-8-48
Little Rock, Ark.	50.0	24.00	1 1/2	1 1/2	8-8-48		50.0	24.00	8-8-48
Louisville, Ky.	50.0	24.00	6 1/2	2	8-8-48		47.9	23.00	8-8-48
Nashville, Tenn.	53.1	25.50	1 1/2	2	8 1/2-5 1/2-48	12	50.0	24.00	8 1/2-5 1/2-48
New Orleans, La.	53.3	24.00	16 1/2	1 1/2	7 1/2-7 1/2-45		53.3	24.00	7 1/2-7 1/2-45
WESTERN.									
Los Angeles, Cal.	62.5	30.00	1 1/2	2	8-8-48		60.4	29.00	8-8-48
San Francisco, Cal.	75.0	36.00	6 1/2	16 1/2	8-8-48		71.3	34.20	8-8-48

<sup>1</sup> Double time after 10 p. m. and on Saturdays after 5 p. m.

<sup>2</sup> Rate in cents per hour.

<sup>3</sup> More than half of the members received more than the scale; amount not reported.

<sup>4</sup> Time and one-half after 10 p. m.

<sup>5</sup> 45 hours per week, June to August, inclusive.

<sup>6</sup> Double time after midnight.

<sup>7</sup> Double time after 3 hours, and on Saturday after completion of 48-hour week.

<sup>8</sup> Hours vary, but total 48 per week.

<sup>9</sup> Scale became 60.4 cents on July 1, 1918.

<sup>10</sup> Scale became 61.5 cents on June 1, 1918.

<sup>11</sup> Double time after 4 hours.

<sup>12</sup> For New Year's, Thanksgiving, and Memorial Days, time and one-half.

<sup>13</sup> Double time after 11 p. m.

<sup>14</sup> 44 hours per week, May to August, inclusive.

<sup>15</sup> Double time after 10 p. m.

<sup>16</sup> Except for those who worked less than 6 days in the preceding week, who received single time for Sunday.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## MACHINIST OPERATORS.

Geographical division and city.	May 15, 1918.						May 15, 1917.					
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.			
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.				
NORTH CENTRAL.												
	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>				
Chicago, Ill.	60.2	28.90	1 1/2	2	8-8-48		50.0	24.00		8-8-48		
Detroit, Mich.	60.5	29.04	1 1/2	2	8-8-48		60.5	29.04		8-8-48		
Indianapolis, Ind.	56.3	27.00	4 1/2	2	8-8-48		56.3	27.00		8-8-48		
Minneapolis, Minn.	58.3	28.00	6 1/2	7 1/2	8-8-48		58.3	28.00		8-8-48		
Omaha, Nebr.	53.1	25.50	8 1/2	1 1/2	8-8-48		53.1	25.50		8-8-48		
St. Paul, Minn.	58.3	28.00	6 1/2	7 1/2	8-8-48		58.3	28.00		8-8-48		
Wichita, Kans.	55.2	26.50	9 1/2	1 1/2	8-8-48		54.7	26.25		8-8-48		
SOUTH CENTRAL.												
Birmingham, Ala.	59.4	28.50	10	80c. (11)	8-8-48		59.4	28.50		8-8-48		
Dallas, Tex.	112.0		1	1	8-8-48		112.0			8-8-48		
Houston, Tex.	72.9	35.00	6 1/2	2	8-8-48	4	72.9	35.00		8-8-48		
Little Rock, Ark.	56.3	27.00	1 1/2	1 1/2	8-8-48		56.3	27.00		8-8-48		
Louisville, Ky.	54.2	26.00	4 1/2	2	8-8-48		51.1	24.52		8-8-48		
Nashville, Tenn.	62.5	30.00	1 1/2	2	8-5-48	12	56.3	27.00		8-5-48		
New Orleans, La.	60.0	27.00	14 1/2	1 1/2	7-7-45		60.0	27.00		7-7-45		
WESTERN.												
Butte, Mont.	81.3	39.00	15 1/2	2	8-8-48		81.3	39.00		8-8-48		
Salt Lake City, Utah.	82.5	30.00	4 1/2	1 1/2	8-8-48	3	82.5	30.00		8-8-48		
San Francisco, Cal.	75.0	36.00	4 1/2	1 1/2	8-8-48		71.3	34.20		8-8-48		
Seattle, Wash.	85.7	36.00	1 1/2	1 1/2	7-7-42		85.7	36.00		7-7-42		
Spokane, Wash.	73.3	33.00	4 1/2	1 1/2	7-7-45		73.3	33.00		7-7-45		

## PHOTO-ENGRAVERS.

<b>NORTH CENTRAL.</b>									
Chicago, Ill.	64.6	31.00	8 1/2	2	8-8-48		58.3	28.00	8-8-48
Cincinnati, Ohio.	58.3	28.00	1 1/2	2	8-4-48	12	54.2	26.00	8-4-48
Cleveland, Ohio.	58.3	28.00	1 1/2	2	8-4-48	12	50.0	24.00	8-4-48
Columbus, Ohio.	52.1	25.00	1 1/2	2	8-4-48	12	50.0	24.00	8-4-48
Des Moines, Iowa.	58.3	28.00	6 1/2	2	9-4-48	12	54.2	26.00	8-4-48
Detroit, Mich.	58.3	28.00	6 1/2	2	8-4-48	12	43.8	21.00	8-4-48
Grand Rapids, Mich.	41.7	20.00	1 1/2	2	8-4-48	12	41.7	20.00	8-4-48
Kansas City, Mo.	58.3	28.00	20 1/2	2	8-4-48	12	54.2	26.00	8-4-48
Milwaukee, Wis.	58.3	28.00	20 1/2	2	8-4-48	12	54.2	26.00	8-4-48
Minneapolis, Minn.	56.3	27.00	20 1/2	2	8-4-48	12	56.3	27.00	8-4-48

1 Double time after 3 hours, and on Saturday after completion of 48-hour week.

2 Hours vary but total 48 per week.

3 More than half of the members received more than the scale; amount not reported.

4 Double time after midnight.

5 Scale became 66.7 cents on June 1, 1918.

6 Double time after 4 hours.

7 Time and one-half for New Years, Memorial, and Thanksgiving days.

8 Double time after 3 hours.

9 Time and one-half after 10 p. m.

10 Rate in cents per hour.

11 Overtime rate plus 50 cents per day.

12 Per 1,000 ems nonpareil, and 50 cents per day additional.

13 44 hours per week, May to August, inclusive.

14 Double time after 10.30 p. m.

15 Double time after 10 p. m.

16 45 hours per week, June to August, inclusive.

17 Scale became 60.4 cents on Sept. 1, 1918.

18 8 1/2 hours on Thursdays and Fridays.

19 More than half of the members received more than the scale; amount not reported. Scale became 60.4 cents on Sept. 1, 1918.

20 Double time after 9 p. m.

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UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## PHOTO-ENGRAVERS—Concluded.

Geographical division and city	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours: Full days; Saturdays; full week.	Mos with Sat- ur-day half holi-day.	Rate of wages—		Hours: Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—concluded.										
Omaha, Nebr.: Halftone photographers and finishers, and cop- per etchers.....	<i>Cents</i> 158.3	<i>Dolls</i> 28.00	<i>Regular rate multiplied by—</i> 1½ 2		* 8½-41-48	12	<i>Cents</i> 152.1	<i>Dolls</i> 25.00	* 8½-41-48	
Zinc etchers, routers, and blockers.....	158.3	28.00	1½	2	* 8½-41-48	12	147.9	23.00	* 8½-41-48	
Printers and strippers.....	158.3	28.00	1½	2	* 8½-41-48	12	143.8	21.00	* 8½-41-48	
St. Paul, Minn.....	56.3	27.00	¾ 1½	2	8½-41-48	12	56.3	27.00	8½-41-48	
SOUTH CENTRAL.										
Dallas, Tex.....	58.3	28.00	¾ 1½	2	8½-41-48	12	54.2	26.00	8½-41-48	
Houston, Tex.....	158.3	28.00	¾ 1½	2	* 8½-41-48	12	54.2	26.00	* 8½-41-48	
WESTERN.										
Denver, Colo.....	52.1	25.00	1½	2	8-8-48	.....	52.1	25.00	8-8-48	
Los Angeles, Cal.....	150.0	24.00	1½	2	8-8-48	.....	150.0	24.00	8-8-48	
Portland, Oreg.....	162.5	30.00	1½	2	8-8-48	.....	62.5	30.00	8-8-48	
Salt Lake City, Utah.....	150.0	24.00	1½	1½	8-8-48	.....	150.0	24.00	8-8-48	
San Francisco, Cal.....	168.2	30.00	¾ 1½	2	8-4-44	12	50.0	24.00	8-8-48	
Seattle, Wash.....	678.4	34.50	1½	2	8-4-44	12	68.2	30.00	8-4-44	
Spokane, Wash.....	157.3	27.50	1½	2	8-8-48	.....	57.3	27.50	8-8-48	

## PRESS FEEDERS.

NORTH CENTRAL.										
Chicago, Ill.:										
Cylinder presses, seniors.....	143.8	21.00	6 1/2	2	8-8-48		138.5	18.50	8-8-48	
Cylinder presses less than 25 by 38 inches, juniors.....	32.3	15.50	6 1/2	2	8-8-48		29.2	14.00	8-8-48	
Colt and Universal presses, juniors.....	130.2	14.50	6 1/2	2	8-8-48		127.1	13.00	8-8-48	
Platen presses.....	29.2	14.00	6 1/2	2	8-8-48		26.0	12.50	8-8-48	
Operating 1 folding machine.....	46.9	22.50	6 1/2	2	8-8-48		41.7	20.00	8-8-48	
Operating 2 automatic folding machines.....	53.1	25.50	6 1/2	2	8-8-48		47.9	23.00	8-8-48	
Operating 3 automatic folding machines.....	59.4	28.50	6 1/2	2	8-8-48		54.2	26.00	8-8-48	
Press assistants, single rotary presses.....	46.9	22.50	6 1/2	2	8-8-48		41.7	20.00	8-8-48	
Tension men, 2-roll Cottrell 96-page rotary presses.....	54.2	26.00	6 1/2	2	8-8-48		49.0	23.50	8-8-48	
Oilers, 2-roll Cottrell, 96-page rotary presses.....	51.0	24.50	6 1/2	2	8-8-48		44.8	21.50	8-8-48	
Cincinnati, Ohio:										
Cylinder presses.....	37.5	18.00	1 1/2	2	8-8-48		33.3	16.00	8-8-48	
Operators, assistants, automatic folding machines.....	39.6	19.00	1 1/2	2	8-8-48		(7)	(7)	(7)	
Operating 1 automatic folding machine.....	43.8	21.00	1 1/2	2	8-8-48		(7)	(7)	(7)	

<sup>1</sup> More than half of the members received more than the scale; amount not reported.

<sup>2</sup> Hours vary but total 48 per week.

<sup>3</sup> Double time after 9 p. m.

<sup>4</sup> Double time after 4 hours, triple time after 8 hours.

<sup>5</sup> Scale became 81.8 cents on Sept. 1, 1918.

<sup>6</sup> Double time after 3 hours, and on Saturday after completion of 48-hour week.

<sup>7</sup> No scale in effect on May 15, 1917.

<sup>8</sup> And \$2 for each additional machine.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESS FEEDERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours: Full days; Saturdays; full week.	Mos. with Sat-ur-day half holiday.	Rate of wages—		Hours: Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over-time.	For Sun-days and holi-days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.										
	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Cleveland, Ohio:										
Folding-machine operators.	43.8	21.00	1 1/2	2	8-8-48		39.6	19.00	8-8-48	
2-color cylinder presses.	39.6	19.00	1 1/2	2	8-8-48		35.4	17.00	8-8-48	
Cylinder presses over 34 inches or folding machines.	37.5	18.00	1 1/2	2	8-8-48		33.3	16.00	8-8-48	
Cylinder presses (females).	35.4	17.00	1 1/2	2	8-8-48		(3)	(3)	(3)	
Assistants, platen presses.	34.4	16.50	1 1/2	2	8-8-48		30.2	14.50	8-8-48	
Colt, Universal or cylinder presses, under 34 inches.	31.3	15.00	1 1/2	2	8-8-48		27.1	13.00	8-8-48	
Platen presses.	29.2	14.00	1 1/2	2	8-8-48		25.0	12.00	8-8-48	
Columbus, Ohio.	37.5	18.00	1 1/2	2	8-8-48		31.3	15.00	8-8-48	
Davenport, Iowa, and Mo-line and Rock Island, Ill.:										
Cylinder presses.	39.0	18.70	1 1/2	2	8-8-48		33.3	16.00	8-8-48	
Platen presses.	25.2	12.10	1 1/2	2	8-8-48		20.8	10.00	8-8-48	
Des Moines, Iowa:										
Cylinder presses.	37.5	18.00	1 1/2	2	8-8-48		32.3	15.50	8-8-48	
Folding-machine operators.	37.5	18.00	1 1/2	2	8-8-48		33.3	16.00	8-8-48	
Rotary presses.	39.6	19.00	1 1/2	2	8-8-48		35.4	17.00	8-8-48	
Detroit, Mich.:										
Cylinder presses, over 62 inches.	41.7	20.00	6 1/2	2	8 3/4-4 1/2-48	12	39.6	19.00	8 3/4-4 1/2-48	
Cylinder presses, 25 by 38 inches and over.	37.5	18.00	6 1/2	2	8 3/4-4 1/2-48	12	35.4	17.00	8 3/4-4 1/2-48	
Cylinder presses less than 25 by 38 inches.	33.3	16.00	6 1/2	2	8 3/4-4 1/2-48	12	31.3	15.00	8 3/4-4 1/2-48	
Automatic presses, or Kelly presses, hand fed.	33.3	16.00	6 1/2	2	8 3/4-4 1/2-48	12	31.3	15.00	8 3/4-4 1/2-48	
Platen presses.	31.3	15.00	6 1/2	2	8 3/4-4 1/2-48	12	29.2	14.00	8 3/4-4 1/2-48	
Grand Rapids, Mich.:										
Cylinder presses.	31.3	15.00	6 1/2	2	8-8-48		31.3	15.00	8-8-48	
Indianapolis, Ind.:										
Cylinder presses, pony.	33.3	16.00	7 1/2	2	8-8-48		28.3	13.56	8-8-48	
Cylinder presses.	39.6	19.00	1 1/2	2	8-8-48		34.5	16.56	8-8-48	
Kansas City, Mo.:										
Cylinder presses, patent inside.	39.6	19.00	9 1/2	2	8-8-48		37.5	18.00	8-8-48	
Cylinder presses, 24 by 36 inches or over, or automatic feed.	37.5	18.00	9 1/2	2	8-8-48		35.4	17.00	8-8-48	
Rotary web presses.	37.5	18.00	9 1/2	2	8-8-48		35.4	17.00	8-8-48	
Cylinder presses, less than 24 by 36 inches.	33.3	16.00	9 1/2	2	8-8-48		31.3	15.00	8-8-48	
Platen presses.	25.0	12.00	9 1/2	2	8-8-48		22.9	11.00	8-8-48	

1 Double time after midnight.

2 More than half of the members received more than the scale; amount not reported.

3 No scale in effect on May 15, 1917.

4 Hours vary, but total 48 per week.

5 Double time after 5 hours.

6 Double time after 10 p. m.

7 Double time after 4 hours, and on Saturday after 5 p. m.

8 Scale became 41.7 cents on June 15, 1918.

9 Double time after 9 p. m.

10 Scale became 37.5 cents on June 15, 1918.

11 More than half of the members received more than the scale; amount not reported. Scale became 29.2 cents on June 15, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## PRESS FEEDERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours: Full days; Saturdays; full week.	Mos. with Saturday half holiday.	Rate of wages—		Hours: Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over-time.	For Sun-days and holi-days.			Per hour.	Per week, full time.		
NORTH CENTRAL—concluded.										
Milwaukee, Wis.:										
Cylinder presses, 25 by 30 inches or over, or automatic, or folding-machine operators, or assistants and joggers.....			Regular rate multiplied by—							
Operating 1 folding machine	Cents. 137.5	Dolls. 18.00	2 1/2	2	8-8-48		Cents. 34.3	Dolls. 16.75	8-8-48	
Operating 2 folding machines.....	440.6	19.50	2 1/2	2	8-8-48		38.0	18.25	8-8-48	
Cylinder presses, less than 25 by 38 inches.....	546.9	22.50	2 1/2	2	8-8-48		44.3	21.25	8-8-48	
Minneapolis, Minn.:										
Cylinder presses.....	732.5	16.09	2 1/2	8 2	9-4-49	12	32.5	16.09	9-4-49	
Platen presses.....	1023.5	11.63	2 1/2	8 2	9-4-49	12	23.5	11.63	9-4-49	
St. Louis, Mo.:										
Cylinder presses, 24 by 36 inches and over.....	1139.0	18.70	2 1/2	2	8-8-48		1135.4	17.00	8-8-48	
Cylinder presses less than 24 by 36 inches.....	32.1	15.40	2 1/2	2	8-8-48		29.2	14.00	8-8-48	
Operating on 2 automatic machines less than 24 by 36 inches.....	51.6	24.75	2 1/2	2	8-8-48		46.9	22.50	8-8-48	
Assistants, rotary web presses.....	50.4	24.20	2 1/2	2	8-8-48		45.8	22.00	8-8-48	
St. Paul, Minn.:										
Cylinder presses.....	34.9	17.26	12 1/2	13 2	9-4-49	12	32.5	16.09	9-4-49	
Helpers on rotary web presses.....	37.3	18.26	12 1/2	13 2	9-4-49	12	34.9	17.09	9-4-49	
Wichita, Kans.:										
Cylinder.....	1131.3	15.00	2 1/2	2	8-8-48		31.3	15.00	8-8-48	
Platen.....	1125.0	12.00	2 1/2	2	8-8-48		25.0	12.00	8-8-48	
SOUTH CENTRAL.										
Dallas, Tex.:										
Cylinder presses.....	37.5	18.00	1 1/2	2	8-8-48		33.3	16.00	8-8-48	
Press assistants.....	37.5	18.00	1 1/2	2	8-8-48		31.3	15.00	8-8-48	
Houston, Tex.: Cylinder presses.....	1131.3	15.00	1 1/2	2	14 8-8-48	4	31.3	15.00	8-8-48	
Little Rock, Ark.:										
Cylinder presses.....	29.2	14.00	1 1/2	15 2	8-8-48		29.2	14.00	8-8-48	
Cylinder presses, newspaper offices.....	31.3	15.00	1 1/2	15 2	8-8-48		31.3	15.00	8-8-48	
Platen presses.....	16.7	8.00	1 1/2	15 2	8-8-48		16.7	8.00	8-8-48	

<sup>1</sup> More than half of the members received more than the scale; amount not reported. Scale became 43.8 cents on July 1, 1918.

<sup>2</sup> Double time after midnight.

<sup>3</sup> Hours vary but total 48 per week.

<sup>4</sup> More than half of the members received more than the scale; amount not reported. Scale became 46.9 cents on July 1, 1918.

<sup>5</sup> More than half of the members received more than the scale; amount not reported. Scale became 53.1 cents on July 1, 1918.

<sup>6</sup> Scale became 35.4 cents on July 1, 1918.

<sup>7</sup> Scale became 39.5 cents on June 1, 1918.

<sup>8</sup> For Sundays, July 4, and Christmas; other holidays, time and one-half.

<sup>9</sup> Work 49 hours, paid for 49 1/2.

<sup>10</sup> Scale became 28.5 cents on June 1, 1918.

<sup>11</sup> More than half of the members received more than the scale; amount not reported.

<sup>12</sup> Double time after 4 hours.

<sup>13</sup> For New Year's, Memorial, and Thanksgiving days, time and one-half.

<sup>14</sup> 44 hours per week, May to August, inclusive.

<sup>15</sup> For Sundays, Labor Day, and Christmas; other holidays, time and one-half.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## PRESS FEEDERS—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours: Full days; Saturdays; full week.	Mos. with Sat-ur-day half holi-day.	Rate of wages—		Hours: Full days; Saturdays full week.	
	Per hour.	Per week, full time.	For over-time.	For Sun-days and holi-days.			Per hour.	Per week, full time.		
SOUTH CENTRAL—concluded.										
Louisville, Ky.:			Regular rate multiplied by—							
Attendant on 1 automatic feed cylinder press.....	Cents. 33.3	Dolls. 16.00	1 1/2	2	8 1/4-48	12	Cents. 30.2	Dolls. 14.50	8 1/4-48	
Attendant on 2 automatic feed cylinder presses.....	37.5	18.00	1 1/2	2	8 1/4-48	12	34.4	16.50	8 1/4-48	
Cylinder presses.....	32.3	15.50	1 1/2	2	8 1/4-48	12	29.2	14.00	8 1/4-48	
Platen presses.....	25.0	12.00	1 1/2	2	8 1/4-48	12	21.9	10.50	8 1/4-48	
Memphis, Tenn.: Cylinder presses.....	31.3	15.00	1 1/2	2	8-8-48	.....	28.1	13.50	8-8-48	
Nashville, Tenn.:										
Cylinder presses.....	3 27.1	13.00	1 1/2	2	8-8-48	.....	27.1	13.00	8-8-48	
Cylinder presses (females).....	3 20.8	10.00	1 1/2	2	8-8-48	.....	20.8	10.00	8-8-48	
Assistants, platen presses.....	3 22.9	11.00	1 1/2	2	8-8-48	.....	22.9	11.00	8-8-48	
New Orleans, La.: Cylinder presses.....	34.4	16.50	1 1/2	1 1/2	8-8-48	.....	31.3	15.00	8-8-48	
WESTERN.										
Butte, Mont.:										
Cylinder presses.....	3 37.5	18.00	1 1/2	2	8-8-48	.....	37.5	18.00	8-8-48	
Platen presses.....	3 28.1	13.50	1 1/2	2	8-8-48	.....	28.1	13.50	8-8-48	
Denver, Colo.: Cylinder presses.....	39.6	19.00	1 1/2	2	8-8-48	.....	35.4	17.00	8-8-48	
Los Angeles, Cal.:										
Cylinder presses.....	39.6	19.00	1 1/2	2	8-8-48	.....	35.4	17.00	8-8-48	
Platen presses.....	33.3	16.00	1 1/2	2	8-8-48	.....	29.2	14.00	8-8-48	
Universal presses.....	35.4	17.00	1 1/2	2	8-8-48	.....	31.3	15.00	8-8-48	
Portland, Oreg.:										
Cylinder presses.....	3 37.5	18.00	1 1/2	1 1/2	8-8-48	.....	34.4	16.50	8-8-48	
Platen presses.....	3 31.3	15.00	1 1/2	1 1/2	8-8-48	.....	29.2	14.00	8-8-48	
Salt Lake City, Utah: Press assistants, cylinder presses.....	37.5	18.00	1 1/2	1 1/2	8-8-48	.....	3 31.3	15.00	8-8-48	
San Francisco, Cal.:										
Cylinder presses.....	40.6	19.50	1 1/2	1 1/2	8-8-48	.....	34.4	16.50	8-8-48	
Platen presses.....	34.4	16.50	1 1/2	1 1/2	8-8-48	.....	28.1	13.50	8-8-48	
Seattle, Wash.:										
Cylinder presses.....	39.6	19.00	1 1/2	1 1/2	8-8-48	.....	35.4	17.00	8-8-48	
Platen presses.....	33.3	16.00	1 1/2	1 1/2	8-8-48	.....	30.2	14.50	8-8-48	
Spokane, Wash.:										
Cylinder presses.....	3 34.4	16.50	1 1/2	2	8-8-48	.....	34.4	16.50	8-8-48	
Colt, Golding, or Universal presses.....	3 29.2	14.00	1 1/2	2	8-8-48	.....	29.2	14.00	8-8-48	
Platen presses.....	3 28.1	13.50	1 1/2	2	8-8-48	.....	28.1	13.50	8-8-48	

## PRESSMEN: Cylinder.

<b>NORTH CENTRAL.</b>									
Chicago, Ill.:									
Operating 1 cylinder press not over 28 by 42 inches and not more than 3 platen presses.....	53.1	25.50	<sup>5</sup> 1 1/2	2	8-8-48	.....	47.9	23.00	8-8-48
Operating 1 single-roll rotary press (web press)....	64.6	31.00	<sup>5</sup> 1 1/2	2	8-8-48	.....	59.4	28.50	8-8-48

<sup>1</sup> Double time after midnight.

<sup>2</sup> Hours vary, but total 48 per week.

<sup>3</sup> More than half of the members received more than the scale; amount not reported.

<sup>4</sup> Double time after 4 hours.

<sup>5</sup> Double time after 3 hours, and on Saturday after completion of 48-hour week.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Cylinder—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.										
Chicago, Ill.—Concluded.										
Operating 1 Cox duplex press or 1 Goss flat-bed press.....	Cents. 66.7	Dolls. 32.00	Regular rate multiplied by— <sup>1</sup> 1½		2	2 8 -8 -48	Cents. 61.5	Dolls. 29.50		2 8 -8 -48
Operating 1 double impres- sion, 2 sheets to 1 cylin- der, 1 or 2 color press....	67.7	32.50	<sup>1</sup> 1½	2	2 8 -8 -48	62.5	30.00		2 8 -8 -48	
Operating 1 single-roll ro- tary press over 57 inches <sup>2</sup> .	69.8	33.50	<sup>1</sup> 1½	2	2 8 -8 -48	64.6	31.00		2 8 -8 -48	
Operating 2-roll Cottrell 96- page rotary press, or 1- roll magazine press, or 1- roll magazine press, or 1- roll magazine press.....	82.3	39.50	<sup>1</sup> 1½	2	2 8 -8 -48	77.1	37.00		2 8 -8 -48	
Operating 1 press with Up- ham attachment <sup>4</sup> .....	59.4	28.50	<sup>1</sup> 1½	2	2 8 -8 -48	54.2	26.00		2 8 -8 -48	
Cincinnati, Ohio:										
Operating 1 double cylin- der or 2 color presses over 53 inches.....	57.8	27.75	1½	2	8 -8 -48	57.8	27.75		8 -8 -48	
Operating rotary web presses, first position....	59.9	28.75	1½	2	8 -8 -48	59.9	28.75		8 -8 -48	
Operating 1 single-color Harris press or 1 auto- matic press.....	38.0	18.25	1½	2	8 -8 -48	38.0	18.25		8 -8 -48	
Operating 2 automatic presses.....	43.2	20.75	1½	2	8 -8 -48	43.2	20.75		8 -8 -48	
Operating 1 perfecting press <sup>5</sup> .....	47.4	22.75	1½	2	8 -8 -48	47.4	22.75		8 -8 -48	
Operating 2 single presses over 53 inches or 1 double or 2-color press less than 33 inches.....	54.7	26.25	1½	2	8 -8 -48	54.7	26.25		8 -8 -48	
Operating 4 bag presses....	55.7	26.75	1½	2	8 -8 -48	55.7	26.75		8 -8 -48	
Cleveland, Ohio.....	50.0	24.00	<sup>6</sup> 1½	2	8 -8 -48	7 43.8	21.00		8 -8 -48	
Columbus, Ohio.....	49.0	23.50	<sup>6</sup> 1½	1½	2 8 -8 -48	42.7	20.50		2 8 -8 -48	
Davenport, Iowa, and Mo- line and Rock Island, Ill.:										
Operating 1 cylinder and 2 platen presses or 2 cylin- der presses.....	56.1	26.95	1½	2	8 -8 -48	49.0	23.50		8 -8 -48	
Operating 1 press.....	50.4	24.20	1½	2	8 -8 -48	43.8	21.00		8 -8 -48	
Des Moines, Iowa.....	47.9	23.00	<sup>6</sup> 1½	2	8 -8 -48	43.8	21.00		8 -8 -48	
Operating rotary presses....	52.1	25.00	<sup>6</sup> 1½	2	8 -8 -48	47.9	23.00		8 -8 -48	
Detroit, Mich.:										
Operating 1 double cylin- der or 2-color press.....	52.1	25.00	<sup>8</sup> 1½	2	8 <sup>3</sup> -4 <sup>1</sup> -48	12 50.0	24.00		8 <sup>3</sup> -4 <sup>1</sup> -48	
Operating 2 presses.....	50.0	24.00	<sup>8</sup> 1½	2	8 <sup>3</sup> -4 <sup>1</sup> -48	12 47.9	23.00		8 <sup>3</sup> -4 <sup>1</sup> -48	
Operating 1 double-roll ro- tary press.....	54.2	26.00	<sup>8</sup> 1½	2	8 <sup>3</sup> -4 <sup>1</sup> -48	12 52.1	25.00		8 <sup>3</sup> -4 <sup>1</sup> -48	
Operating 1 Kelly auto- matic or Harris press.....	43.8	21.00	<sup>8</sup> 1½	2	8 <sup>3</sup> -4 <sup>1</sup> -48	12 41.7	20.00		8 <sup>3</sup> -4 <sup>1</sup> -48	
Operating 1 Standard press	39.6	19.00	<sup>8</sup> 1½	2	8 <sup>3</sup> -4 <sup>1</sup> -48	12 37.5	18.00		8 <sup>3</sup> -4 <sup>1</sup> -48	

<sup>1</sup> Double time after 3 hours, and on Saturday after completion of 48-hour week.

<sup>2</sup> Hours vary, but total 48 per week.

<sup>3</sup> Or Scott rotary press or 1 single-roll 80-page Goss rotary press, or in charge of 2-roll magazine rotary press, or operating 1 double-roll rotary press, or second man on double-roll Cottrell rotary press.

<sup>4</sup> Or 1 double-cylinder flat-bed perfecting press, or 3 patent inside blanket presses, or 1 press larger than 28 by 42 inches and not more than 3 job presses, or 2 Kidder ticket presses, or 2 automatic presses, or 2 Kelly presses, or 2 Ostend presses, or 2 Stokes & Smith automatic presses, or 2 Harris presses.

<sup>5</sup> Or 2 single-roll presses less than 53 inches, or 1 cylinder and 3 platen presses.

<sup>6</sup> Double time after midnight.

<sup>7</sup> More than half of the members received more than the scale; amount not reported.

<sup>8</sup> Double time after 5 hours.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Cylinder—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.			Regular rate multiplied by—							
Grand Rapids, Mich.: Oper- ating 1 or 2 presses.....	Cents. 43.8	Dolls. 21.00	1 1/2	2	2 8 - 8 - 48	.....	Cents. 43.8	Dolls. 21.00	8 - 8 - 48	
Indianapolis, Ind.: Operating 1 or 2 cylinder or automatic presses.....	52.1	25.00	3 1/2	2	8 - 8 - 48	.....	47.5	22.80	8 - 8 - 48	
Operating rotary web press.....	59.4	28.50	3 1/2	2	8 - 8 - 48	.....	54.8	26.30	8 - 8 - 48	
Kansas City, Mo.: Operating 1 cylinder press, over 24 by 36 inches, and 2 platen presses * .....	56.3	27.00	6 1/2	2	2 8 - 8 - 48	.....	56.3	27.00	2 8 - 8 - 48	
Operating 1 or 2 cylinder presses 24 by 36 inches or under.....	43.8	21.00	6 1/2	2	2 8 - 8 - 48	.....	43.8	21.00	2 8 - 8 - 48	
Operating 2 cylinder presses, under a fore- man * .....	50.0	24.00	6 1/2	2	2 8 - 8 - 48	.....	50.0	24.00	2 8 - 8 - 48	
Operating 1 cylinder press 24 by 36 inches or under and 2 platen presses .....	47.9	23.00	6 1/2	2	2 8 - 8 - 48	.....	47.9	23.00	2 8 - 8 - 48	
Operating 1 press over 24 by 36, up to 38 by 56 inches.....	45.8	22.00	6 1/2	2	2 8 - 8 - 48	.....	45.8	22.00	2 8 - 8 - 48	
Operating 1 double-roll ro- tary press.....	55.2	26.50	6 1/2	2	2 8 - 8 - 48	.....	55.2	26.50	2 8 - 8 - 48	
Milwaukee, Wis.: Operating 1 or 2 cylinder presses, or one 3-cylinder patent in- side blanket press.....	50.0	24.00	12 1/2	2	2 8 - 8 - 48	.....	50.0	24.00	2 8 - 8 - 48	
Minneapolis, Minn.: Foremen over 4 or more presses.....	452.0	25.74	13 1/2	15 2	16 9 - 4 - 49	12	52.0	25.74	16 9 - 4 - 49	
Operating 1 or 2 presses...	445.0	22.28	13 1/2	15 2	16 9 - 4 - 49	12	45.0	22.28	16 9 - 4 - 49	
Operating 3 presses.....	450.0	24.75	13 1/2	15 2	16 9 - 4 - 49	12	50.0	24.75	16 9 - 4 - 49	
Omaha, Nebr.: Operating 1 or 2 presses.....	43.8	21.00	19 1/2	1 1/2	8 - 8 - 48	.....	41.7	20.00	8 - 8 - 48	
Peoria, Ill.: In charge of 2 presses or 1 cylinder and 2 platen presses.....	41.7	20.00	13 1/2	2	8 - 8 - 48	.....	39.6	19.00	8 - 8 - 48	
In charge of 3 presses.....	45.8	22.00	13 1/2	2	8 - 8 - 48	.....	43.8	21.00	8 - 8 - 48	
In charge of 4 presses.....	50.0	24.00	13 1/2	2	8 - 8 - 48	.....	47.9	23.00	8 - 8 - 48	
In charge of 5 or more presses.....	56.3	27.00	13 1/2	2	8 - 8 - 48	.....	54.2	26.00	8 - 8 - 48	

1 Double time after 10 p. m.

2 Hours vary, but total 48 per week.

3 Double time after 10 p. m. and on Saturday after 5 p. m.

4 Or in charge of 2 or more cylinder presses, or 2 cylinder presses 24 by 36 inches or over.

5 Scale became 60.4 cents on June 15, 1918.

6 Double time after 9 p. m.

7 Scale became 47.9 cents on June 15, 1918.

8 Or 1 press over 38 by 56 inches, or one 2-color or 1 double-ender press.

9 Scale became 54.2 cents on June 15, 1918.

10 Scale became 50 cents on June 15, 1918.

11 Scale became 59.4 cents on June 15, 1918.

12 Scale became 54.2 cents on July 1, 1918.

13 Double time after midnight.

14 Scale became 61 cents and 48 hours on June 1, 1918.

15 For New Year's, Memorial, and Thanksgiving days, time and one-half.

16 Work 49 hours, paid for 49 1/2.

17 Scale became 53 cents and 48 hours on June 1, 1918.

18 Scale became 59 cents and 48 hours on June 1, 1918.

19 Double time after midnight and on Saturday after 5 p. m.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## PRESSMEN: Cylinder—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.		
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- days.			Per hour.	Per week, full time.	
NORTH CENTRAL—concluded.									
St. Louis, Mo.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>	
Operating 1 press.....	43.5	20.90	1 1/2	2	8-3-48		39.6	19.00	8-8-48
Operating 2 presses under 24 by 36 inches <sup>2</sup> .....	48.1	23.10	1 1/2	2	8-8-48		43.8	21.00	8-8-48
Operating 1 cylinder press over 24 by 36 inches and 1 or 2 platen presses <sup>3</sup> .....	52.7	25.30	1 1/2	2	8-8-48		47.9	23.00	8-8-48
Operating 1 press over 24 by 36 inches and 1 auto- matic press, or one 2- color Harris press over 15 by 18 inches, or 2 automatic presses.....	61.9	29.70	1 1/2	2	8-8-48		56.3	27.00	8-8-48
Operating 1 Harris press 15 by 18 inches or under and 1 or 2 platen presses.	53.9	25.85	1 1/2	2	8-8-48		49.0	23.50	8-8-48
Operating 1 single or double roll rotary press.....	63.0	30.25	1 1/2	2	8-8-48		57.3	27.50	8-8-48
Operating second position, double-roll rotary press <sup>4</sup>	56.1	26.95	1 1/2	2	8-8-48		51.0	24.50	8-8-48
St. Paul, Minn.:									
Operating 1 single and 1 double cylinder press.....	52.1	25.00	6 1/2	7 2	8 3/4-41-48	12	51.0	24.50	8 9-4-49
Operating 2 single presses.....	46.9	22.50	6 1/2	7 2	8 3/4-41-48	12	45.8	22.00	8 9-4-49
In charge of single-rotary press.....	53.1	25.50	6 1/2	7 2	8 3/4-41-48	12	52.1	25.00	8 9-4-49
In charge of double-rotary press.....	57.3	27.50	6 1/2	7 2	8 3/4-41-48	12	56.3	27.00	8 9-4-49
In charge of triple-rotary press.....	63.5	30.50	6 1/2	7 2	8 3/4-41-48	12	62.5	30.00	8 9-4-49
SOUTH CENTRAL.									
Birmingham, Ala.:									
Operating 1 press.....	36.5	17.50	10 1/2	2	11 8-8-48		36.5	17.50	11 8-8-48
Operating 2 presses.....	44.8	21.50	10 1/2	2	11 8-8-48		44.8	21.50	11 8-8-48
In charge of 1 cylinder and 2 or more platen presses.....	50.0	24.00	10 1/2	2	11 8-8-48		50.0	24.00	11 8-8-48
In charge of 2 or 3 cylinder and 2 or more platen presses.....	53.1	25.50	10 1/2	2	11 8-8-48		53.1	25.50	11 8-8-48
In charge of 4 or more cyl- inder and 4 or more platen presses.....	57.3	27.50	10 1/2	2	11 8-8-48		57.3	27.50	11 8-8-48

<sup>1</sup> Double time after midnight.

<sup>2</sup> Or 1 press under 24 by 36 inches and 2 platen presses, or 1 single Harris press 15 by 18 inches or under, or 1 platen press without automatic feed and 1 cylinder press under 24 by 36 inches, or 1 automatic press.

<sup>3</sup> Or 1 press 24 by 36 inches or over and 1 press with automatic feed, or 1 auto press and 2 platen presses.

<sup>4</sup> Or operating 1 press 68 inches or over, or 1 double perfecting press, or 2 presses 24 by 36 inches and over, or 1 press under 24 by 36 inches and 1 automatic press, or one 2-color press, or one 2-color Harris press 15 by 18 inches or under, or 2 single Harris presses 15 by 18 inches or under, or 1 press 24 by 36 inches or over and 1 single Harris press 15 by 18 inches or under.

<sup>5</sup> Scale became 54 cents on June 1, 1918.

<sup>6</sup> Double time after 4 hours.

<sup>7</sup> For Memorial and Thanksgiving days, time and one-half.

<sup>8</sup> Work 49 hours, paid for 49 1/2.

<sup>9</sup> More than half of the members received more than the scale; amount not reported.

<sup>10</sup> Time and one-half after 1 hour.

<sup>11</sup> Hours vary, but total 48 per week.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Cylinder—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
SOUTH CENTRAL—concluded.										
Dallas, Tex.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Journeyman, shops A.....	56.3	27.00	1½	2	8-8-48		52.1	25.00	8-8-48	
Journeyman, shops B.....	57.3	27.50	1½	2	8-8-48		52.1	25.00	8-8-48	
In charge of 2 or more presses.....	60.4	29.00	1½	2	8-8-48		57.3	27.50	8-8-48	
Houston, Tex.:										
In charge of 1 cylinder and 1 or more platen presses or 2 or more cylinder presses.....	52.1	25.00	1½	2	8-8-48		52.1	25.00	8-8-48	
Operating 4 presses.....	46.9	22.50	1½	2	8-8-48		46.9	22.50	8-8-48	
Assistants.....	39.6	19.00	1½	2	8-8-48		39.6	19.00	8-8-48	
Little Rock, Ark.: Operating 1 cylinder and 1 platen press or 2 cylinder presses	42.7	20.50	1½	2	8-8-48		42.7	20.50	8-8-48	
Louisville, Ky.:										
Operating 1 press, or 1 pony press and 1 platen press..	39.6	19.00	1½	2	8½-4½-48	12	36.5	17.50	8½-4½-48	
Operating 1 press over 25 by 38 inches and 2 platen presses, or 1 Harris press, or 1 Kidder press.....	42.7	20.50	1½	2	8½-4½-48	12	39.6	19.00	8½-4½-48	
Operating 1 cylinder press and 1 automatic-feed press.....	47.9	23.00	1½	2	8½-4½-48	12	44.8	21.50	8½-4½-48	
Operating 2 presses.....	45.8	22.00	1½	2	8½-4½-48	12	42.7	20.50	8½-4½-48	
Operating 2 automatic feed presses.....	51.0	24.50	1½	2	8½-4½-48	12	47.9	23.00	8½-4½-48	
Memphis, Tenn.:										
In charge of 2 cylinder presses.....	52.1	25.00	1½	2	8-8-48		47.9	23.00	8-8-48	
Operating 1 press.....	37.5	18.00	1½	2	8-8-48		34.4	16.50	8-8-48	
Operating 2 presses.....	47.9	23.00	1½	2	8-8-48		43.8	21.00	8-8-48	
Nashville, Tenn.:										
In charge of 2 presses.....	43.8	21.00	1½	2	8-8-48		43.8	21.00	8-8-48	
Operating 2 presses.....	41.7	20.00	1½	2	8-8-48		41.7	20.00	8-8-48	
In charge of magazine ro- tary press.....	62.5	30.00	1½	2	8-8-48		62.5	30.00	8-8-48	
Assistants, first, on rotary press.....	29.2	14.00	1½	2	8-8-48		29.2	14.00	8-8-48	
Assistants, second, on ro- tary press.....	27.1	13.00	1½	2	8-8-48		27.1	13.00	8-8-48	
New Orleans, La.: Operat- ing 1 or 2 presses, or platen and combination automa- tic press.....	43.8	21.00	1½	1½	8-8-48		40.6	19.50	8-8-48	
WESTERN.										
Butte, Mont.....	62.5	30.00	1½	2	8-8-48		62.5	30.00	8-8-48	
Denver, Colo.:										
Operating 1 or 2 presses....	59.4	28.50	1½	2	8-8-48		54.2	26.00	8-8-48	
In charge of 1 to 4 presses..	63.5	30.50	1½	2	8-8-48		58.3	28.00	8-8-48	
In charge of 5 presses.....	67.7	32.50	1½	2	8-8-48		62.5	30.00	8-8-48	

<sup>1</sup> More than half of the members received more than the scale; amount not reported.

<sup>2</sup> For New Year's Day, July 4, and Thanksgiving Day, time and one-half.

<sup>3</sup> Hours vary, but total 48 per week.

<sup>4</sup> Double time after midnight.

<sup>5</sup> Scale became 75 cents on July 6, 1918.

<sup>6</sup> Double time after 4 hours and on Saturday after 5 p. m.

<sup>7</sup> Double time after 4 hours.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Cylinder—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- ays.			Per hour.	Per week, full time.		
WESTERN—concluded.										
Los Angeles, Cal.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
In charge of presses.....	59.4	28.50	1 1/2	2	8-8-48	.....	55.2	26.50	8-8-48	
Operating 1 or 2 presses, or 1 cylinder and 2 platen presses.....	51.0	24.50	1 1/2	2	8-8-48	.....	46.9	22.50	8-8-48	
Operating 1 Cox or Goss flat-bed press.....	56.3	27.00	1 1/2	2	8-8-48	.....	52.1	25.00	8-8-48	
Portland, Oreg.....	53.1	25.50	1 1/2	1 1/2	8-8-48	.....	46.9	22.50	8-8-48	
Salt Lake City, Utah.....	50.0	24.00	1 1/2	1	8-8-48	.....	50.0	24.00	8-8-48	
San Francisco, Cal.:										
In charge of 2 or more cyl- inder presses, or 2 or more cylinder presses and 1 or more platen presses, or 1 cylinder and 3 or more platen presses..	68.8	33.00	1 1/2	3 1/2	8-8-48	.....	62.5	30.00	8-8-48	
In charge of 1 cylinder and 2 platen presses.....	62.5	30.00	1 1/2	3 1/2	8-8-48	.....	56.3	27.00	8-8-48	
Operating 1 flat-bed web press.....	62.5	30.00	1 1/2	3 1/2	8-8-48	.....	62.5	30.00	8-8-48	
Operating 2 cylinder, or 1 cylinder and 2 platen presses.....	59.4	28.50	1 1/2	3 1/2	8-8-48	.....	56.3	27.00	8-8-48	
Operating 1 hand job and 1 or 2 platen presses, or 1 hand job and 1 auto- matic platen press.....	56.3	27.00	1 1/2	3 1/2	8-8-48	.....	(4)	(4)	(4)	
Operating 1 press.....	54.2	26.00	1 1/2	3 1/2	8-8-48	.....	50.0	24.00	8-8-48	
Operating 1 hand job press.....	50.0	24.00	1 1/2	3 1/2	8-8-48	.....	(4)	(4)	(4)	
Seattle, Wash.:										
In charge of presses.....	62.5	30.00	1 1/2	1 1/2	8-8-48	.....	56.3	27.00	8-8-48	
Operating 1 or 2 presses.....	57.3	27.50	1 1/2	1 1/2	8-8-48	.....	51.0	24.50	8-8-48	
Spokane, Wash.:										
In charge of 2 or more presses.....	62.5	30.00	1 1/2	2	8-8-48	.....	57.3	27.50	8-8-48	
Operating 1 or more presses.....	55.2	26.50	1 1/2	2	8-8-48	.....	50.0	24.00	8-8-48	
Operating 1 cylinder and 3 platen presses.....	57.3	27.50	1 1/2	2	8-8-48	.....	52.1	25.00	8-8-48	
Operating 1 cylinder, or 1 automatic press.....	50.0	24.00	1 1/2	2	8-8-48	.....	43.8	21.00	8-8-48	

PRESSMEN: Platen.

NORTH CENTRAL.									
Chicago, Ill.:									
Operating 1 to 3 presses.....	43.8	21.00	7 1/2	2	8-8-48	.....	38.5	18.50	8-8-48
Operating 4 presses.....	46.9	22.50	7 1/2	2	8-8-48	.....	41.7	20.00	8-8-48
Operating 5 presses.....	50.0	24.00	7 1/2	2	8-8-48	.....	44.8	21.50	8-8-48
Operating 6 presses.....	53.1	25.50	7 1/2	2	8-8-48	.....	47.9	23.00	8-8-48
Operating 1 combination press with web attach- ment.....	51.0	24.50	7 1/2	2	8-8-48	.....	45.8	22.00	8-8-48

1 Double time after midnight.

2 Scale became 63.5 cents on Sept. 1, 1918.

3 For Labor Day, double time.

4 No scale in effect on May 15, 1917.

5 Scale became 75 cents on Sept. 1, 1918.

6 Scale became 68.8 cents on Sept. 1, 1918.

7 Double time after 3 hours and on Saturday after completion of 48-hour week.

8 Hours vary, but total 48 per week.

9 More than half of the members received more than the scale; amount not reported.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Platen—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.		
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- ay.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- ays.			Per hour.	Per week, full time.	
NORTH CENTRAL—continued.			Regular rate multiplied by—						
Cincinnati, Ohio:	Cents.	Dolls.					Cents.	Dolls.	
Operating 1 or 2 presses....	37.5	18.00	1½	2	8-8-48	.....	33.3	16.00	8-8-48
Operating 3 presses.....	39.6	19.00	1½	2	8-8-48	.....	35.4	17.00	8-8-48
Operating 4 presses.....	43.8	21.00	1½	2	8-8-48	.....	39.6	19.00	8-8-48
Operating 5 presses.....	47.9	23.00	1½	2	8-8-48	.....	43.8	21.00	8-8-48
Cleveland, Ohio:									
Operating 1 flat or rotary press.....	50.0	24.00	1½	2	8-8-48	.....	47.9	23.00	8-8-48
Operating 1 or 2 presses....	39.6	19.00	1½	2	8-8-48	.....	33.3	16.00	8-8-48
Operating 3 or 4 presses....	41.7	20.00	1½	2	8-8-48	.....	35.4	17.00	8-8-48
Operating 5 to 8 presses....	45.8	22.00	1½	2	8-8-48	.....	39.6	19.00	8-8-48
Columbus, Ohio.....	45.8	22.00	1½	1½	8-8-48	.....	39.6	19.00	8-8-48
Davenport, Iowa, and Mol- ine and Rock Island, Ill...	41.3	19.80	1½	2	8-8-48	.....	35.4	17.00	8-8-48
Des Moines, Iowa:									
Operating 1 press.....	37.5	18.00	1½	2	8-8-48	.....	31.3	15.00	8-8-48
Operating 2 presses.....	39.6	19.00	1½	2	8-8-48	.....	35.4	17.00	8-8-48
Operating 3 presses.....	41.7	20.00	1½	2	8-8-48	.....	37.5	18.00	8-8-48
Operating over 3 presses...	43.8	21.00	1½	2	8-8-48	.....	39.6	19.00	8-8-48
Detroit, Mich.:									
Operating 1 or 2 presses....	35.4	17.00	4½	2	8-4-48	12	33.3	16.00	8-4-48
Operating 3 presses.....	39.6	19.00	4½	2	8-4-48	12	37.5	18.00	8-4-48
Operating 4 or 5 presses....	43.8	21.00	4½	2	8-4-48	12	41.7	20.00	8-4-48
Operating 6 presses.....	45.8	22.00	4½	2	8-4-48	12	43.8	21.00	8-4-48
Grand Rapids, Mich.:									
Operating 1 or 2 presses....	35.4	17.00	5½	2	8-8-48	.....	35.4	17.00	8-8-48
Operating 3 presses.....	37.5	18.00	5½	2	8-8-48	.....	37.5	18.00	8-8-48
Operating 4 presses.....	39.6	19.00	5½	2	8-8-48	.....	39.6	19.00	8-8-48
Indianapolis, Ind.:									
Operating 1 or 2 presses....	37.5	18.00	6½	2	8-8-48	.....	32.9	15.80	8-8-48
Operating 3 presses.....	41.7	20.00	6½	2	8-8-48	.....	37.1	17.80	8-8-48
Operating 4 presses.....	45.8	22.00	6½	2	8-8-48	.....	41.3	19.80	8-8-48
Operating 5 presses.....	50.0	24.00	6½	2	8-8-48	.....	45.4	21.80	8-8-48
Operating 6 presses.....	52.1	25.00	6½	2	8-8-48	.....	47.5	22.80	8-8-48
Kansas City, Mo.:									
Operating 1 or 2 presses....	39.6	19.00	8½	2	8-8-48	.....	39.6	19.00	8-8-48
Operating 3 presses.....	41.7	20.00	8½	2	8-8-48	.....	41.7	20.00	8-8-48
Operating 4 presses.....	43.8	21.00	8½	2	8-8-48	.....	43.8	21.00	8-8-48
In charge 4 or 5 presses....	45.8	22.00	8½	2	8-8-48	.....	45.8	22.00	8-8-48
Milwaukee, Wis.:									
Operating 1 or 2 presses....	37.5	18.00	1½	2	8-8-48	.....	34.9	16.75	8-8-48
Operating 3 presses.....	39.6	19.00	1½	2	8-8-48	.....	37.0	17.75	8-8-48
Operating 4 presses.....	43.8	21.00	1½	2	8-8-48	.....	41.1	19.75	8-8-48

1 Double time after midnight.

2 More than half of the members received more than the scale; amount not reported.

3 Hours vary but total 48 per week.

4 Double time after 5 hours.

5 Double time after 10 p. m.

6 Double time after 10 p. m. and on Saturday after 5 p. m.

7 Scale became 43.8 cents on June 15, 1918.

8 Double time after 9 p. m.

9 Scale became 45.8 cents on June 15, 1918.

10 Scale became 47.9 cents on June 15, 1918.

11 Scale became 50 cents on June 15, 1918.

12 More than half of the members received more than the scale; amount not reported. Scale became 43.8 cents on July 1, 1918.

13 More than half of the members received more than the scale; amount not reported. Scale became 47.9 cents on July 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

## PRESSMEN: Platen—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.		
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holidays.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over-time.	For Sun- days and holidays.			Per hour.	Per week, full time.	
NORTH CENTRAL—concluded.									
Minneapolis, Minn.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>	
Operating 1 or 2 presses....	28.5	14.11	2 1/2	3 2	4 9-4-49	12	28.5	14.11	4 9-4-49
Operating 3 presses.....	30.0	14.85	2 1/2	3 2	4 9-4-49	12	30.0	14.85	4 9-4-49
Operating 4 or more presses	36.0	17.82	2 1/2	3 2	4 9-4-49	12	36.0	17.82	4 9-4-49
Omaha, Nebr.:									
Operating 1 or 2 presses....	55.4	17.00	8 1/2	1 1/2	8-8-48	.....	33.3	16.00	8-8-48
Operating 3 presses.....	37.5	18.00	8 1/2	1 1/2	8-8-48	.....	35.4	17.00	8-8-48
Operating 4 presses.....	39.6	19.00	8 1/2	1 1/2	8-8-48	.....	37.5	18.00	8-8-48
Operating 5 presses.....	41.7	20.00	8 1/2	1 1/2	8-8-48	.....	39.6	19.00	8-8-48
Peoria, Ill.:									
Operating 1 or 2 presses....	31.3	15.00	2 1/2	2	8-8-48	.....	29.2	14.00	8-8-48
Operating 3 presses.....	33.3	16.00	2 1/2	2	8-8-48	.....	31.3	15.00	8-8-48
Operating 4 presses.....	35.4	17.00	2 1/2	2	8-8-48	.....	33.3	16.00	8-8-48
St. Louis, Mo.:									
Operating 1 or 2 presses with automatic feed or 1 28-inch coupon press with automatic feed.....	39.0	18.70	2 1/2	2	8-8-48	.....	35.4	17.00	8-8-48
Operating 1 automatic feed press and 1 hand feed press	42.4	20.35	2 1/2	2	8-8-48	.....	38.5	18.50	8-8-48
Operating 4 presses, or 1 42-inch coupon press or 2 presses with automatic feed or 2 hand presses with automatic feed.....	45.8	22.00	2 1/2	2	8-8-48	.....	41.7	20.00	8-8-48
St. Paul, Minn.:									
Operating 1 to 3 presses....	34.4	16.50	9 1/2	10 2	8 1/2-4 1/2-48	12	32.3	16.00	4 9-4-49
Operating 4 presses or 1 Osterlind and 1 or 2 presses.....	39.6	19.00	9 1/2	10 2	8 1/2-4 1/2-48	12	37.4	18.50	4 9-4-49
SOUTH CENTRAL.									
Birmingham, Ala.:									
Operating 1 or 2 presses....	35.4	17.00	12 1/2	2	13 8-8-48	.....	35.4	17.00	12 8-8-48
Operating 3 to 5 presses....	37.5	18.00	12 1/2	2	13 8-8-48	.....	37.5	18.00	12 8-8-48
Operating 6 to 8 presses....	41.7	20.00	12 1/2	2	13 8-8-48	.....	41.7	20.00	12 8-8-48
In charge of 9 presses and over.....	45.8	22.00	12 1/2	2	13 8-8-48	.....	45.8	22.00	12 8-8-48
Dallas, Tex.:									
Operating 1 to 4 presses....	40.6	19.50	1 1/2	2	8-8-48	.....	37.5	18.00	8-8-48
Houston, Tex.:									
Operating 1 or 2 presses....	35.4	17.00	1 1/2	2	14 8-8-48	4	35.4	17.00	8-8-48
Operating 3 to 5 presses....	40.6	19.50	1 1/2	2	14 8-8-48	4	40.6	19.50	8-8-48
Little Rock, Ark.:									
Operating 1 automatic press	33.3	16.00	1 1/2	15 2	13 8-8-48	.....	33.3	16.00	12 8-8-48
Operating 3 or 4 presses....	37.5	18.00	1 1/2	15 2	13 8-8-48	.....	37.5	18.00	12 8-8-48

1 Scale became 36 cents per hour and 8 hours on Saturday on June 1, 1918.

2 Double time after midnight.

3 Time and one-half for New Year's, Memorial, and Thanksgiving days.

4 Work 49 hours, paid for 49 1/2.

5 Scale became 38 cents per hour and 8 hours on Saturday on June 1, 1918.

6 Scale became 42 cents per hour and 8 hours on Saturday on June 1, 1918.

7 More than half of the members received more than the scale; amount not reported.

8 Double time after midnight and on Saturday after 5 p. m.

9 Double time after 4 hours.

10 Time and one-half on Thanksgiving and Memorial days.

11 And \$1 for each additional press up to \$21.50 per week.

12 Time and one-half after 1 hour.

13 Hours vary, but total 48 per week.

14 44 hours per week, May to August, inclusive.

15 For 3 holidays time and one-half.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

# PRINTING AND PUBLISHING: BOOK AND JOB—Continued.

PRESSMEN: Platen—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- ay.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- ays.			Per hour.	Per week, full time.		
SOUTH CENTRAL—concluded.										
Louisville, Ky.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Operating 1 press.....	30.2	14.50	<sup>1</sup> / <sub>1 1/2</sub>	2	8 1/2-41-48	12	27.1	13.00	8 1/2-41-48	
Operating 2 presses.....	33.3	16.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8 1/2-41-48	12	30.2	14.50	8 1/2-41-48	
Operating 3 presses.....	35.4	17.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8 1/2-41-48	12	32.3	15.50	8 1/2-41-48	
Operating 4 presses.....	37.5	18.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8 1/2-41-48	12	34.4	16.50	8 1/2-41-48	
Operating 5 presses.....	39.6	19.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8 1/2-41-48	12	36.5	17.50	8 1/2-41-48	
Memphis, Tenn.:										
Operating 1 automatic press	34.4	16.50	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	31.3	15.00	8-8-48	
Operating 1 to 3 presses....	37.5	18.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	29.2	14.00	8-8-48	
Operating 4 presses.....	37.5	18.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	34.4	16.50	8-8-48	
Nashville, Tenn.:										
Operating 3 presses.....	33.3	16.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	33.3	16.00	8-8-48	
Operating 4 presses.....	35.4	17.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	35.4	17.00	8-8-48	
Operating 5 presses.....	39.6	19.00	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	39.6	19.00	8-8-48	
New Orleans, La.:	37.5	18.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	34.4	16.50	8-8-48	
WESTERN.										
Butte, Mont.:	50.0	24.00	<sup>5</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	50.0	24.00	8-8-48	
Denver, Colo.:										
Operating 1 or 2 presses....	41.7	20.00	<sup>7</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	41.7	20.00	8-8-48	
Operating 3 presses.....	45.8	22.00	<sup>7</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	45.8	22.00	8-8-48	
Operating 4 or 5 presses....	47.9	23.00	<sup>7</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	47.9	23.00	8-8-48	
Operating 6 presses.....	52.1	25.00	<sup>7</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	52.1	25.00	8-8-48	
Operating 7 presses.....	54.2	26.00	<sup>7</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	54.2	26.00	8-8-48	
Los Angeles, Cal.:										
Operating 3 presses.....	44.8	21.50	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	40.6	19.50	8-8-48	
Operating 4 presses.....	46.9	22.50	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	42.9	20.50	8-8-48	
Operating more than 4 platen presses.....	49.0	23.50	<sup>1</sup> / <sub>1 1/2</sub>	2	8-8-48	.....	44.8	21.50	8-8-48	
Portland, Oreg.:										
In charge of 1 or 2 presses..	50.0	24.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	43.8	21.00	8-8-48	
In charge of 3 or more presses.....	53.1	25.50	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	46.9	22.50	8-8-48	
Journeymen.....	46.9	22.50	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	37.5	18.00	8-8-48	
Salt Lake City, Utah:										
Operating 1 press.....	35.4	17.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	35.4	17.00	8-8-48	
Operating 2 presses.....	37.5	18.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	37.5	18.00	8-8-48	
Operating 3 presses.....	40.6	19.50	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	40.6	19.50	8-8-48	
Operating 4 or 5 presses....	43.8	21.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	43.8	21.00	8-8-48	
Operating 6 presses.....	46.9	22.50	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	46.9	22.50	8-8-48	
Operating 7 presses.....	50.0	24.00	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	50.0	24.00	8-8-48	
Operating 8 presses.....	53.1	25.50	<sup>1</sup> / <sub>1 1/2</sub>	<sup>1</sup> / <sub>1 1/2</sub>	8-8-48	.....	53.1	25.50	8-8-48	

<sup>1</sup> Double time after midnight.

<sup>2</sup> Hours vary, but total 48 per week.

<sup>3</sup> More than half of the members received more than the scale; amount not reported.

<sup>4</sup> Scale became 62.5 cents on July 6, 1918.

<sup>5</sup> Double time after 4 hours and on Saturday after 5 p. m.

<sup>6</sup> 12 per cent of the members received \$2, 6 per cent \$3, 6 per cent \$4, and 6 per cent \$5 per week more than the scale.

<sup>7</sup> Double time after 10 p. m. and on Saturday after 6 p. m.

<sup>8</sup> 20 per cent of the members received \$1, 20 per cent \$2, and 40 per cent \$3 per week more than the scale.

<sup>9</sup> 57 per cent of the members received \$2, 21 per cent \$5, and 7 per cent \$9 per week more than the scale.

<sup>10</sup> 33 per cent of the members received \$3 and 33 per cent \$7 per week more than the scale.

<sup>11</sup> 50 per cent of the members received \$2 and 25 per cent \$10 per week more than the scale.

<sup>12</sup> More than half of the members received more than the scale; amount not reported. Scale became 56.3 cents on Sept. 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

### PRINTING AND PUBLISHING: BOOK AND JOB—Concluded.

#### PRESSMEN: Platen—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- days.			Per hour.	Per week, full time.		
WESTERN—concluded.			Regular rate multiplied by—				Cents.	Dolls.		
San Francisco, Cal.:	Cents.	Dolls.								
In charge.....	56.3	27.00	1 1/2	2 1/2	8 - 8 - 48	.....	52.1	25.00	8 - 8 - 48	
Operating ticket press.....	50.0	24.00	1 1/2	2 1/2	8 - 8 - 48	.....	(3)	(3)	(3)	
Operating 1 or 2 presses.....	50.0	24.00	1 1/2	2 1/2	8 - 8 - 48	.....	43.8	21.00	8 - 8 - 48	
Operating 3 presses.....	54.2	26.00	1 1/2	2 1/2	8 - 8 - 48	.....	50.0	24.00	8 - 8 - 48	
Seattle, Wash.:										
Operating 1 or 2 presses.....	47.9	23.00	1 1/2	1 1/2	8 - 8 - 48	.....	41.7	20.00	8 - 8 - 48	
Operating 3 presses.....	51.0	24.50	1 1/2	1 1/2	8 - 8 - 48	.....	44.8	21.50	8 - 8 - 48	
In charge of 2 presses.....	51.0	24.50	1 1/2	1 1/2	8 - 8 - 48	.....	44.8	21.50	8 - 8 - 48	
In charge of 3 presses.....	57.3	27.50	1 1/2	1 1/2	8 - 8 - 48	.....	51.0	24.50	8 - 8 - 48	
Spokane, Wash.:										
Operating 2 presses.....	46.9	22.50	1 1/2	2	8 - 8 - 48	.....	40.6	19.50	8 - 8 - 48	
Operating 3 presses.....	50.0	24.00	1 1/2	2	8 - 8 - 48	.....	43.8	21.00	8 - 8 - 48	
Operating 4 or more presses or 2 automatic presses...	55.2	26.50	1 1/2	2	8 - 8 - 48	.....	50.0	24.00	8 - 8 - 48	

### CHAUFFEURS, TEAMSTERS, AND DRIVERS.

#### CHAUFFEURS.<sup>7</sup>

NORTH CENTRAL.									
Chicago, Ill.:									
Baggage.....	<sup>8</sup> 30.0	23.08	1	1	<sup>9</sup> 11 - 11 - 77	.....	30.0	23.08	<sup>9</sup> 11 - 11 - 77
Building material, general, 2 tons or less.....	32.5	21.48	1 1/2	1 1/2	11 - 11 - 66	.....	30.3	19.98	11 - 11 - 66
Building material, stone, lime, and cement, 4 tons or over.....	<sup>10</sup> 40.9	27.00	1 1/2	1 1/2	11 - 11 - 66	.....	36.4	24.00	11 - 11 - 66
Building material, roofing.....	<sup>11</sup> 34.8	23.00	<sup>12</sup> 50c.	2	11 - 11 - 66	.....	31.8	21.00	11 - 11 - 66
Coal, 1 1/2 tons.....	<sup>13</sup> 35.0	21.00	<sup>12</sup> 55c.	1 1/2	10 - 10 - 60	.....	35.0	21.00	10 - 10 - 60
Coal, 2 tons.....	<sup>14</sup> 37.5	22.50	<sup>12</sup> 55c.	1 1/2	10 - 10 - 60	.....	37.5	22.50	10 - 10 - 60
Coal, over 2 tons.....	<sup>15</sup> 40.0	24.00	<sup>12</sup> 55c.	1 1/2	10 - 10 - 60	.....	40.0	24.00	10 - 10 - 60
Commission houses, 2 tons or less.....	<sup>16</sup> 40.9	27.00	<sup>12</sup> 60c.	<sup>17</sup> 1 1/2	11 - 11 - 66	.....	37.1	24.50	11 - 11 - 66
Commission houses, 3 tons.....	<sup>18</sup> 42.4	28.00	<sup>12</sup> 60c.	<sup>17</sup> 1 1/2	11 - 11 - 66	.....	38.6	25.50	11 - 11 - 66

<sup>1</sup> Double time after midnight.

<sup>2</sup> Double time on Labor Day.

<sup>3</sup> No scale in effect on May 15, 1917.

<sup>4</sup> Scale became 60.4 cents on Sept. 1, 1918.

<sup>5</sup> Scale became 62.5 cents on Sept. 1, 1918.

<sup>6</sup> Scale became 68.8 cents on Sept. 1, 1918.

<sup>7</sup> Owing to the great number of classifications of this occupation, and to conserve space the data for classifications embracing a comparatively small membership of the union have been omitted from the lists of the larger cities.

<sup>8</sup> Scale became 31.5 cents on July 15, 1918.

<sup>9</sup> One day off every 2 weeks with pay.

<sup>10</sup> Scale became 45.5 cents on July 1, 1918.

<sup>11</sup> Scale became 39.4 cents on June 1, 1918.

<sup>12</sup> Rate in cents per hour.

<sup>13</sup> Scale became 40 cents on July 1, 1918.

<sup>14</sup> Scale became 42.5 cents on July 1, 1918.

<sup>15</sup> Scale became 45 cents on July 1, 1918.

<sup>16</sup> Scale became 47 cents on June 17, 1918.

<sup>17</sup> For Sundays; for holidays, full day's pay for 4 hours' work.

<sup>18</sup> Scale became 48.5 cents on June 17, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## CHAUFFEURS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.					
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half hol- iday.	Rate of wages—		Hours— Full days; Saturdays; full week.			
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.				
NORTH CENTRAL—continued.												
Chicago, Ill.—Continued.	Cents.	Dolls.	Regular rate multiplied by—					Cents.	Dolls.			
Commission houses, 4 tons.	143.9	29.00	2 60c.	3 1 1/2	11	11	66	40.2	26.50	11	11	66
Commission houses, 5 tons.	145.4	30.00	2 60c.	3 1 1/2	11	11	66	41.7	27.50	11	11	66
Department store, furniture	538.3	23.00	1	6 1 1/2	10	10	60	38.3	23.60	10	10	60
Funeral	30.4	19.00	2 35c.	1	10 1/2	10	62 1/2	24.7	18.00	10 1/2	10	73
Furniture	43.3	26.00	1	1 1/2	10	10	60	36.5	23.00	10 1/2	10 1/2	63
General, 1 or 2 tons.	735.0	21.00	(8)	1 1/2	10	10	60	32.5	19.50	10	10	60
General, 1 ton and under 2.	39.3	23.58	1 1/2	1 1/2	9	10	60	29.7	20.50	11 1/2	11 1/2	69
General, 2 tons, gasoline.	1037.5	22.50	(8)	1 1/2	10	10	60	32.5	19.50	10	10	60
General, 3 tons, Union B.	1037.5	22.50	(8)	1 1/2	10	10	60	35.0	21.00	10	10	60
General, 3 tons, gasoline.												
Union B.	1140.0	24.00	(8)	1 1/2	10	10	60	35.0	21.00	10	10	60
General, 3 tons and over.	1235.0	21.00	(8)	1 1/2	10	10	60	30.0	18.00	10	10	60
General, 4 tons.	1140.0	24.00	(8)	1 1/2	10	10	60	37.5	22.50	10	10	60
General, 4 tons, gasoline.	1142.5	25.50	(8)	1 1/2	10	10	60	37.5	22.50	10	10	60
General, 5 tons, Union B.	1343.3	26.00	(8)	1 1/2	10	10	60	40.8	24.50	10	10	60
General, 5 tons, gasoline.												
Union B.	1445.8	27.50	(8)	1 1/2	10	10	60	40.8	24.50	10	10	60
General, 6 tons.	1448.3	29.00	(8)	1 1/2	10	10	60	43.3	26.00	10	10	60
General, 7 tons.	1447.5	28.50	(8)	1 1/2	10	10	60	45.0	27.00	10	10	60
General, 7 tons, gasoline.	1650.0	30.00	(8)	1 1/2	10	10	60	45.0	27.00	10	10	60
Ice	46.7	1728.00	2 35c.	1875c.	10	10	60	36.7	22.00	10	10	60
Laundry, white goods	33.3	1918.00	1 1/2	2	9	9	54	33.3	2018.00	9	9	54
Livery	26.0	19.00	2 35c.	1	10 1/2	10	73	24.7	18.00	10 1/2	10	73
Lumber, box and shavings, 1 1/2 to 2 1/2 tons.	2233.3	22.00	2 40c.	1 1/2	11	11	66	28.8	19.00	11	11	66
Milk, peddlers	2238.9	21.00	1 1/2	1	24 8	6	54	37.0	20.00	24 8	6	54
Newspaper, day	2238.3	20.70	1 1/2	1	9	9	54	33.3	18.00	9	9	54
Newspaper, night	2239.0	21.85	1 1/2	1	8	8	56	33.9	19.00	8	8	56
Packing, 1 ton.	36.0	22.70	1 1/2	1 1/2	11	8	63	31.6	19.28	10 1/2	7 1/2	61
Piano	45.6	26.00	2 60c.	2	9 1/2	9 1/2	57	45.6	26.00	9 1/2	9 1/2	57
Helpers, coal	2730.0	18.00	2 40c.	1 1/2	10	10	60	30.0	18.00	10	10	60
Helpers, department store	2283.3	17.00	1	6 1 1/2	10	10	60	28.3	17.00	10	10	60
Helpers, piano	44.4	24.00	2 60c.	2	9	9	54	44.4	24.00	9	9	54

<sup>1</sup> Scale became 50 cents on June 17, 1918.

<sup>2</sup> Rate in cents per hour.

<sup>3</sup> For Sundays; for holidays, full day's pay for 4 hours' work.

<sup>4</sup> Scale became 51.5 cents on June 17, 1918.

<sup>5</sup> Scale became 41.7 cents on July 1, 1918.

<sup>6</sup> For Sundays; holidays off with pay.

<sup>7</sup> Scale became 40 cents on June 3, 1918.

<sup>8</sup> 45 cents for first hour, 55 cents per hour thereafter.

<sup>9</sup> 55 hours and same pay per week during July and August.

<sup>10</sup> Scale became 42.5 cents on June 3, 1918.

<sup>11</sup> Scale became 45 cents on June 3, 1918.

<sup>12</sup> Scale became 43.3 cents on June 3, 1918.

<sup>13</sup> Scale became 48.3 cents on June 3, 1918.

<sup>14</sup> Scale became 49.2 cents on June 3, 1918.

<sup>15</sup> Scale became 52.5 cents on June 3, 1918.

<sup>16</sup> Scale became 53.3 cents on June 3, 1918.

<sup>17</sup> \$27 and same hours per week, November to May, inclusive.

<sup>18</sup> Rate in cents per hour for Sundays; double time for holidays.

<sup>19</sup> And 100 per cent on all new business for office towel supply drivers.

<sup>20</sup> And 7 1/2 per cent commission on all business handled.

<sup>21</sup> One day off every 2 weeks with pay.

<sup>22</sup> Scale became 36.4 cents on July 1, 1918.

<sup>23</sup> Scale became 46.3 cents on July 1, 1918.

<sup>24</sup> Two weeks off each year with pay.

<sup>25</sup> Scale became 46.3 cents on July 26, 1918.

<sup>26</sup> Scale became 46.4 cents on July 26, 1918.

<sup>27</sup> Scale became 35 cents on July 1, 1918.

<sup>28</sup> Scale became 31.7 cents on July 1, 1918.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## CHAUFFEURS—Continued.

Geographical division and city.	May 15, 1918.					May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.	
NORTH CENTRAL—concluded.			Regular rate multiplied by—						
Cincinnati, Ohio:	Cents.	Dolls.					Cents. ( <sup>5</sup> )	Dolls. ( <sup>6</sup> )	( <sup>8</sup> )
Commission houses, 2 tons.	131.7	19.00	<sup>2</sup> 1½	<sup>3</sup> 2	<sup>4</sup> 10 -10 -60				
General, 1 ton and under, Union B.	28.3	17.00	1½	?	10 -10 -60		27.5	16.50	10 -10 -60
General, 1 ton, gasoline, Union B.	30.8	18.50	<sup>6</sup> 1	2	10 -10 -60		28.7	16.00	10 -10 -60
General, 1½ tons.	30.0	18.00	1½	2	10 -10 -60		29.2	17.50	10 -10 -60
General, 2 tons.	31.7	19.00	1½	2	10 -10 -60		30.8	18.50	10 -10 -60
General, 2 tons, gasoline.	34.2	20.50	<sup>6</sup> 1	2	10 -10 -60		30.0	18.00	10 -10 -60
General, 3 tons.	33.3	20.00	1½	2	10 -10 -60		32.5	19.50	10 -10 -60
General, 3 tons, gasoline.	35.8	21.50	<sup>6</sup> 1	2	10 -10 -60		31.7	19.00	10 -10 -60
General, 4 tons and over.	36.7	22.00	1½	2	10 -10 -60		35.8	21.50	10 -10 -60
General, 4 and 5 tons.	39.2	23.50	<sup>6</sup> 1	2	10 -10 -60		35.0	21.00	10 -10 -60
Livery.	27.9	19.50	<sup>7</sup> 40c.	1	<sup>8</sup> 10 -10 -70		25.0	17.50	<sup>8</sup> 10 -10 -70
Helpers, general, under 3 tons.	27.5	16.50	<sup>6</sup> 1	2	10 -10 -60		23.3	14.00	10 -10 -60
Helpers, general, 3 tons.	30.8	18.50	<sup>6</sup> 1	2	10 -10 -60		26.7	16.00	10 -10 -60
Cleveland, Ohio:									
Excavating.	42.0	25.20	1½	2	10 -10 -60		42.0	25.20	10 -10 -60
General, trucks.	45.0	27.00	<sup>9</sup> 1½	<sup>10</sup> 2	10 -10 -60		34.2	20.50	10 -10 -60
General, van.	51.9	28.00	<sup>11</sup> 1½	2	9 - 9 -54		36.7	22.00	10 -10 -60
Ice.	41.7	25.00	<sup>7</sup> 45c.	1½	<sup>12</sup> 10 -10 -60		31.8	21.00	10 - 6 -66
Livery.	23.4	18.00	<sup>7</sup> 50c.	<sup>7</sup> 50c.	11 -11 -77		23.4	18.00	11 -11 -77
Helpers.	31.7	19.00	<sup>9</sup> 1½	<sup>10</sup> 2	10 -10 -60		25.8	15.50	10 -10 -60
Des Moines, Iowa:									
Transfer trucks.	33.3	20.00	1½	2	10 -10 -60		30.0	18.00	10 -10 -60
Detroit, Mich:									
General.	50.0	30.00	1½	2	10 -10 -60		38.3	23.00	10 -10 -60
Ice.	38.3	23.00	1	1	10 -10 -60		35.8	21.50	10 -10 -60
Kansas City, Mo.:									
General, 2 tons.	37.0	20.00	1½	2	9 - 9 -54		30.0	18.00	10 -10 -60
General, 3 tons.	38.9	21.00	1½	2	9 - 9 -54		32.5	19.50	10 -10 -60
St. Louis, Mo.:									
Department stores, electric.	35.2	19.00	1	1½	9 - 9 -54		26.7	16.00	10 -10 -60
Department stores, 2 tons and over.	37.0	20.00	1	1½	9 - 9 -54		28.3	17.00	10 -10 -60
Furniture.	34.2	20.50	<sup>13</sup> 1	1½	10 -10 -60		34.2	20.50	10 -10 -60
General, 2 tons or under.	28.6	18.00	<sup>7</sup> 45c.	1½	10½-10½-63		26.2	16.50	10½-10½-63
General, over 2 tons.	31.7	20.00	<sup>7</sup> 51c.	1½	10½-10½-63		29.4	18.50	10½-10½-63
Ice.	135.0	21.00	1	<sup>15</sup> 35c.	10 -10 -60		31.7	19.00	10 -10 -60
Milk.	162.1	15.50	<sup>7</sup> 25c.	1	10 -10 -70		21.4	15.00	10 -10 -70
Public service.	27.9	20.00	<sup>7</sup> 40c.	1	<sup>17</sup> 10½-10½-71½		22.2	17.50	<sup>17</sup> 11½-11½-78½
Helpers, furniture.	28.3	17.00	<sup>13</sup> 1½	1	10 -10 -60		28.3	17.00	10 -10 -60
St. Paul, Minn.:									
Coal and sand.	40.0	24.00	<sup>7</sup> 35c.	2	10 -10 -60		38.5	23.10	10 -10 -60

<sup>1</sup> Scale became 33.3 cents on October 1, 1918.

<sup>2</sup> And on Saturday after 2 p. m., June to August, inclusive.

<sup>3</sup> For Sundays; for holidays full day's pay for any part of day worked.

<sup>4</sup> 57 hours and same pay per week, June to August, inclusive.

<sup>5</sup> No scale in effect on May 15, 1917.

<sup>6</sup> Time and one-half after 7 p. m.

<sup>7</sup> Rate in cents per hour.

<sup>8</sup> Every other Sunday off with pay.

<sup>9</sup> Double time after 8 p. m.

<sup>10</sup> For holidays: do not work on Sundays.

<sup>11</sup> Time and one-half after 8 p. m.

<sup>12</sup> 54 hours and same pay per week, November to April, inclusive.

<sup>13</sup> Time and one-half after first hour.

<sup>14</sup> Scale became 37.5 cents on July 16, 1918.

<sup>15</sup> Rate in cents per hour for Sunday; time and one-half for holidays.

<sup>16</sup> Scale became 22.9 cents on Sept. 1, 1918.

<sup>17</sup> Two days off each month with pay.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## CHAUFFEURS—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- ay.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- ays.			Per hour.	Per week, full time.		
SOUTH CENTRAL.										
	Cents.	Dolls.	Regular rate multiplied by—				Cents.	Dolls.		
Houston, Tex.	21.4	18.00	1	33 $\frac{1}{3}$ c	1	12-12-84	(2)	(2)	(2)	
New Orleans, La.	18.6	13.00	1	75c.	1	10-10-70	18.6	13.00	10-10-70	
WESTERN.										
Butte, Mont.:										
Trucks, 1,500 lbs.	456.3	27.00	1	1	1	8-8-48	50.0	24.00	8-8-48	
Trucks, 1,500 lbs. to 3 tons.	559.4	28.50	1	1	1	8-8-48	53.1	25.50	8-8-48	
Trucks, 3 tons and over.	662.5	30.00	1	1	1	8-8-48	56.3	27.00	8-8-48	
Taxicabs	50.0	31.50	1	50c.	1	9-9-63	33.3	28.00	12-12-84	
Helpers, trucks.	456.3	27.00	1	1	1	8-8-48	50.0	24.00	8-8-48	
Portland, Oreg.:										
Delivery.	743.3	20.77	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1	8-8-48	(2)	(2)	(2)	
Department stores.	848.1	23.08	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1	8-8-48	(2)	(2)	(2)	
Trucks over 2 $\frac{1}{2}$ tons and furniture vans.	42.5	25.50	1 $\frac{1}{2}$	(9)	10	10-10-60	35.0	21.00	10-10-60	
Helpers, department stores	1136.1	17.31	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1	8-8-48	(2)	(2)	(2)	
San Francisco, Cal.:										
Chauffeurs.	35.0	21.00	1	50c.	1	10-10-60	30.4	21.00	11 $\frac{1}{2}$ -11 $\frac{1}{2}$ -69	
Department stores.	35.0	21.00	(12)	2	2	10-10-60	35.0	21.00	10-10-60	
Grocery.	35.0	21.00	1	50c.	2	10-10-60	35.0	21.00	10-10-60	
Parcel delivery.	35.0	21.00	(12)	2	2	10-10-60	35.0	21.00	10-10-60	
General, less than 2,500 lbs.	36.8	21.00	1	60c.	1 $\frac{1}{2}$	9 $\frac{1}{2}$ -9 $\frac{1}{2}$ -57	30.0	18.00	10-10-60	
General, 2,500 to 4,500 lbs.	42.1	24.00	1	75c.	1 $\frac{1}{2}$	9 $\frac{1}{2}$ -9 $\frac{1}{2}$ -57	35.0	21.00	10-10-60	
General, 4,500 to 6,500 lbs.	47.4	27.00	1	75c.	1 $\frac{1}{2}$	9 $\frac{1}{2}$ -9 $\frac{1}{2}$ -57	40.0	24.00	10-10-60	
General, over 6,500 lbs.	52.6	30.00	1	85c.	1 $\frac{1}{2}$	9 $\frac{1}{2}$ -9 $\frac{1}{2}$ -57	45.0	27.00	10-10-60	
General, trucks.	55.6	30.00	1	75c.	1 $\frac{1}{2}$	9-9-54	45.0	27.00	10-10-60	
Seattle, Wash.:										
Trucks.	1342.5	25.50	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1	10-10-60	37.5	22.50	10-10-60	

TEAMSTERS AND DRIVERS.<sup>14</sup>

NORTH CENTRAL.									
Chicago, Ill.:									
Baggage delivery, hotel and transfer wagons.	1526.4	20.31	1	30c.	1	16 11-11-77	23.2	17.88	16 11-11-77
Baggage delivery, office or city.	1526.4	20.31	1	30c.	1	16 11-11-77	24.7	19.04	16 11-11-77

<sup>1</sup> Rate in cents per hour.

<sup>2</sup> No scale in effect on May 15, 1917.

<sup>3</sup> Scale became 20 cents on July 1, 1918.

<sup>4</sup> Scale became 62.5 cents, on June 1, 1918.

<sup>5</sup> Scale became 65.6 cents, on June 1, 1918.

<sup>6</sup> Scale became 68.8 cents, on June 1, 1918.

<sup>7</sup> Scale became 56.3 cents on June 15, 1918.

<sup>8</sup> Scale became 58.3 cents on June 15, 1918.

<sup>9</sup> One day's pay for 5 hours or less work; after 5 hours, time and one-half.

<sup>10</sup> Scale became 8 hours per day, 48 per week, on July 27, 1918.

<sup>11</sup> Scale became 46.9 cents on June 15, 1918.

<sup>12</sup> \$1.50 per extra trip not exceeding 3 hours; for more than 3 hours, 1 day's pay.

<sup>13</sup> Scale became 62.5 cents per hour for vehicles 2 $\frac{1}{2}$  to 4 tons; 65.6 cents for vehicles over 4 tons; and 48 hours per week on July 1, 1918.

<sup>14</sup> Owing to the great number of classifications of these occupations and to conserve space the data for classifications embracing a comparatively small membership of the union have been omitted from the lists of the larger cities.

<sup>15</sup> Scale became 27.9 cents on July 1, 1918.

<sup>16</sup> Every other Sunday off with pay.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.					May 15, 1917.				
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holid- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.										
Chicago, Ill.—Continued.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
Baggage, extra.....	131.0	23.87	1	1	11 -11 -77	.....	25.0	19.25	11 -11 -77	
Baggage and parcel.....	32.5	19.50	<sup>3</sup> 30c.	<sup>3</sup> 30c.	10 -10 -60	.....	27.3	18.00	11 -11 -66	
Bakery, delivery.....	25.0	15.00	1	( <sup>5</sup> )	10 -10 -60	.....	25.0	15.00	10 -10 -60	
Bakery, sales.....	38.3	<sup>6</sup> 23.00	1	( <sup>7</sup> )	<sup>8</sup> 10 -10 -60	.....	38.3	23.00	10 -10 -60	
Bone and tallow wagons...	58.3	35.00	1	( <sup>9</sup> )	<sup>10</sup> 10 -10 -60	.....	48.1	28.85	10 -10 -60	
Building material, pressed brick, 2 horses.....	33.0	19.80	<sup>3</sup> 45c.	1½	10 -10 -60	.....	33.0	19.80	10 -10 -60	
Building material, pressed brick, from yard.....	32.5	19.50	<sup>3</sup> 35c.	1½	10 -10 -60	.....	30.0	18.00	10 -10 -60	
Building material, pressed brick, from cars.....	( <sup>11</sup> )		<sup>3</sup> 35c.	1½	10 -10 -60	.....	( <sup>11</sup> )		10 -10 -60	
Building material, 1 horse..	26.8	17.70	1½	1½	11 -11 -66	.....	24.6	16.20	11 -11 -66	
Building material, 2 horses..	29.5	19.50	1½	1½	11 -11 -66	.....	27.3	18.00	11 -11 -66	
Building material, stone, lime, and cement, 2 horses.....	1231.8	21.00	1½	1½	11 -11 -66	.....	27.3	18.00	11 -11 -66	
Building material, roofing..	131.8	21.00	<sup>3</sup> 50c.	2	11 -11 -66	.....	28.8	19.00	11 -11 -66	
Bus.....	35.0	21.00	1	( <sup>14</sup> )	10 -10 -60	.....	30.0	18.00	10 -10 -60	
Coach.....	123.1	17.77	<sup>3</sup> 30c.	1	<sup>16</sup> 11 -11 -77	.....	21.0	16.15	11 -11 -77	
Coal, 1 horse.....	127.3	18.00	<sup>3</sup> 40c.	1½	11 -11 -66	.....	27.3	18.00	11 -11 -66	
Coal, 2 horses.....	121.8	21.00	<sup>3</sup> 50c.	1½	11 -11 -66	.....	31.8	21.00	11 -11 -66	
Coal, 3 horses.....	186.4	24.00	<sup>3</sup> 55c.	1½	11 -11 -66	.....	36.4	24.00	11 -11 -66	
Commission house, 1 horse..	121.8	21.00	<sup>3</sup> 40c.	<sup>20</sup> 1½	11 -11 -66	.....	28.0	18.50	11 -11 -66	
Commission house, 2 horses..	134.8	23.00	<sup>3</sup> 40c.	<sup>20</sup> 1½	11 -11 -66	.....	31.1	20.50	11 -11 -66	
Excavating, 2 horses.....	236.1	19.50	<sup>3</sup> 40c.	2	9 -9 -54	.....	33.3	18.00	9 -9 -54	
Excavating, 3 horses.....	247.2	25.50	<sup>3</sup> 40c.	2	9 -9 -54	.....	44.4	24.00	9 -9 -54	
Furniture, 1 horse, Union A	229.2	17.50	1	<sup>25</sup> 1½	10 -10 -60	.....	29.2	17.50	10 -10 -60	
Furniture, 2 horses, Union A.....	263.3	20.00	1	<sup>25</sup> 1½	10 -10 -60	.....	33.3	20.00	10 -10 -60	
Furniture, Union B.....	41.7	25.00	1	1½	10 -10 -60	.....	34.9	22.00	10½-10½-63	
General, yard.....	35.0	21.00	1	<sup>27</sup> 1½	10 -10 -60	.....	31.7	19.00	10 -10 -60	

<sup>1</sup> Scale became 35 cents on July 1, 1918.

<sup>2</sup> Scale became 35.7 cents on July 1, 1918.

<sup>3</sup> Rate in cents per hour.

<sup>4</sup> Scale became 30 cents on June 1, 1918.

<sup>5</sup> \$3 per day.

<sup>6</sup> And 7 per cent commission on sales over \$225 per week.

<sup>7</sup> Work prohibited.

<sup>8</sup> One week off each year with pay.

<sup>9</sup> For Memorial Day, double time; for July 4, single time; work on other holidays and on Sundays prohibited.

<sup>10</sup> 2 weeks off each year with pay.

<sup>11</sup> 50 cents per 1,000 bricks.

<sup>12</sup> Scale became 36.4 cents on July 1, 1918.

<sup>13</sup> Scale became 36.4 cents on June 1, 1918.

<sup>14</sup> \$3 for 6 hours or less; \$5 for over 6 hours and up to 12 hours.

<sup>15</sup> Scale became 24.6 cents on July 1, 1918.

<sup>16</sup> Every other Sunday off with pay.

<sup>17</sup> Scale became 31.8 cents on July 1, 1918.

<sup>18</sup> Scale became 40.9 cents on July 1, 1918.

<sup>19</sup> Scale became 37.9 cents on June 17, 1918.

<sup>20</sup> For Sundays; for holidays, single time.

<sup>21</sup> Scale became 40.9 cents on June 17, 1918.

<sup>22</sup> Scale became 44.4 cents on July 8, 1918.

<sup>23</sup> Scale became 50 cents on July 8, 1918.

<sup>24</sup> Scale became 34.2 cents on July 1, 1918.

<sup>25</sup> For Sundays; holidays off with pay.

<sup>26</sup> Scale became 38.3 cents on July 1, 1918.

<sup>27</sup> For Sundays; for holidays, double time.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.										
Chicago, Ill.—Continued.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
General, 1 horse, trucks....	25.0	16.50	2 30c.	1½	11-11-66		22.7	15.00	11-11-66	
General, light.....	31.3	20.00	(4)	1½	10½-10½-64		25.8	17.00	11-11-66	
General, 1 horse, Union A.	29.7	18.00	(4)	1½	10½-10½-64		22.7	15.00	11-11-66	
General, 1 horse, Union B.	34.8	20.88	627.6c.	1½	10-10-60		24.4	16.85	11½-11½-69	
General, 1 horse, heavy wagon or 2 horses, light wagon.....	28.0	18.50	2 30c.	1½	11-11-66		25.8	17.00	11-11-66	
General, 2-horse trucks....	29.5	19.50	2 30c.	1½	11-11-66		27.3	18.00	11-11-66	
General, 2 horses, heavy wagon.....	32.8	21.00	(10)	1½	10½-10½-64		27.3	18.00	11-11-66	
General, 2 horses.....	33.3	23.00	627.6c.	1½	10-10-60		29.0	20.00	11½-11½-69	
General, 3-horse trucks....	32.6	21.50	(10)	1½	11-11-66		30.3	20.00	11-11-66	
General, 3 horses.....	35.9	23.00	(10)	1½	10½-10½-64		30.3	20.00	11-11-66	
General, 4-horse trucks....	34.1	22.50	(10)	1½	11-11-66		31.8	21.00	11-11-66	
Grease, 2 horses.....	33.3	23.00	1	14 1½	10-10-60		35.0	21.00	10-10-60	
Hay and grain, 2 horses....	31.8	21.00	1½	1½	11-11-66		28.8	19.00	11-11-66	
Ice, trucks.....	41.7	25.00	16 35c.	17 75c.	10-10-60		31.7	19.00	10-10-60	
Ice, peddlers.....	44.2	26.50	16 35c.	17 75c.	10-10-60		34.2	20.50	10-10-60	
Laundry, 1 horse, white goods.....	27.8	1815.00	1½	2	9-9-54		27.8	1815.00	9-9-54	
Laundry, 1 horse.....	33.3	1918.00	1½	2	9-9-54		33.3	18.00	9-9-54	
Laundry, 1 horse, hotel, flat work.....	38.9	2021.00	1½	2	9-9-54		38.9	21.00	9-9-54	
Laundry, dye houses.....	48.1	226.00	1½	14 2	9-9-54		37.0	20.00	9-9-54	
Laundry, towel supply.....	48.1	226.00	1½	14 2	9-9-54		46.3	25.00	9-9-54	
Lumber, box and shav- ings, 1 horse.....	227.3	18.00	23 1	1½	11-11-66		22.7	15.00	11-11-66	
Lumber, box and shav- ings, 2 horses.....	230.3	20.00	23 1	1½	11-11-66		25.8	17.00	11-11-66	
Machinery moving, 2 horses, Union A.....	31.8	21.00	1½	2	11-11-66		29.5	19.50	11-11-66	
Machinery moving, 2 horses, Union B.....	30.3	20.00	16 40c.	1½	11-11-66		30.3	20.00	11-11-66	

<sup>1</sup> Scale became 29.5 cents on June 3, 1918.

<sup>2</sup> Rate in cents per hour; 45 cents per hour after 8 p. m.

<sup>3</sup> Scale became 35.9 cents on June 3, 1918.

<sup>4</sup> 15 cents every half hour from 6.30 p. m. to 8 p. m. time and one-half thereafter.

<sup>5</sup> Scale became 32.8 cents on June 3, 1918.

<sup>6</sup> Rate in cents per half hour.

<sup>7</sup> Scale became 32.6 cents on June 3, 1918.

<sup>8</sup> Scale became 34.1 cents on June 3, 1918.

<sup>9</sup> Scale became 36.3 cents on June 3, 1918.

<sup>10</sup> 30 cents per hour from 6.30 to 8 p. m.; time and one-half thereafter.

<sup>11</sup> Scale became 35.6 cents on June 3, 1918.

<sup>12</sup> Scale became 39.4 cents on June 3, 1918.

<sup>13</sup> Scale became 38.6 cents on June 3, 1918.

<sup>14</sup> For Sundays; holidays off with pay.

<sup>15</sup> Scale became 37.9 cents on July 1, 1918.

<sup>16</sup> Rate in cents per hour.

<sup>17</sup> Rate in cents per hour for Sundays; for holidays, double time.

<sup>18</sup> And 7½ per cent commission on all business handled.

<sup>19</sup> And 5 per cent commission on all collections over \$150 per week.

<sup>20</sup> And 5 per cent commission on all starch work handled.

<sup>21</sup> And 3 per cent commission on collections up to \$200 per week; 4 per cent on collections over \$200

per week.

<sup>22</sup> Scale became 30.3 cents on July 1, 1918.

<sup>23</sup> 40 cents per hour after 8 p. m.

<sup>24</sup> Scale became 34.8 cents on July 1, 1918.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.					
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week.			
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.				
NORTH CENTRAL—continued.												
Chicago, Ill.—Continued.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>				
Milk, route men, retail.....	136.7	22.00	1½	1	3	9-6-60	35.0	21.00	3	9-6-60		
Milk, 2-horse trucks.....	442.6	23.00	1½	1	3	8-6-54	40.7	22.00	3	8-6-54		
Milk, wholesale.....	443.5	23.50	1½	1	3	8-6-54	41.7	22.50	3	8-6-54		
Newspaper.....	338.3	13.80	1½	1	6	6-6-36	33.3	12.00	6	6-6-36		
Newspaper.....	338.3	18.40	1½	1	8	8-8-48	33.3	16.00	8	8-8-48		
Packing houses, 1 horse.....	37.5	(7)		1½	(7)		30.5	18.58	10½	7½-61		
Packing houses, 2 horses.....	40.0	(7)		1½	(7)		33.7	20.58	10½	7½-61		
Piano, Union A.....	38.6	22.00	8 60c.	2	9½	9½-57	38.6	22.00	9½	9½-57		
Sand carts.....	36.1	19.50	8 40c.	2	9	9-9-54	33.3	18.00	9	9-9-54		
Sand wagons.....	38.0	20.50	8 40c.	2	9	9-9-54	35.2	19.00	9	9-9-54		
Street railway service, dump wagons.....	1025.5	16.80	1½	1½	11	11-11-66	25.5	16.80	11	11-11-66		
Tea and coffee.....	41.7	20.00	1	11	8	8-8-48	41.7	20.00	8	8-8-48		
Helpers, baggage.....	121.6	16.62	8 30c.	1	13	11-11-77	18.7	14.42	13	11-11-77		
Helpers, furniture, Union A.	126.7	16.00	1	15	10	10-10-60	26.7	16.00	10	10-10-60		
Helpers, furniture, Union A, extra.....	40.0	24.00	1	1½	10	10-10-60	35.0	22.05	10½	10½-63		
Helpers, furniture, Union B.	36.7	22.00	1	1½	10	10-10-60	30.2	19.00	10½	10½-63		
Helpers, grease, 2-horse.....	35.0	21.00	1	15	10	10-10-60	31.7	19.00	10	10-10-60		
Helpers, ice.....	40.0	24.00	8 35c.	16	10	10-10-60	30.0	18.00	10	10-10-60		
Helpers, piano.....	38.9	21.00	8 60c.	2	9	9-9-54	38.9	21.00	9	9-9-54		
Helpers, street railway service.....	1725.5	16.80	1½	1½	11	11-11-66	25.5	16.80	11	11-11-66		
Cincinnati, Ohio:												
Bakery and pie.....	126.7	16.00	1	(19)	10	10-10-60	26.7	16.00	10	10-10-60		
Bakery and pie, sales.....	25.0	20.15	1	(19)	10	10-10-60	25.0	15.00	10	10-10-60		
Carriage.....	25.7	18.00	1	1	13	10-10-70	22.9	16.00	13	10-10-70		
Furniture.....	333.3	20.00	1	(22)	10	10-10-60	28.3	17.00	10	10-10-60		
General, 1 horse, light wagon.....	25.8	15.50	23	1	2	10-10-60	21.7	13.00	10	10-10-60		
General, 1 horse, heavy wagon.....	27.5	16.50	23	1	2	10-10-60	23.3	14.00	10	10-10-60		
General, 2 horses, light wagon.....	28.3	17.00	23	1	2	10-10-60	27.5	16.50	10	10-10-60		
General, 2 horses, heavy wagon.....	30.8	18.50	23	1	2	10-10-60	26.7	16.00	10	10-10-60		

<sup>1</sup> Scale became 43.3 cents on June 1, 1918.

<sup>2</sup> And various commissions.

<sup>3</sup> Work 6 hours on Sunday; 2 weeks off each year, with pay.

<sup>4</sup> Scale became 51.9 cents on July 1, 1918.

<sup>5</sup> Scale became 50.9 cents on July 1, 1918.

<sup>6</sup> Scale became 46 cents on July 26, 1918.

<sup>7</sup> Variable.

<sup>8</sup> Rate in cents per hour.

<sup>9</sup> Scale became 44.4 cents on July 8, 1918.

<sup>10</sup> Scale became 34.5 cents on Aug. 1, 1918.

<sup>11</sup> For Sundays; work on holidays prohibited.

<sup>12</sup> Scale became 22.5 cents on July 1, 1918.

<sup>13</sup> Every other Sunday off with pay.

<sup>14</sup> Scale became 30 cents on July 1, 1918.

<sup>15</sup> For Sundays; holidays off with pay.

<sup>16</sup> Rate in cents per hour for Sundays; for holidays, double time.

<sup>17</sup> Scale became 34.5 cents on Aug. 1, 1918.

<sup>18</sup> Scale became 30 cents on June 1, 1918.

<sup>19</sup> Work prohibited.

<sup>20</sup> And 3 per cent commission on sales over \$100 per week. Scale became 28.3 cents on June 1, 1918.

<sup>21</sup> Scale became 35 cents on Oct. 1, 1918.

<sup>22</sup> Do not work on Sundays; time and one-half for holidays.

<sup>23</sup> Time and one-half after 7 p. m.



UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—cont'd.										
Cincinnati, Ohio—Cont'd.	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>		
General, 3 or 4 horses.....	31.7	19.00	<sup>1</sup> / <sub>1</sub>	2	10 -10 -60	.....	27.5	16.50	10 -10 -60	
Ice.....	35.0	21.00	<sup>2</sup> / <sub>45c.</sub>	<sup>3</sup> / <sub>50c.</sub>	<sup>4</sup> / <sub>10 -10 -60</sub>	.....	31.7	19.00	<sup>4</sup> / <sub>10 -10 -60</sub>	
Ice cream.....	23.8	15.00	<sup>1</sup> / <sub>2</sub>	1	9 -9 -63	.....	20.6	13.00	9 -9 -63	
Ice cream, route and truck.	31.7	<sup>5</sup> / <sub>20.00</sub>	<sup>1</sup> / <sub>2</sub>	1	9 -9 -63	.....	28.6	18.00	9 -9 -63	
Ice cream, truck.....	31.7	20.00	<sup>1</sup> / <sub>2</sub>	1	9 -9 -63	.....	28.6	18.00	9 -9 -63	
Milk, retail.....	31.7	<sup>5</sup> / <sub>20.00</sub>	<sup>1</sup> / <sub>2</sub>	1	<sup>6</sup> / <sub>9 -9 -63</sub>	.....	<sup>5</sup> / <sub>18.00</sub>	<sup>6</sup> / <sub>9 -9 -63</sub>		
Supply wagons.....	31.7	19.00	<sup>2</sup> / <sub>45c.</sub>	<sup>3</sup> / <sub>50c.</sub>	10 -10 -60	.....	25.8	17.00	11 -11 -66	
Helpers, furniture.....	<sup>7</sup> / <sub>30.0</sub>	18.00	1	( <sup>8</sup> / <sub>2</sub> )	10 -10 -60	.....	25.0	15.00	10 -10 -60	
Helpers, general.....	25.0	15.00	<sup>1</sup> / <sub>1</sub>	2	10 -10 -60	.....	24.2	14.50	10 -10 -60	
Helpers, general, wagon.....	27.5	16.50	<sup>1</sup> / <sub>1</sub>	2	10 -10 -60	.....	23.3	14.00	10 -10 -60	
Helpers, ice.....	30.0	18.00	<sup>2</sup> / <sub>45c.</sub>	<sup>3</sup> / <sub>50c.</sub>	<sup>4</sup> / <sub>10 -10 -60</sub>	.....	26.7	16.00	10 -10 -60	
Cleveland, Ohio:										
Excavating.....	30.6	16.50	<sup>9</sup> / <sub>1 1/2</sub>	2	9 -9 -54	.....	30.6	16.50	9 -9 -54	
Furniture, vans.....	46.3	25.00	<sup>10</sup> / <sub>1 1/2</sub>	2	9 -9 -54	.....	31.7	19.00	<sup>15</sup> / <sub>10 -10 -70</sub>	
General, 1 horse.....	28.3	17.00	<sup>11</sup> / <sub>1 1/2</sub>	( <sup>12</sup> / <sub>2</sub> )	10 -10 -60	.....	20.8	12.50	10 -10 -60	
General, 2 horses, light wagon.....	33.3	20.00	<sup>1</sup> / <sub>2</sub>	( <sup>12</sup> / <sub>2</sub> )	10 -10 -60	.....	24.2	14.50	10 -10 -60	
General, 2-horse trucks.....	36.7	22.00	<sup>1</sup> / <sub>2</sub>	( <sup>12</sup> / <sub>2</sub> )	10 -10 -60	.....	27.5	16.50	10 -10 -60	
Ice, 2-horse delivery.....	36.7	22.00	<sup>2</sup> / <sub>45c.</sub>	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	28.8	19.00	10 -6 -66	
Ice, route.....	41.7	25.00	<sup>2</sup> / <sub>45c.</sub>	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	31.8	21.00	10 -6 -66	
Ice, route foremen.....	48.3	29.00	<sup>2</sup> / <sub>50c.</sub>	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	37.9	25.00	10 -6 -66	
Milk, retail, first 6 months.	34.8	<sup>5</sup> / <sub>19.50</sub>	1	1	<sup>14</sup> / <sub>8 -8 -56</sub>	.....	26.4	18.46	<sup>15</sup> / <sub>10 -10 -70</sub>	
Milk, retail, second 6 months.....	36.6	<sup>5</sup> / <sub>20.50</sub>	1	1	<sup>14</sup> / <sub>8 -8 -56</sub>	.....	28.0	19.62	<sup>15</sup> / <sub>10 -10 -70</sub>	
Milk, retail, after first year.	40.2	<sup>5</sup> / <sub>22.50</sub>	1	1	<sup>14</sup> / <sub>8 -8 -56</sub>	.....	30.5	21.35	<sup>15</sup> / <sub>10 -10 -70</sub>	
Milk, wholesale.....	29.3	<sup>5</sup> / <sub>20.50</sub>	1	1	<sup>14</sup> / <sub>10 -10 -70</sub>	.....	26.4	18.46	<sup>15</sup> / <sub>10 -10 -70</sub>	
Water wagon.....	36.7	22.00	<sup>2</sup> / <sub>45c.</sub>	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	28.8	19.00	11 -11 -66	
Helpers, furniture.....	42.6	23.00	<sup>10</sup> / <sub>1 1/2</sub>	2	9 -9 -54	.....	26.7	16.00	10 -10 -60	
Helpers, ice.....	31.7	19.00	<sup>2</sup> / <sub>45c.</sub>	<sup>1</sup> / <sub>2</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	23.5	15.50	10 -6 -66	
Columbus, Ohio:										
Ice.....	33.3	20.00	<sup>16</sup> / <sub>1</sub>	<sup>17</sup> / <sub>1</sub>	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	( <sup>18</sup> / <sub>25.0</sub> )	( <sup>18</sup> / <sub>15.00</sub> )	( <sup>18</sup> / <sub>10 -10 -60</sub> )	
Ice route.....	36.0	21.60	<sup>16</sup> / <sub>1</sub>	( <sup>19</sup> / <sub>2</sub> )	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	29.2	17.50	10 -10 -60	
Helpers, ice route.....	30.0	18.00	<sup>16</sup> / <sub>1</sub>	( <sup>19</sup> / <sub>2</sub> )	<sup>13</sup> / <sub>10 -10 -60</sub>	.....	25.0	15.00	10 -10 -60	
Des Moines, Iowa:										
General, 2 horses.....	33.3	18.00	<sup>1</sup> / <sub>2</sub>	2	9 -9 -54	.....	30.6	16.50	9 -9 -54	
Transfer, 2 horses.....	33.3	20.00	<sup>1</sup> / <sub>2</sub>	2	10 -10 -60	.....	27.5	16.50	10 -10 -60	

<sup>1</sup> Time and one-half after 7 p. m.

<sup>2</sup> Rate in cents per hour.

<sup>3</sup> Rate in cents per hour for Sundays; for holidays, single time.

<sup>4</sup> 54 hours and same pay per week, November to March, inclusive.

<sup>5</sup> And various commissions.

<sup>6</sup> 2 weeks off each year with pay.

<sup>7</sup> Scale became 31.7 cents on Oct. 1, 1918.

<sup>8</sup> Do not work on Sundays; for holidays, time and one-half.

<sup>9</sup> Double time after 2 hours.

<sup>10</sup> Time and one-half after 8 p. m.

<sup>11</sup> Double time after 8 p. m.

<sup>12</sup> Work on Sundays prohibited; for holidays, double time.

<sup>13</sup> 54 hours and same pay per week, November to April, inclusive.

<sup>14</sup> 7 days off every 3 months with pay.

<sup>15</sup> 2 days off each month with pay.

<sup>16</sup> Time and one-half after 2 hours.

<sup>17</sup> For Sundays; for holidays, full day's pay for 7 hours' work, time and one-half thereafter.

<sup>18</sup> No scale in effect on May 15, 1917.

<sup>19</sup> Do not work on Sundays; for holidays, full day's pay for 7 hours' work; time and one-half thereafter.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
NORTH CENTRAL—continued.				Regular rate multiplied by—						
Detroit, Mich.:	Cents.	Dolls.					Cents.	Dolls.		
Bakery.....	62.5	30.00	1	1	8 - 8 - 48	.....	62.5	30.00	8 - 8 - 48	
General, 2 horses.....	45.0	27.00	1½	2	10 - 10 - 60	.....	35.0	21.00	10 - 10 - 60	
General, 3 horses.....	47.5	28.50	1½	2	10 - 10 - 60	.....	37.5	22.50	10 - 10 - 60	
Ice.....	40.0	24.00	(1)	1	10 - 10 - 60	.....	31.7	19.00	10 - 10 - 60	
Tea and coffee.....	47.9	23.00	1	1	8 - 8 - 48	.....	37.5	18.00	8 - 8 - 48	
Helpers.....	45.0	27.00	1½	2	10 - 10 - 60	.....	35.0	21.00	10 - 10 - 60	
Indianapolis, Ind.:										
Bakery, 1 or 2 horses, bread.....	25.0	15.00	1	(5)	10 - 10 - 60	.....	21.7	13.00	10 - 10 - 60	
Bakery, 1 horse, cake.....	30.9	17.00	1	(5)	10 - 5 - 55	12	25.0	15.00	10 - 10 - 60	
Bakery, 2-horse trucks.....	34.5	19.00	1	(5)	10 - 5 - 55	12	28.3	17.00	10 - 10 - 60	
General, 1 horse.....	21.7	13.00	1½	1½	10 - 10 - 60	.....	21.7	13.00	10 - 10 - 60	
General, 2 horses.....	25.0	15.00	1½	1½	10 - 10 - 60	.....	25.0	15.00	10 - 10 - 60	
Kansas City, Mo.:										
Bakery.....	30.0	18.00	1	1	10 - 10 - 60	.....	30.0	18.00	10 - 10 - 60	
Bakery, retail, bread.....	33.3	20.00	1	1	10 - 10 - 60	.....	33.3	20.00	10 - 10 - 60	
General, 1 horse.....	27.8	15.00	1½	2	9 - 9 - 54	.....	22.5	13.00	10 - 10 - 60	
General, 2 horses.....	33.3	18.00	1½	2	9 - 9 - 54	.....	27.5	16.50	10 - 10 - 60	
Minneapolis, Minn.:										
Baggage.....	30.0	18.00	8 40c.	1	10 - 10 - 60	.....	27.5	16.50	9 10 - 10 - 60	
Coal.....	35.0	21.00	8 40c.	1½	10 - 10 - 60	.....	28.3	17.00	10 - 10 - 60	
Ice, wholesale.....	33.9	20.31	1	1	10 - 10 - 60	.....	27.9	16.73	10 - 10 - 60	
Ice, peddlers.....	37.0	22.21		1½	3 10 - 10 - 60	.....	32.7	19.62	10 - 10 - 60	
General.....	30.0	18.00	8 40c.	1½	10 - 10 - 60	.....	26.7	16.00	10 - 10 - 60	
Milk, route, first 6 months.....	30.2	19.04		1	1 - 9 - 9 - 63	.....	27.5	17.31	12 9 - 9 - 63	
Milk, route, second 6 months.....	33.0	20.77		1	12 9 - 9 - 63	.....	27.5	17.31	12 9 - 9 - 63	
Milk, depot.....	32.7	21.23	1½	1	10 - 5 - 65	.....	29.1	18.92	10 - 5 - 65	
Moving.....	35.0	21.00	8 40c.	1½	10 - 10 - 60	.....	30.0	18.00	10 - 10 - 60	
Helpers, wholesale.....	33.9	20.31	1	1	10 - 10 - 60	.....	26.9	16.15	10 - 10 - 60	
Helpers, peddlers.....	33.9	20.31		1½	3 10 - 10 - 60	.....	26.9	16.15	10 - 10 - 60	
Omaha, Nebr.:										
Freight, light.....	26.7	16.00	1½	1½	10 - 10 - 60	.....	26.7	16.00	10 - 10 - 60	
Freight, heavy.....	30.0	18.00	1½	1½	10 - 10 - 60	.....	30.0	18.00	10 - 10 - 60	
General, 1 horse.....	23.3	14.00	1½	1½	10 - 10 - 60	.....	23.3	14.00	10 - 10 - 60	
General, 2 tons.....	30.0	18.00	1½	1½	10 - 10 - 60	.....	30.0	18.00	10 - 10 - 60	
General, over 2 tons.....	33.3	20.00	1½	1½	10 - 10 - 60	.....	33.3	20.00	10 - 10 - 60	
Helpers.....	27.5	16.50	1½	1½	10 - 10 - 60	.....	27.5	16.50	10 - 10 - 60	
Helpers, moving vans.....	30.0	18.00	1½	1½	10 - 10 - 60	.....	30.0	18.00	10 - 10 - 60	

<sup>1</sup> No extra pay.

<sup>2</sup> And 12 per cent commission on sales of \$150 or over per week.

<sup>3</sup> Average hours.

<sup>4</sup> And 4 per cent commission on sales over \$200 per week.

<sup>5</sup> Work prohibited.

<sup>6</sup> And various commissions.

<sup>7</sup> And 10 per cent commission on sales over \$200 per week.

<sup>8</sup> Rate in cents per hour.

<sup>9</sup> Work 70 hours every other week.

<sup>10</sup> Scale became 33.9 cents on Aug. 1, 1918.

<sup>11</sup> And 4 per cent commission on sales over \$2,062.50 per month.

<sup>12</sup> 14 days off each year with pay.

<sup>13</sup> Scale became 37.8 cents on Aug. 1, 1918.

<sup>14</sup> And 4 per cent commission on sales over \$2,250 per month.

<sup>15</sup> Scale became 36.2 cents on Aug. 1, 1918.

<sup>16</sup> More than half of the members received more than the scale; amount not reported.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Continued.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Continued.

## TEAMSTERS AND DRIVERS—Continued.

Geographical division and city.	May 15, 1918.						May 15, 1917.		
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holid- day.	Rate of wages—		Hours— Full days; Saturdays; full week.
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.	
NORTH CENTRAL—concluded.									
Peoria, Ill.:	<i>Cents.</i>	<i>Dolls.</i>	<i>Regular rate multiplied by—</i>				<i>Cents.</i>	<i>Dolls.</i>	
General.....	<sup>1</sup> 23.3	14.00	1½	1½	10 -10 -60		23.3	14.00	10 -10 -60
Ice.....	<sup>2</sup> 25.7	18.50	<sup>3</sup> 40c.	( <sup>4</sup> )	<sup>5</sup> 12 -12 -72		25.7	18.50	<sup>5</sup> 12 -12 -72
Helpers, ice.....	<sup>6</sup> 22.9	16.50	<sup>3</sup> 40c.	( <sup>4</sup> )	<sup>7</sup> 12 -12 -72		22.9	16.50	<sup>7</sup> 12 -12 -72
St. Louis, Mo.:									
Carriages.....	24.4	17.50	<sup>3</sup> 30c.	1	<sup>8</sup> 10½-10½-71½		19.0	15.00	<sup>8</sup> 11½-11½-78½
Coal, 1 horse.....	22.7	15.00	1	1½	11 -11 -66		18.9	12.50	11 -11 -66
Coal, 2 horses.....	28.0	18.50	1	1½	11 -11 -66		24.2	16.00	11 -11 -66
Coal, 3 horses.....	31.8	21.00	1	1½	11 -11 -66		28.0	18.50	11 -11 -66
Department store, 1 horse.....	<sup>13</sup> 33.3	18.00	1	1½	9 - 9 -54		23.3	14.00	10 -10 -60
Department store, 2 horses.....	33.3	18.00	1	1½	9 - 9 -54		25.0	15.00	10 -10 -60
Furniture, 2 horses.....	29.2	17.50	<sup>9</sup> 1	1½	10 -10 -60		29.2	17.50	10 -10 -60
Furniture, moving.....	28.3	17.00	<sup>10</sup> 1	1½	10 -10 -60		28.3	17.00	10 -10 -60
General, 1 horse.....	23.0	14.50	<sup>2</sup> 32c.	1½	10½-10½-63		20.6	13.00	10½-10½-63
General, 2 horses, less than 5,000 pounds.....	<sup>1</sup> 25.7	16.20	<sup>3</sup> 40c.	1½	10½-10½-63		23.3	14.70	10½-10½-63
General, 2 horses, over 5,000 pounds.....	<sup>1</sup> 28.6	18.00	<sup>3</sup> 45c.	1½	10½-10½-63		26.2	16.50	10½-10½-63
General, 3 horses.....	<sup>1</sup> 30.5	19.20	<sup>3</sup> 48c.	1½	10½-10½-63		28.1	17.70	10½-10½-63
Ice.....	<sup>13</sup> 31.8	21.00	1	<sup>12</sup> 30c.	11 -11 -66		28.8	19.00	11 -11 -66
Milk wagons, retail.....	17.9	<sup>13</sup> 17.50	1	1	<sup>14</sup> 14 -14 -98		12.2	<sup>15</sup> 12.00	<sup>14</sup> 14 -14 -98
Do.....	17.9	<sup>13</sup> 17.50	1	1	<sup>14</sup> 14 -14 -98		13.3	<sup>16</sup> 13.00	<sup>14</sup> 14 -14 -98
Tea and coffee, salesmen.....	33.3	<sup>17</sup> 18.00	1	1½	9 - 9 -54		33.3	<sup>17</sup> 18.00	9 - 9 -54
Helpers, general, 2 horses.....	26.7	16.00	<sup>9</sup> 1	1½	10 -10 -60		26.7	16.00	10 -10 -60
Helpers, ice.....	30.0	18.00	1	<sup>12</sup> 30c.	10 -10 -60		25.0	15.00	10 -10 -60
St. Paul, Minn.:									
General, 1 horse.....	30.0	18.00	<sup>3</sup> 35c.	2	10 -10 -60		26.0	15.60	10 -10 -60
General, 2 horses.....	35.0	21.00	1	2	10 -10 -60		31.0	18.60	10 -10 -60
Ice.....	37.0	<sup>18</sup> 22.22	1	<sup>19</sup> 1	10 -10 -60		33.7	<sup>19</sup> 20.19	10 -10 -60
Helpers, ice.....	33.9	<sup>18</sup> 20.31	1	<sup>19</sup> 1	10 -10 -60		30.8	<sup>13</sup> 18.46	10 -10 -60

<sup>1</sup> More than half of the members received more than the scale; amount not reported.

<sup>2</sup> More than half of the members received more than the scale; amount not reported. Scale became 30.6 cents on May 27, 1918.

<sup>3</sup> Rate in cents per hour.

<sup>4</sup> Sunday work prohibited, except deliveries to hospitals, steamboats, and ice-cream manufacturers, at 50 cents per hour; double time for holidays.

<sup>5</sup> 60 hours and \$16 per week, October to March, inclusive.

<sup>6</sup> More than half of the members received more than the scale; amount not reported. Scale became 26.4 cents on May 27, 1918.

<sup>7</sup> 60 hours and \$15 per week, October to March, inclusive.

<sup>8</sup> 2 days of each month with pay.

<sup>9</sup> Time and one-half after 1 hour.

<sup>10</sup> Time and one-half after 7 p. m.

<sup>11</sup> Scale became 34.1 cents on July 1, 1918.

<sup>12</sup> Rate in cents per hour for Sundays; for holidays, time and one-half.

<sup>13</sup> And 1 cent per point on sales over 6,000 points per month. Commission became 1 cent per point on sales over 5,600 points per month on Sept. 1, 1918.

<sup>14</sup> Hours vary, but total about 98 per week.

<sup>15</sup> For sales aggregating less than \$500 per month; also various commissions.

<sup>16</sup> For sales aggregating \$500 or more per month; also various commissions.

<sup>17</sup> And 10 per cent commission on collections over \$150 per week.

<sup>18</sup> \$17.31 and same hours per week, November to March, inclusive.

<sup>19</sup> For Sundays; for holidays, double time.

UNION SCALE OF WAGES AND HOURS OF LABOR IN EACH TRADE IN THE NORTH CENTRAL, SOUTH CENTRAL, AND WESTERN STATES, ON MAY 15, 1918, AND MAY 15, 1917—Concluded.

## CHAUFFEURS, TEAMSTERS, AND DRIVERS—Concluded.

## TEAMSTERS AND DRIVERS—Concluded.

Geographical division and city.	May 15, 1918.						May 15, 1917.			
	Rate of wages—				Hours— Full days; Saturdays; full week.	Mos. with Sat- urday half holi- day.	Rate of wages—		Hours— Full days; Saturdays; full week.	
	Per hour.	Per week, full time.	For over- time.	For Sun- days and holi- days.			Per hour.	Per week, full time.		
SOUTH CENTRAL.										
Houston, Tex.: Carriages....	Cents. 21.4	Dolls. 18.00	Regular rate multiplied by— 133.3c.		1	12 -12 -84	Cents. 14.3	Dolls. 12.00	12 -12 -84	
New Orleans, La.: Carriages.....	18.6	13.00	75c.	1	10 -10 -70	18.6	13.00	10 -10 -70		
General, teamsters and loaders.....	36.0	21.00	60c.	2	10 -10 -60	28.0	16.80	10 -10 -60		
WESTERN.										
Butte, Mont.: 1 or 2 horses.....	56.3	27.00	1	1	8 - 8 -48	50.0	24.00	8 - 8 -48		
3 or 4 horses.....	62.5	30.00	1	1	8 - 8 -48	56.3	27.00	8 - 8 -48		
Helpers.....	56.3	27.00	1	1	8 - 8 -48	50.0	24.00	8 - 8 -48		
Portland, Oreg.: General, 1 horse.....	30.0	18.00	1½	(5)	6 10 -10 -60	25.0	15.00	10 -10 -60		
General, 2 horses.....	32.5	19.50	1½	(5)	6 10 -10 -60	27.5	16.50	10 -10 -60		
General, 2½ tons.....	40.0	24.00	1½	(5)	6 10 -10 -60	30.0	18.00	10 -10 -60		
Helpers.....	37.5	22.50	1½	(5)	6 10 -10 -60	27.5	16.50	10 -10 -60		
Helpers, machinery.....	40.0	24.00	1½	(5)	6 10 -10 -60	30.0	18.00	10 -10 -60		
San Francisco, Cal.: Bakeries.....	59.9	28.75	100c.	7 100c.	8 - 8 -48	35.0	21.00	10 -10 -60		
Building material, 2 horses.....	42.1	24.00	75c.	1½	9½ - 9½ -57	35.0	21.00	10 -10 -60		
Building material, brick, 2 horses.....	44.7	25.50	75c.	1½	9½ - 9½ -57	37.5	22.50	10 -10 -60		
Building material, 4 horses.....	47.4	27.00	75c.	1½	9½ - 9½ -57	40.0	24.00	10 -10 -60		
Fruit, large wagons.....	52.6	30.00	85c.	1½	9½ - 9½ -57	45.0	27.00	10 -10 -60		
General, 1-horse large wagon	36.8	21.00	60c.	1½	9½ - 9½ -57	30.0	18.00	10 -10 -60		
General, 2-horse truck.....	47.4	27.00	75c.	1½	9½ - 9½ -57	40.0	24.00	10 -10 -60		
General, 4-horse truck.....	52.6	30.00	85c.	1½	9½ - 9½ -57	45.0	27.00	10 -10 -60		
General, 2 to 4 tons.....	42.1	24.00	75c.	1½	9½ - 9½ -57	35.0	21.00	10 -10 -60		
General, 4 tons and over.....	47.4	27.00	75c.	1½	9½ - 9½ -57	40.0	24.00	10 -10 -60		
Grocery, 1 horse.....	30.0	18.00	40c.	2	10 -10 -60	30.0	18.00	10 -10 -60		
Grocery, 2 horses.....	35.0	21.00	50c.	2	10 -10 -60	35.0	21.00	10 -10 -60		
Ice.....	50.4	27.25	75c.	(8)	9 - 9 -54	42.5	24.25	9½ - 9½ -57		
Milk.....	40.3	25.38	50c.	-1	9 - 9 -63	35.7	22.50	9 - 9 -63		
Milk, relief.....	44.0	27.69	50c.	1	9 - 9 -63	39.4	24.81	9 - 9 -63		
Helpers, ice.....	44.4	24.00	75c.	(8)	9 - 9 -54	36.8	21.00	9½ - 9½ -57		
Seattle, Wash.: Bakery.....	58.3	28.00	1½	(10)	8 - 8 -48	38.3	23.00	10 -10 -60		
Commission, under 2 tons.....	31.8	21.00	1½	1½	11 -11 -66	25.0	16.50	11 -11 -66		
Commission, over 2 tons.....	36.4	24.00	1½	1½	12 11 -11 -66	31.8	21.00	11 -11 -66		
Furniture.....	40.0	24.00	1½	1½	10 -10 -60	32.5	19.50	10 -10 -60		
General, 2-horse light com- bination wagons.....	35.0	21.00	1½	1½	10 -10 -60	30.0	18.00	10 -10 -60		
General, heavy machinery.....	42.5	25.50	1½	1½	14 10 -10 -60	37.5	22.50	10 -10 -60		
Milk.....	56.3	27.00	193c.	1	9 8 - 8 -56	36.3	25.38	16 10 -10 -70		
Helpers.....	35.0	21.00	1½	1½	11 10 -10 -60	30.0	18.00	10 -10 -60		

<sup>1</sup> Rate in cents per hour.

<sup>2</sup> Scale became 20 cents on July 1, 1918.

<sup>3</sup> Scale became 62.5 cents on June 1, 1918.

<sup>4</sup> Scale became 68.8 cents on June 1, 1918.

<sup>5</sup> Full day's pay for 5 hours' or less work; after 5 hours, time and one-half.

<sup>6</sup> Scale became 8 hours per day, 48 per week, on July 27, 1918.

<sup>7</sup> Rate in cents per hour for Sundays; holidays off with pay.

<sup>8</sup> For Sunday, full day's pay for 5 hours' or less work; for more than 5 hours,  $1\frac{1}{2}$  days' pay. Holidays off with pay; if work is performed, same rate as for Sunday.

<sup>9</sup> 4 days off each month with pay.

<sup>10</sup> Do not work on Sundays; holidays off with pay.

<sup>11</sup> Scale became 53.1 cents and 48 hours on July 1, 1918.

<sup>12</sup> Scale became 59.4 cents and 48 hours on July 1, 1918.

<sup>13</sup> Scale became 47.5 cents on July 1, 1918.

<sup>14</sup> Scale became 62.5 cents and 48 hours on July 1, 1918.

<sup>15</sup> Scale became 62.5 cents on July 1, 1918.

<sup>16</sup> Every 3 months with pay.

**RECENT WAGE INCREASES IN BRITISH WOOL-TEXTILE AND POTTERY INDUSTRIES.**

Reports from American consuls, respectively, at Bradford (England) and Stoke-on-Trent (England), recently received by this bureau indicate wage increases in the British wool-textile industry and in the pottery industry. In the latter case the advances are the result of a recent strike agitation and are declared to be the largest yet known to have been made in the history of the trades affected.

The American consul at Bradford announces that an award giving higher war wages to British woolen textile workers was made on November 8, 1918, by the committee on production, the increase in war bonuses to all daytime workers being from 81.75 per cent to 104.75 per cent, or an advance of 23 per cent (such percentages not to exceed 31s. 5d., or \$7.64 per week). The bonuses to female pieceworkers were increased from 69 per cent to 89 per cent, and of male pieceworkers from 65 to 83.75 per cent. Payment of wages in accordance with the award are to date back to the pay day in the week ending November 1. The award states that the increases are to be regarded as war advances and as due to and dependent upon the existence of the abnormal conditions now prevailing in consequence of the war.

As regards the wool combers the award will result in an advance on the scheduled wages amounting to 6s. (\$1.46) per week in the case of men and 4s. (\$0.97) per week in the case of women and youths. These advances will, in the case of combers employed by the members of the West Riding Spinners' Federation, raise wages above prewar rates to the extent of 36s. 6d. (\$8.88) for men and 32s. (\$7.79) for women.

The award also requires the Wool Combing Employers' Federation to give an advance of 6s. (\$1.46) per week to all persons concerned rated at or above 45s. 6d. (\$11.07) per week, and an advance of 4s. (\$0.97) per week to workpeople rated below 45s. 6d. (\$11.07) per week. In each instance the award is to take effect as from the pay day in the week ending November 1 and is to include the week preceding that date. The terms of the award were communicated to the members of the National Society of Wool Combers and were unanimously accepted.

A conference held in Bradford on October 29 resulted in an advance of the wages of employees in the dyeing and finishing trades from 22s. 11d. (\$5.58) to 29s. 4d. (\$7.14) in the case of time workers; from 65.50 per cent to 83.75 per cent for pieceworkers; and from 50 to 62.75 per cent for pressers. The advance commenced from the first pay day in November for the whole of the week paid for on that day.



## WAGES IN NORTH STAFFORDSHIRE POTTERY INDUSTRY.

The recent wages agitation has resulted in the manufacturers in the earthenware and china trades, as well as makers of jet and rockingham wares, granting to their workpeople the largest advance yet known to have been made at one time in the history of those trades, according to a report from the American consul at Stoke-on-Trent. It is true there is a condition attached to the grant which some few of the men may not like. The manufacturers seem determined that this latest grant shall be the final one which they will amicably agree to so far as they are concerned and indicate that if the men feel inclined to press for more the questions in dispute will have to go to arbitration.

The consul notes that 12 months after war broke out the manufacturers agreed to a war bonus of  $7\frac{1}{2}$  per cent, and that from time to time subsequent allowances were made which brought the bonuses up to 40 per cent of prewar rates. To that 20 per cent additional is now added, making altogether 60 per cent advance on the rates paid in 1914. These rates, however, do not apply to the sanitary earthenware and fireclay workers, or to electrical fittings and munition workers, or even to tile workers. The bonuses granted in the sanitary, tile, and fireclay branches of the pottery trade are somewhat less, accounted for by the appreciable decrease of trade in those branches. These particular industries have been hard hit during the war, the prevention of building practically putting an end to the industries for the time being.

# MINIMUM WAGE.

## RECENT MINIMUM WAGE DECREES IN CALIFORNIA AND MASSACHUSETTS.

### CALIFORNIA.<sup>1</sup>

On November 2, 1918, the Industrial Welfare Commission of the State of California issued the following decree, effective January 2, 1919, fixing minimum wages for female workers in the manufacturing industry:

The Industrial Welfare Commission of the State of California does hereby order that—

#### EXPERIENCED WORKERS.

1. No person, firm, or corporation shall employ, or suffer, or permit an experienced woman or minor to be employed in any manufacturing industry at a rate of wages less than \$10 for a 48-hour week. If an employer does not provide the full 48 hours of employment during any week, he must pay to all experienced adult and minor workers not less than \$0.25 per hour for the time worked.

An experienced adult woman is one who has been employed in the industry for 6 months. An experienced minor worker is one who has been employed in the industry for 9 months.

#### LEARNERS.

2. The rate of wages for learners may be less than the minimum rate prescribed for experienced workers, provided:

(a) (*Adult learners.*) That learners entering employment, 18 years of age and over, shall be paid an initial wage of not less than \$8 per week (\$34.67 per month), for the first three months of employment; for the second three months not less than \$9 per week (\$39 per month); and thereafter shall be deemed experienced workers and shall be paid not less than the minimum rate prescribed for experienced workers.

(b) (*Minor learners.*) That learners entering employment under 18 years of age shall be paid an initial wage of not less than \$7.50 per week (\$31.25 per month), for the first three months of employment; for the second three months not less than \$8 per week (\$34.67 per month); for the third three months not less than \$9 per week (\$39 per month); and thereafter shall be deemed experienced workers and shall be paid not less than the minimum rate prescribed for experienced workers, provided:

(c) That whenever the output of any female minor equals the average output of the adult women employed in any establishment, such minor must be paid not less than the minimum rate of wages prescribed for an experienced adult.

(d) If an employer does not provide the full 48 hours of employment during any one week, he must pay all learners not less than the following hourly rates for the time worked: A learner entitled to \$7.50 per week must be paid not less than \$0.20 per hour; a learner entitled to \$8 per week must be paid not less than \$0.21 per hour; a learner entitled to \$9 per week must be paid not less than \$0.23 per hour.

(e) Every employer shall, when demand is made by any woman or minor employed, furnish said employee with a statement setting forth the period of employment of such employee in his establishment.

<sup>1</sup> Cf. article in the MONTHLY LABOR REVIEW for November, 1918 (pp. 171-173).

3. The total number of learners in any establishment shall not exceed 25 per cent of the total number of workers employed.

4. Where payment of wages is made upon a commission, bonus, or piece-rate basis, the earnings shall be not less than the minimum time rate of the wage group in which the worker belongs.

5. No person, firm, or corporation employing women or minors in any manufacturing industry shall suffer or permit any female employee who has worked for 8 hours in any one day or 48 hours in any one week, to take work to be performed by her outside of the place of business of such person, firm, or corporation.

6.

#### HOME WORK.

(a) All persons, firms or corporations employing women or minors in any manufacturing industry shall apply to the Industrial Welfare Commission for permits for female or minor employees who are given work to perform at home or outside of the place of business of such person, firm or corporation.

(b) All persons, firms or corporations employing women or minors in any manufacturing industry shall keep a record of the names and addresses of all female employees who are given work to perform at home or outside of the place of business of such person, firm or corporation. This record shall include the amount of work performed and the wages earned weekly by each such worker and the piece rate paid shall be specified. A copy of this record shall be filed monthly with the Industrial Welfare Commission.

(c) All persons, firms or corporations employing women on home work or work performed outside of the place of business of such person, firm or corporation, shall pay to such women a piece rate equal to a rate which will yield to 75 per cent of the women employed within the factory not less than \$0.21 per hour.

7.

#### NIGHT WORK.

(a) No person, firm or corporation employing women or minors in any manufacturing industry shall employ or suffer or permit any minor to work before 6 a. m. or after 10 p. m.

(b) No person, firm or corporation employing women or minors in any manufacturing industry shall employ or suffer or permit any woman to work before the hour of 6 a. m. or after the hour of 10.30 p. m. without a permit from the Industrial Welfare Commission. Permits to work before the hour of 6 a. m. and after the hour of 10.30 p. m. will be issued only when the work to be performed is essential war work or is a continuous process which can not be controlled in any other way.

(c) No person, firm or corporation employing women or minors in any manufacturing industry, shall employ women for a period exceeding four hours after 10 o'clock at night, without furnishing a hot meal to such women.

8. All women and minors now employed in any manufacturing industry must be rated and paid in accordance with their period of employment as specified in sections 1 and 2.

9. Every person, firm or corporation employing women or minors in any manufacturing industry shall keep a record of the names and addresses, the hours worked and the amounts earned by such women and minors. Such records shall be kept in a form and manner approved by the Industrial Welfare Commission. Minor employees must be marked "minor" on the pay roll.

10. No person, firm or corporation shall employ, or suffer or permit any woman or minor to work in any manufacturing industry more than 8 hours in any one day, or more than 48 hours in any one week, or more than 6 days in any one week.

11. A license may be issued by the commission to a woman physically disabled by age or otherwise, authorizing the employment of such licensee for a wage less than the legal minimum wage; and the commission shall fix a special wage for such a woman.

12. Every person, firm or corporation employing women or minors in any manufacturing industry shall post a copy of this order in a conspicuous place in the general workroom and also in the women's dressing room.

13. The commission shall exercise exclusive jurisdiction over all questions arising as to the administration and interpretation of this order.

14. All persons, firms or corporations employing women or minors in any manufacturing industry shall file in the office of the Industrial Welfare Commission within one month from the date on which this order becomes effective, a certified pay roll report of the women and minors employed. This pay roll report shall be given for the period (weekly, semimonthly or monthly) immediately following the date on which this order becomes effective. The report shall include the names, number of hours worked and amounts earned by women and minor employees. There shall be an accompanying statement specifying the piece rates paid in the establishment.

15. Every person, firm or corporation employing women or minors in any manufacturing industry, shall furnish to the commission, at its request, any and all reports or information which the commission may require to carry out the purposes of the act creating the commission; such reports and information to be verified by the oath of the person, member of the firm, or the president, secretary or manager of the corporation furnishing the same, if and when so requested by the commission or any member thereof. Every person, firm or corporation shall allow any member of the commission, or any of its duly authorized representatives, free access to the place of business or employment of such person, firm or corporation, for the purpose of making inspection of, or excerpt from, all books, reports, contracts, pay rolls, documents or papers of such person, firm or corporation, relating to the employment of labor and payment therefor by such person, firm or corporation; or for the purpose of making any investigation authorized by the act creating the commission.

This order shall become effective sixty (60) days from the date hereof.

Dated at San Francisco, Cal., this 2d day of November, 1918.

#### NOTICE.

Nothing in this order prevents employers from paying more than the rates fixed by the commission as the minimum or lowest rate. This order applies to all women and minors in any manufacturing industry.

#### MASSACHUSETTS.<sup>1</sup>

The Minimum Wage Commission of Massachusetts, having received and reviewed the report of the wage board established in the wholesale millinery occupation, having provisionally approved the determinations, and having held a public hearing thereon, finally approved said determinations, and on November 30, 1918, entered a decree of its findings as to minimum wages of female employees in the wholesale millinery occupation. The text of the decree is as follows:

1. No experienced employee of ordinary ability shall be employed at a rate of wages less than \$11 a week.

2. An employee shall be deemed experienced who has reached the age of 18 years and has been employed in the occupation for at least four seasons, which shall include at least 12 weeks in each of two spring seasons, and at least 12 weeks in each of two fall seasons; or, in the case of those employees whose work is not of a seasonal character, for a period of not less than two years.

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<sup>1</sup>Cf. article in the MONTHLY LABOR REVIEW for October, 1918 (pp. 182-184).

3. The wages of learners and apprentices may be less than the minimum prescribed for experienced employees, provided that—

(a) No employee of ordinary ability, irrespective of age, who has had at least three seasons' experience in the occupation; or, in the case of employees whose work is not of seasonal character, at least 63 weeks within a period of not less than 78 weeks, shall be employed at a rate of wages less than \$9 a week.

(b) No employee of ordinary ability, irrespective of age, who has had at least two seasons' experience in the occupation; or, in the case of employees whose work is not of seasonal character, at least 42 weeks within a period of not less than 52 weeks, shall be employed at a rate of wages less than \$8 a week.

(c) No employee of ordinary ability, irrespective of age, who has had at least one season's experience in the occupation; or, in the case of employees whose work is not of seasonal character, at least 21 weeks within a period of not less than 26 weeks, shall be employed at a rate of wages less than \$7 a week.

(d) No employee of ordinary ability, irrespective of age, who has had less than one season's experience in the occupation; or, in the case of employees whose work is not of seasonal character, less than 21 weeks, shall be employed at a rate of wages less than \$6 a week.

4. Twelve weeks shall constitute a season, but if an employee has worked less than 12 weeks in any season the difference between the time she has worked and 12 weeks may be made up in any following season.

5. For the purpose of computing years of experience, a year's work shall consist of not less than 42 weeks.

6. For the purpose of computing weeks of experience, a week's work shall consist of not less than 36 hours.

7. These rates are for full-time work, by which is meant the full number of hours per week required by employers and permitted by the laws of the Commonwealth.

8. Where workers are paid by the piece, piece rates shall be such as to yield to workers of ordinary ability the minima hereinbefore set forth.

9. A female employee of less than ordinary ability may be paid less than the prescribed minimum wage, provided that the conditions of the Acts of 1912, chapter 706, section 9, as amended, are complied with.

10. These recommendations shall take effect on January 1, 1919, and shall apply to all females then or thereafter employed according to their age and experience.

Appended to the decree, but not a part of it, are two further recommendations submitted by the Minimum Wage Commission, as follows:

To enable employers to show compliance with the above decree, the commission recommends that in addition to keeping, as required by the Acts of 1912, chapter 706, section 11, a register of the names, addresses, and occupations of all women and minors employed, together with a record of the amount paid each week to each woman and minor, employers in this occupation keep also a record of the hours worked by each of such employees each week, and of the age and length of experience of learners and apprentices.

To assist employers in carrying out the provisions of the decree, with regard to learners and apprentices, the Commission further recommends that a female employee on leaving her employment in any establishment receive a card showing the time she has worked in that establishment.



## CHILD LABOR.

### JUVENILE DELINQUENCY IN RURAL NEW YORK.<sup>1</sup>

This report gives the results of a study undertaken to determine the general character, extent, and causes of delinquency among children in a rural environment and to test the wide-spread impression that "juvenile delinquency is peculiarly a problem of the cities and especially of the foreign population of the cities." At the outset it was recognized that in cities the enforcement of law, especially in regard to children, is much stricter than in the country.

The result is that the official record of rural juvenile delinquency is unduly low because it fails to include much bad conduct that is passed over without court action and soon forgotten, but which if committed in the city would bring the children concerned to the judgment of the court and add their names to the list of delinquents.

To meet this difficulty the study is based not on official records, but on a survey of 21 rural districts in New York, a rural district being defined as "a locality of small and dispersed population, depending mainly upon agriculture for its livelihood." The term "delinquent" was extended to cover all the children generally regarded as "bad" in the neighborhood, whether or not they had come into open conflict with the law. In all, 185 juveniles were studied.

The report consists of two parts, the first containing a general discussion of the conditions found, with suggestions for needed action, while the second gives for each district studied a brief description of the community, followed by an account of each of the children classed as delinquent.

In its general outlines the situation as to juvenile delinquency was much like that usually shown by a city study. Of the 185 children studied, 119 were boys and 66 girls. Offenses against property predominated among the boys, while among the girls sex offenses were the most numerous. Obviously defective children were in the minority. In general, family conditions were not good. This was not so much a matter of broken homes—in 56 per cent of the families studied both parents, legally married, were living together—as of inefficient or actively bad parents. In an appreciable number of cases the parents were either contributory to the child's delinquency or were entirely responsible for it, as where a child steals because a

<sup>1</sup> U. S. Department of Labor. Children's Bureau. Juvenile Delinquency in Rural New York, by Kate Holladay Claghorn. Bureau Publication No. 32. Washington, 1918. 199 pp.

parent has encouraged or ordered him to do so, or "where a girl is a sex delinquent because her father or guardian has violated her or sold her to other men." In general, however, the child's wrongdoing seemed due to the low moral plane of the family rather than to the parents' direct incitement. In a number of instances poverty, if not the direct cause of the delinquency, was evidently contributory, and at least one case was found of a situation not unknown to city investigators—a child committed to an institution as delinquent when the real trouble was destitution.

Turning to the community surveys, the outstanding impression left by the descriptions given is of the lack of any organized community life. In the main, the church, the school, the village store, and the village tavern are the possible centers of community activities. In too many instances the church considered that its field was purely spiritual or dogmatic, although some cases were found in which it was earnestly trying to improve neighborhood conditions. The store and the tavern naturally did not afford any opportunities for children to secure interest and amusement under favorable conditions. The school was apt to be a melancholy negation of all that it might have been. Salaries are low, with the result that teachers are apt to be young and inexperienced or else of a distinctly undesirable type. The curriculum bears little relation to the life of the children, either in subject matter or method. Few of the schools studied had any playground equipment or any provision for play within the building. "The case histories show what mischief is possible and how much of it gets a good start at the unsupervised noon hour, when the teacher goes home to dinner and the children are left alone, with nothing to do, in the bare little school-house." Unfortunately, in neighborhoods where the need is greatest the school is apt to be least qualified to meet it.

In barren hill districts, where the children present the hardest problem, the teachers are the youngest and least experienced. Out of the 13 teachers in one region, 7 are under 21 and 5 are girls of 18 or 19 teaching their first school. A young girl of this type is not competent to deal with the problem set before her. She is physically unable to handle the uncouth, obstreperous boy of 14, is too shy or ignorant to face or solve the ever-present problem of obscene writing or talk, or more serious sex offenses, and must put all of her energy on the mechanical details of getting through her long program for many classes.

A movement is already on foot to improve the little district schools by consolidation of districts, bringing the children together in a village union school, which if carried out may improve conditions materially.

Under the head of recommendations it is urged that juvenile courts and probation officers be established throughout the rural districts; that some place of detention be provided for children other than the

jail, the calaboose, or the police station, and that the age limit of juvenile delinquency be raised from 16 to 18. "Many instances show a really childish type of mind and character in boys and girls over the age of 16 that could better be handled by the methods of the juvenile court than by the methods used for adults." It is also urged that a stricter and more consistent prosecution of adults for neglect and cruelty and contributory delinquency should be undertaken. As preventive measures, the improvement of the school, the socialization of the church, and the building up of an active community life in the village are advised. But most important of all is the upbuilding and strengthening of the family, the fundamental social agency for the child. "However good the school, the church, or the community, if the home is bad a fertile source of juvenile delinquency is left open. Therefore our best efforts must be exerted to deal with the family as well as with the child."

# INDUSTRIAL HYGIENE.

## INDUSTRIAL POISONING IN AMERICAN ANILIN DYE MANUFACTURE.

BY ALICE HAMILTON, M. D.

### INTRODUCTION.

The dye industry has undergone a rapid development since 1914, increasing in extent and complexity every year. The growth of this new industry is important for many reasons, but to the physician its chief importance lies in the fact that it has introduced into American industry a large number of poisonous substances which up to now have been known to us almost wholly through German medical literature. A study of this literature discloses a great deal of information as to what kinds of industrial poisoning should be looked for in the making of dyes, but it is not enough for Americans to learn what has happened in German dye works, for manufacture in America is never carried on in exactly the same way as it is in Germany, and we can never transfer to this country, without some modification, the results of European experience.

This description of anilin dye manufacture in the United States is intended only as a preliminary report on an industry of extraordinary complexity and difficulty. The chemistry of anilin dye manufacture is more complicated than that of any other industry carried on in the United States, and is almost impossible to describe without getting lost in a mass of details. Yet it is essential for us to understand at least the most important of the reactions involved if we are to be able to estimate with any accuracy the dangers to which workmen are exposed in the various processes. No attempt is made here to do more than give an outline of the essential steps in the production of dye intermediates and finished dyes, and to describe, so far as they are known, the effects on the human body of the compounds that are used, produced, or evolved during the course of production.

The compounds that are used in making dyes are derived chiefly from coal tar and belong to the aromatic series, but some intermediates, such as alcohol, acetic acid, etc., belong to the aliphatic series. Inorganic substances which enter into combination with these are chiefly the heavy acids, hydrochloric, sulphuric, and nitric; the caustic alkalis, especially caustic soda; lime, and certain oxidizing agents, of which lead peroxide and potassium bichromate are the most important. The number of compounds formed in the different reactions is so great and their structure is often so complicated that

the student of industrial poisoning becomes bewildered, and in his endeavor to simplify the problem he naturally tries to discover some broad principles of physiological action based on the chemical structure. Unfortunately, such a simplification is possible to only a partial extent. There are certain chemical groups whose entrance into a compound alters its poisonousness quite uniformly, but there are always exceptions to any such rule, since the poisonousness of a compound depends, not only on the chemical, but also on the physical properties. For instance, benzene and gasoline have the same chemical composition, but benzene is far more poisonous because it is very volatile. Anilin and benzidine have a very similar formulæ, but anilin is a volatile liquid and very poisonous, while benzidine is a solid, not soluble in water and not poisonous at all. The following is a brief statement of the chemical changes which are known to produce definite alterations in the physiological action of compounds, unless their entrance into the group brings about some decided physical change which alters the absorbability of the substance.

Sulphonation, the introduction of the  $\text{SO}_2\text{HO}$  group, destroys the toxicity of a compound. For instance, sulphonated anilin is almost nontoxic. The sodium salt of phenol sulphonic acid is said to be harmless.

The introduction of the  $\text{COOH}$  group also removes or lessens the toxicity. Nitrobenzene ( $\text{C}_6\text{H}_5\text{NO}_2$ ) is very toxic, nitrobenzoic acid ( $\text{C}_6\text{H}_5\text{NO}_2\text{COOH}$ ) is harmless. Phenol ( $\text{C}_6\text{H}_5\text{OH}$ ) is poisonous. Salicylic acid ( $\text{C}_7\text{H}_6\text{O}_3$ ) is far less so.

The acetyl radical  $\text{CH}_3\text{CO}$  has much the same effect. Acetanilid ( $\text{C}_6\text{H}_5\text{NHCH}_3\text{CO}$ ) is far less poisonous than anilin ( $\text{C}_6\text{H}_5\text{NH}_2$ ).

The poisonousness of an aromatic compound is increased by the entrance of a hydroxy group. Pyrogallol, which is trihydroxybenzene, is more poisonous than catechol, the di compound, and the latter is more poisonous than the mono compound phenol. On the other hand, the introduction of an  $\text{HO}$  into an alcohol changes it into a harmless glycol or glycerol.

The nitro group  $\text{NO}_2$  and the nitroso  $\text{NO}$  cause a marked increase in the toxicity of an aromatic compound, whether they enter the benzene ring or a hydroxyl radical. The nitrobenzenes and nitrochlorbenzenes, are distinctly more poisonous than the benzenes and chlorbenzenes.

Chlorine is the only halogen of importance in the chemistry of dyes. When it enters into a compound of the alcohol series, the narcotic effect is greatly increased and in proportion to the number of chlorine atoms. Thus chloroform,  $\text{CHCl}_3$ , is strongly narcotic, and carbon tetrachloride,  $\text{CCl}_4$ , is even more so, while formaldehyde  $\text{CHO}$  is not narcotic at all. Compounds of the aromatic group are little,



if at all, affected by the entrance of chlorine, the chlorbenzenes being about as toxic as benzene.

An alkyl group (methyl, ethyl, etc.) displacing H in the amino,  $\text{NH}_2$ , group, lessens its toxicity. Dimethylanilin and diethylanilin are both less poisonous than anilin.

The hydrocarbons of the methane series are less active physiologically than those of the ethylene or acetylene series.

No rule can be given as to the comparative toxicity of the isomers. The para position seems to be usually the most toxic and the ortho the least, but this rule has too many exceptions to be of much use.

#### PROCESSES IN DYE MANUFACTURE.

There are certain fundamental chemical processes that are repeated over and over in the course of dye production, and that will be briefly described, together with the possible risk involved in each.

1. *Sulphonation or treatment with fuming sulphuric acid usually added in excess.*—This results in the replacement of an H atom in an organic compound by the sulphonic acid group and very often the change of a toxic body into a harmless one. The risk involved lies in the method of handling the sulphuric acid and the product that is to be sulphonated. It is important to know how the substances are supplied, how introduced into the sulphonator, and whether there is a vent for the fumes produced by hot sulphonation.

2. *Caustic melting of alkaline fusion.*—Usually a sulphonated product is fused, the  $\text{SO}_3\text{OH}$  group being replaced by a hydroxyl OH group. For instance, benzene monosulphonic acid yields hydroxy benzene or phenol, and naphthalene monosulphonic acid yields alpha or beta naphthol. The danger in this process depends on the way the caustic soda is handled. Very severe burns may result from splashing, and the danger is especially great when fusion is taking place with the sulphonic acid in the kettle, for the presence of water makes it splash. An accident that almost always results in burns of great severity is the blowing up of an autoclave, which scatters the caustic fluid with great force.

3. *Nitration.*—A mixture of sulphuric and nitric acid is used for this, the former being added so that it may take up the water liberated in the course of nitration, which would otherwise dilute the nitric acid. Usually in dye manufacture only the mononitro compound is formed from an aromatic body, one hydrogen atom from the benzene ring being replaced by a nitro group  $\text{NO}_2$ . If dinitro or trinitro compounds are needed, the nitration is usually carried on in successive steps. The danger in this process is that which is always present when nitric acid is used. Not only may severe burns result from splashed acid, but the fumes of mixed nitrogen oxides that are given off when nitric acid is exposed to the air or

when it is added to the substance to be nitrated constitute a grave risk to the workman unless they are carried off in fume pipes.

4. *Reduction of amidation.*—As a rule, nitro bodies, the products of nitration, are reduced, the reducing agents employed being metals, iron, zinc, or tin, in the presence of an acid. The hydrogen liberated in this reaction displaces the oxygen of the NO group. Since a nitro compound is the starting point and an amido compound the product, it follows that the apparatus used must be well inclosed and no fumes allowed to escape at any stage, for both these substances are poisonous.

5. *Chlorination.*—The introduction of the chlorine atom may take place in the benzene ring or in a side chain. The resulting product is sometimes inert, sometimes highly poisonous. In either case the fumes of chlorine gas constitute a danger, and it is always necessary to provide a vent or an absorbent chamber for the gas, which is best taken up by water and neutralized.

6. *Alkylation.*—This consists in the introduction of methyl or ethyl groups into a hydroxyl or amido group. For methylation (as in making dimethylanilin), methyl chloride, methyl alcohol, and hydrochloric acid or dimethyl sulphate may be used. For ethylation ethyl alcohol is used. Anilin is the substance most generally subjected to this reaction, and the dangers in the process come chiefly from the anilin and from alkyl derivatives, which, though less powerful, have been known to cause industrial poisoning. If dimethyl sulphate is used, the danger is greatly increased, for this is a highly poisonous compound.

7. *Oxidation.*—The substances used as oxidizers are usually inorganic salts, such as potassium bichromate, chlorate, or permanganate, manganese dioxide, and litharge, with a mineral acid. For instance, anthraquinone, the intermediate used for alizarin colors, is made by oxidizing anthracene. Sometimes nitrobenzol and ferrous chloride are used as oxidizers in making fuchsin. Here there may be fumes of nitrobenzol or anilin. The inorganic oxidizing agent likely to give the most trouble is chromate of potash, which produces the so-called "chrome ulcers." Litharge is not used in sufficient quantities to cause lead poisoning.








8. *Carboxylation.*—This is generally done by the action of caustic soda and pure carbon dioxide gas upon a phenol by which the COOH group is introduced into the ring. For example, phenol after carboxylation yields salicylic acid, which is much used in the dye industry. This process is not so dangerous as caustic fusion because not nearly so much free alkali is used.

9. *Liming.*—The lime salts of certain substances are soluble and of others insoluble. Therefore, lime or chalk or sometimes caustic lime is added, usually to a sulphonated product, to separate one

salt from another. For instance, when naphthalene is sulphonated, alpha-naphthalene sulphonic acid, beta-naphthalene sulphonic acid, and free sulphuric acid are present. The mixture is neutralized with lime. The lime salt of the alpha-naphthalene-sulphonic acid is soluble in cold water. The lime salt of the beta-naphthalene sulphonic acid is not very soluble in cold but is soluble in hot water, and the calcium sulphate is insoluble. Thus, separation of these substances from each other is easy.

10. *Condensation*.—This process consists in the union of two compounds or two molecules of the same compound to form a new compound by the loss of water or HCl or  $H_4N$ . Sometimes hydrochloric or sulphuric acid is used with phosphorus, zinc, sulphur, or tin to bring about this reaction. There is no special danger involved except in the liberation of the volatile substances if the apparatus is faulty. The manufacture of malachite green offers an example of condensation. Benzaldehyde and dimethylanilin are mixed with a condensing agent, such as zinc chloride and hydrochloric or sulphuric acid. One molecule of water is split off by the union of an atom of oxygen from the benzaldehyde with two hydrogen atoms from two molecules of the dimethylanilin and a new compound is formed, which is tetramethyldiaminodiphenylmethane.

*Diazotizing and coupling*.—An amido compound on treatment with nitrous acid (sodium nitrate and hydrochloric acid are generally used) yields a compound called diazo. This is then coupled with an aromatic amine or phenol to form an azo compound. The reaction is carried on in the cold, so that the danger is only in handling the bodies that are to be diazotized or coupled. In making the common dye, orange 11, sulphanilic acid is diazotized with sodium nitrate and hydrochloric acid, and the solution of this diazo is added to a solution of beta-naphthol in sodium hydroxide. When these are mixed cold, the dye precipitates and is filtered out.

The principal raw materials used in manufacturing dyes are eight coal-tar constituents—benzene , toluene   $CH_3$ , xylene   $CH_3$ , phenol , naphthalene , anthracene , phenanthrene , and carbazol. The first four of these are decidedly

poisonous, though the entrance of one  $CH_3$  group into the benzens ring makes toluene less toxic than benzene, and two such groups make xylene still less so than toluene. Naphthalene administered to animals produces symptoms of irritation and lowers the temperature, but in man it has only a local action on the eye. Anthracene, phenanthrene, and carbazol are without effect.

## CHEMICAL CLASSIFICATION OF DYES.

The anilin dyes are classified in many ways, but the following is the usual classification when chemical structure is taken as the basis:

1. *Azo dyes*.—These are made with a primary amine, anilin or toluidin, or toluylene diamine or benzidine or some similar body, which is treated with nitrous acid in the cold. The diazo compound produced is then coupled with an aromatic amine or phenol to form an azo compound. These are unstable compounds, and the diazotizing must be done at about zero C. This fact and the further fact that it is not necessary to use large quantities of amines make the manufacture of azo dyes fairly harmless. In fact, this is probably the safest branch of the industry.

2. *Anthracene dyes*.—The most important of these is alizarin, only recently manufactured in the United States. Madder, one of the oldest of dyes, is natural alizarin. Anthracene is oxidized to anthraquinone, usually with potassium bichromate. This is sulphonated and then fused with caustic soda and chlorate of potash to form dioxyanthraquinone or alizarin. There is little danger in these processes except from handling the caustic and chromate. Chrome ulcers are not at all uncommon among the men employed in the production of anthraquinone.

3. *Indigo*.—Here the risks are greater than in the two former classes of colors. The starting point for indigo may be naphthalene or anilin. Benzene is nitrated to mononitrobenzene, this is reduced to anilin, and by the action of anilin and monochloracetic acid phenyl glycin is formed; which, on treatment with caustic soda or sodamid, is changed to indoxyl. Air is blown through the indoxyl to oxidize it to indigo. In this process we have all the familiar dangers of nitration, of reduction to anilin, and of handling the anilin. Monochloracetic acid is a strong acid.

The next four classes of dyes are about equal as far as danger of poisoning is concerned. These are:

4. *Di and tri phenylmethane (or arylmethane) dyes*.—Auramine is the only diphenylmethane dye of importance, but the triphenylmethane dyes are numerous and important, including the malachite green series and the rose-anilin-fuchsin-magenta series.

5. *Pyron dyes*.—These are closely allied to the above and are sometimes classified with them. The eosins and fluoresceins belong here.

6. *Azone or azine dyes*.—Nigrosin is the best known of these. It is made from anilin hydrochloride and nitrobenzene.

7. *Oxyazine dyes*.—This is an unimportant group of which gallo-cyanine is the most commonly known.

For these dyes use is made of large quantities of anilin and paratoluidin; anilin hydrochloride (often called anilin salt); and the alkyl derivatives of anilin, especially dimethylanilin, benzyl chloride, and (for the azine and oxyazine dyes) nitroso dimethylanilin. The cases of poisoning reported are usually due to contact with anilin or toluidin, for these are more powerful than their derivatives.

8. *Nitro and nitroso dyes.*—There is still more risk of industrial poisoning in the manufacture of these dyes, and many of the resulting colors have poisonous properties. The best known are picric acid or trinitrophenol, Martius yellow or dinitro naphthol, and auran-tia or hexanitrodiphenylamin. In manufacture, the danger comes from the nitrous fumes and is greater the stronger the nitric acid used.

9. *Sulphur dyes.*—This last group involves more danger of poisoning than any other. Sulphur black belongs here, sulphur blue, sulphur yellows, and sulphur browns. The introduction of sulphur results sometimes in the liberation of sulphureted hydrogen. This danger is greatest in connection with the making of browns and yellows, much less in connection with sulphur black, and practically nonexistent in the making of sulphur blue. Sulphur browns and yellows result from the treatment of phenylenediamine with sulphur or sulphur and benzidine. In order to obtain phenylenediamine, anilin and glacial acetic acid are mixed to form acetanilid. This is nitrated and then saponified with caustic soda to paranitranilin, which in turn is reduced with iron and hydrochloric acid to phenylenediamine. For sulphur blue and sulphur black, benzene is chlorinated, then nitrated, and the paranitrachlorbenzene is fused with caustic to become paranitrophenol or dinitrophenol. Treated with sulphur, dinitrophenol yields sulphur black. For sulphur blue, paranitrophenol is reduced to paramidophenol, which is acted on by dinitrochlorbenzene to form dinitrodioxyphenylamine, which with sulphur in alcohol forms sulphur blue.

All these substances are volatile poisons, some of them very powerful ones.

There are factories in the United States devoted solely to the making of intermediates such as the following:

Anilin hydrochloride or anilin salt. This is almost always done in an open shed, since the fumes of anilin and hydrochloric acid would be dangerous if not greatly diluted. The reaction takes place in open tanks. The resulting crystals are pumped out, the liquor removed in a centrifuge and sent to the "stripping room," where the unchanged anilin is stripped or distilled off. Amidonaphtholdisulphonic acid or H acid is an important intermediate made by the sulphonation and subsequent nitration of naphthalene, followed by amidation and caustic fusion. Fumes of nitrogen ozides may be given off.



1. 2. 4 amidonaphtholsulphonic acid is made from the sodium salt of beta-naphthol. Treated with nitrous acid, it becomes nitroso beta-naphthol, which is an irritant poison to the skin, causing what the men call "nitroso itch." Nitrous fumes also are a danger here. Reduction and sulphonation are performed at the same time, with the possible production of fumes of sulphur dioxide.

Benzidine base and naphthionic acid combine to make Congo red, a cheap cotton dye, which is exported to India. For the benzidine base, nitrobenzene is reduced with zinc dust to oxyazobenzene, and subsequently to azobenzene and hydrazobenzene. It is then treated with hydrochloric acid, and benzidine is formed by rearrangement. The dangers here are from the nitrobenzene and from possible fumes of sulphur dioxide. Naphthionic acid is made from alpha-naphthylamine, similar to anilin in its effects, and sulphuric acid.

Metanitrilanin is an intermediate for khaki dyes, made by reducing dinitrobenzene. With it is used picramic acid (dinitroamidophenol), which is made by the reducing action of sodium sulphide on dinitrophenol.

Paranitrilanin is an important intermediate. When diazotized and coupled with beta-naphthol it forms para red. The manufacture of paranitrilanin has already been described. For beta-naphthol, naphthalene is sulphonated, neutralized with soda ash, and then fused with caustic soda.

Michler's ketone is tetramethyldiaminobenzophenone. It is an important starting point for many colors, especially blues, greens, and violets. It is formed by the action of that highly poisonous gas, phosgene, on dimethylanilin.

#### PHYSIOLOGICAL ACTION OF SUBSTANCES USED IN DYE MANUFACTURE.

In describing these compounds, with their effect upon human beings, American sources only have been used. The cases of industrial poisoning which are given have all occurred in the United States. This makes the list less complete than if one were to draw from German and British sources, but it seems better to confine it to our own experience.

*Benzene.*—This light volatile coal-tar distillate is the starting point for many of the most important dye intermediates—the nitrobenzenes, nitrophenols, nitrochlorbenzenes, and anilin and its various derivatives. During the last five years industrial benzene poisoning, which used to be a rarity in the United States, has become fairly common. We seldom hear of mild benzene poisoning, for it does not attract attention; the cases reported are severe and often fatal. They usually occur in men who are engaged in some process out of the ordinary routine—pipe fitting, repairing defective stopcocks or valves, or cleaning tanks. The action of benzene is very rapid.

It produces its effect on the lower nerve centers, the respiratory, vasomotor, and heat regulating centers. If the exposure is great there is a short period of intense excitement followed by sudden collapse and death; if less extreme and rapid, serious blood changes take place, as well as the symptoms pointing to involvement of the nerve centers. There is a destruction of red and white cells, especially of the latter, and also hemorrhages from the mucous surfaces and under the skin. Chronic benzene poisoning seems to cause anemia and gastric and nervous symptoms of varying severity, and is at present the subject of study in the United States.

*Anilin.*—Anilin poisoning, especially the milder forms, is very common in dye manufacture. Unfortunately anilin does not give any warning of its toxic nature, as so many poisons do, for it has not the slightest irritating effect on eyes, nose, or throat. The first symptom is usually a sensation of heaviness and fullness in the head, and a feeling of weariness or irritability, then headache, with dizziness and some mental confusion, cough, dryness in the throat, and sometimes nausea and pains in the abdomen. The pupils are dilated, the pulse and respiration rapid, and the flushing of the face passes into a grayish-blue color, the lips and tongue becoming purplish. The ordinary case clears up within twenty-four hours, although headache and slight confusion may remain and the lips still show signs of cyanosis.

In severer cases the color is much deeper. In the files of the New York State Department of Labor there is a record of a case, occurring in the early days of the dye industry, which came under the care of a physician unfamiliar with anilin poisoning. The man was lying unconscious on the floor of the dyehouse and was of such a deep purple color that the physician thought he must have fallen into a dye vat. In severe cases like this the cyanosis is accompanied by a marked air hunger, with gasping, labored breathing. The pulse is rapid, the tension high at first but quickly lowered. The skin is cold, and sensibility much lowered. Consciousness may be lost for several hours, although it is rare to have coma last more than 12 hours.

Death is a very unusual occurrence. Only three cases of fatal anilin poisoning were found during this study. The first was a man employed in the reduction department of an anilin works, who had for some days suffered from headache and whose color was somewhat cyanotic. He had not, however, complained of sickness. He left the plant at the end of the day, went to a saloon, and had a drink of whisky. On his way home he became so disorderly that he was put off the street car. Some friends took him home and put him to bed and he was found dead in the morning. This combined

action of alcohol and an aromatic compound has been noted frequently among TNT workers in the explosives industry.

Of the second case no more is known than that he was a carpenter who went into an anilin tank which had not been thoroughly washed out, and was poisoned.

The third fatal case was a foreman in the anilin department of a small plant. He was experimenting at the time and had his hands in anilin a good deal. The ventilation in this department was ample, so that the fumes could not have played a part in this case. He came to work one morning complaining of headache, and was advised to go home, but stayed until noon. By the time he reached home, about 1 o'clock, he was so ill that a doctor was summoned. He was cyanosed, was vomiting yellow, frothy stuff, and his pulse was weak, but he did not seem to be in a serious condition. Twenty minutes later he had a convulsion. The doctor returned at 3 o'clock and found that he was unconscious and that his heart was very weak. He had a second convulsion, and his heart action grew steadily weaker until the early morning, when he died.

This tardy onset of the severer symptoms is very characteristic of anilin. The man is much more likely to lose consciousness some hours after reaching home than while he is at work in the plant. For instance, a workman spilled a can of anilin over his clothes. He felt it burning his skin slightly, but as he had never been told of any danger connected with it he kept on at work for several hours, when he was obliged to stop because of nausea and vomiting, palpitation of the heart, and violent headache. He went home and his symptoms gradually increased in severity. He did not lose consciousness till five hours after he had spilled the anilin.

Slowness of speech and difficulty in talking and in swallowing are sometimes noted, also pain in the chest, cough, and frothy sputum. A symptom noted several times by Dr. R. C. Bugbee, of Providence, is severe precordial pain, which may be very persistent. Dr. Bugbee has also had cases of acute dilatation of the heart, with systolic murmur. In one case this condition lasted only four days but returned when the man came down with influenza, and persisted for two weeks.

Men working in anilin find that sores and cuts become easily infected and that the inflammation travels along the lymphatics to the glands, which swell. Boils are common and are very slow to heal. Sometimes there is an anilin rash, especially on the arms.

There is a chronic form of anilin poisoning which may persist between acute attacks or be present without any acute symptoms. The lips are bluish, and the facial color a mixture of gray and yellow. There are usually symptoms of chronic indigestion, there may be

jaundice, and there is always breathlessness and some palpitation of the heart. Such cases are often mistaken for chronic valvular heart disease. Irritability of temper and inability to work hard or fast are characteristics of men chronically poisoned.

As regards susceptibility to anilin there is great difference in individuals. Some men seem to be almost if not quite immune to its effects. On the other hand, this study disclosed the record of a man of sixty-six years who, after no unusual exposure, became very ill, was in bed for four days, attempted to sit up, had a relapse, and was ill for ten days longer.

Anilin has a very characteristic action on the blood. Methemoglobin is formed and, because it binds the oxygen to the red cells instead of releasing it to the tissues, the body starves for oxygen. This is the cause of the cyanosis and of the hunger for air. The blood-forming tissues attempt to make up for this by an increased supply of red corpuscles, so that men who are suffering from slight chronic poisoning often have an abnormally high red-cell count, though even then the percentage of hemoglobin may be low. This, however, is only temporary, and in severer cases evidence of red-cell destruction is found. The cells stain deeply in the center but have pale borders; some of them are stippled, others are abnormally large or abnormally small. The hemoglobin, especially in the later stages of poisoning, is much diminished.

The urine is almost always changed in color, sometimes smoky, sometimes brownish, sometimes distinctly blood stained. Casts are seldom found, but free blood has been demonstrated, also hemoglobin, methemoglobin, hematoporphyrin, urobilin, and bile pigments. Severe albuminuria following anilin poisoning was reported by Dr. Lippincott, of Metuchen, N. J.

Anilin enters the body through the respiratory tract, the mouth, or the skin, but industrial poisoning, especially the severer form, usually takes place through the skin. The following instances, gathered from various factories, show the many ways in which skin absorption may occur. A workman splashed anilin on his shoes, it soaked through, he became cyanosed and fainted. Another took off his shoes to save them, worked in his stocking feet, and, as the floor was damp with water and anilin, he became poisoned. A man sat on the top of a barrel where a little anilin had collected. It soaked through his trousers and he absorbed enough to make him sick for five days. Two men were poisoned cleaning a still. One of them worked with bare hands, lost consciousness, and was ill for six days. The other wore canvas gloves but got them soaked through and continued to work with them. He was sick for two weeks. A shipping clerk opened a drum of anilin which had been standing in the sun long enough to get hot, so that when he opened it some of it spurted

over his face. In the same plant a man filling drums let some anilin run into the wrist of his long rubber glove and went on working. He was ill for a week. Another man was sick for eight days after splashing anilin on his hands and arms while attempting to fix a defective cock. A very serious case was caused in a man who, trying to mop up anilin from a leak on the floor, got his clothing saturated. He fainted, fell, and lay unconscious for an hour, for it happened at night and he was not discovered at once. It required every effort for 24 hours to pull him through. He was sick two weeks.

The only clear instance of industrial anilin poisoning incurred by swallowing anilin, discovered during this investigation, is the following: A chemist, in trying to syphon anilin from one drum to another, sucked a mouthful of anilin into his mouth. He spat it out at once and rinsed out his mouth with dilute hydrochloric acid. After an hour he began to feel weak and languid, and went out to lie on the grass. Then he became pleasantly intoxicated, felt perfectly happy, and sang, but did not want to move. The doctor came and insisted on his going indoors. On the way he collapsed and lost consciousness for a few minutes. His heart was alarmingly weak, and his lips and mouth were blue. The next day he felt exactly as if he had been drunk the day before. For days afterwards he lay in a hammock, feeling exertion impossible. His urine was chocolate colored, as indeed it always is when he works with anilin.

That anilin fumes alone can cause symptoms of poisoning seems beyond doubt, but the writer knows of no case of severe poisoning caused by fumes alone. It is a common experience among workmen, however, and even among foremen who may not be in direct contact with the anilin, that hot, heavy weather, especially during the night shift, always causes a decided increase in anilin poisoning. Chemists also suffer from anilin fumes when these are not carried off by exhaust fans.

The symptoms of anilin poisoning have been described in detail because they are also the symptoms caused by anilin derivatives; in fact, they are characteristic of the amido aromatic compounds in general. A few histories have been collected of similar poisoning from other compounds which contain the  $\text{NH}_2$  group.

*Paranitranilin.*—Two men were set to strengthen the hoops around barrels filled with paranitranilin which had become loose so that the powder leaked out. In doing so they inhaled dust and also scattered it over their hands. As a result both became cyanosed and breathless, dizzy, and confused. Another instance is taken from the records of the New York State Department of Labor. This man had been working in paranitranilin for two weeks, when he was sent to the grinding room. There he inhaled a great deal of dust, but no symptoms appeared while he was at work, nor till an hour or so after he



had gone home. Then he suddenly became weak and fell to the floor in a semiconscious condition. He had intense headache, with nausea, but no vomiting. He stayed at home for three days and on the fifth day the physician who saw him at work in the factory found his heart very rapid, his face drawn and anxious and bluish gray in color, and his lips blue.

*Metanitrilanilin.*—From the records of a hospital near one of the large dye works the following history was obtained: A man was ordered to clean out a tank which had held metanitrilanilin. Soon after he complained of acute frontal headache and faintness and began to vomit. Then he lost consciousness and was taken in this condition to the hospital, where they found him deeply cyanosed, his lips and mucous membranes almost black, and his pulse very weak and rapid.

According to a physician who has had a good deal of experience in connection with a factory where metanitrilanilin is made, poisoning is caused both by dust from screening and by fumes from the filter press and cooling tubs. The symptoms are rather slower than usual in coming on, but the sickness lasts longer than does that following exposure to anilin.

*Dimethylanilin.*—In the records of this same hospital were found two cases of poisoning in men who had been in contact with dimethylanilin; one of them who was baling it from one container to another was poisoned severely at the end of seven hours' work, the other even more severely poisoned by a few minutes' exposure to hot fumes. According to the hospital history the latter man was working in the department where crude violet is made from phenol and dimethylanilin. He climbed to the top of a vat to inspect the dye, lifted the lid, breathed the hot fumes, and almost at once fainted. He was unconscious for eight hours. When taken to the hospital the next day he was complaining of loss of sight, noises in the ears, and intense abdominal pain. He was in the hospital seven days.

*Diethylanilin.*—No individual case histories of poisoning from diethylanilin were obtainable, but a physician in charge of a plant where this is used in large quantities said that he had had several cases of poisoning, with symptoms like those of anilin poisoning.

*Anilin chloride or hydrochloride or anilin salt.*—The New York State Department of Labor furnishes this history of a case of poisoning which it believes to have been caused by both chlorine gas and anilin. The man was employed in making anilin chloride. He was under hospital treatment for 17 days for nervous and gastrointestinal symptoms following an attack of cyanosis, with fainting spells.

*Mononitrobenzene.*—Compounds with the  $\text{NO}_2$  group instead of the amido,  $\text{NH}_2$ , group cause much the same symptoms as to the amido compounds, but these are on the whole more serious and more last-

ing. Cases of nitrobenzene poisoning usually mean a longer absence from work than do those caused by anilin, and are more likely to be accompanied by convulsions. They are, however, not so common, for in anilin manufacture there is not so much exposure to nitrobenzene as to anilin. Nitrobenzene also enters the body by the skin or by the inhalation of fumes. Splashed on the body, it may result in severe burns accompanied by the characteristic systemic symptoms. Several cases of this kind were found in the records of a Buffalo hospital. In other cases poisoning seems to be caused by the fumes alone.

*Dinitrobenzene.*—Metanitrilanin is made by reduction of dinitrobenzene, and the same plant from which records of cases of metanitrilanin poisoning were obtained also furnished information about dinitrobenzene poisoning. In this plant dinitrobenzene is considered less serious than metanitrilanin, contrary to the generally accepted view of the comparative seriousness of nitrobenzene and anilin derivatives. The experience of this place shows that fumes produced in washing dinitrobenzene cause a great deal of trouble, but that even more sickness occurs in screening, where the dust is quite heavy. It was noted that no immunity follows an attack; on the contrary, the succeeding attacks are severer and recuperation is slower. Nose bleed was mentioned as a symptom by the physicians in charge of the plant.

In some factories the dinitrobenzene, after solidification, is broken up with picks and then shoveled out. This is a dangerous procedure, giving rise to much sickness. In one plant it has been avoided by granulating the DNB under water, in another, by melting it and pumping it out.

*Dinitrochlorbenzene.*—This is distinctly more poisonous than dinitrobenzene and produces, in addition to the symptoms described above, a very distressing inflammation of the skin, accompanied by itching. This inflammation usually begins where the skin is tender, between the fingers and behind the knees. Then it spreads and may cover the whole body. A man who had not developed dermatitis rubbed his eyes while at work and they became intensely swollen. An interesting case of dinitrobenzene poisoning was obtained from the records of the New York State Labor Department. The man, a lead burner, had been sent four weeks before the physician saw him to make repairs inside a tank which had contained dinitrochlorbenzene but had been emptied, boiled out with caustic soda and the sides washed with 10 gallons of grain alcohol. The next day his skin began to inflame, and 24 hours later he had a severely itching eruption with edema extending from his feet to the lower border of the ribs. At the time he was seen, he was still complaining of difficult breathing and slight weakness.

*Nitrophenols.*—All nitrophenols are said to cause more or less dermatitis. The only ones which have caused systemic poisoning in the United States, so far has been learned, are dinitrophenol and trinitrophenol, or picric acid. Both these substances were manufactured as explosives, but picric acid is also a well-known yellow dye. Dinitrophenol is not used in dye manufacture, and the cases of poisoning that occurred in the explosives industry are of interest only because they show what may occur if the manufacture and use of paramononitrophenol, a dye intermediate, is not carried on with every precaution. This last compound is poisonous to animals in very small quantity (0.1 g. per kg. of weight). There were three fatal cases of dinitrophenol poisoning last summer in men who handled the dry powder. They suffered sudden collapse, pain in the chest and abdomen, and vomiting, then there was a rapid rise of temperature, followed by convulsions and death in a few hours. A fourth case was unusual, being one of acute toxic jaundice such as is seen in TNT poisoning.

Picric acid is slowly absorbed, and the systemic poisoning shows itself in abdominal pain, indigestion, and loss of weight.

*Benzyl chloride.*—In making benzyl chloride for dyes, chlorine vapor is driven into toluene. The liquid is emptied from the flasks into great open earthenware jars, water is poured in, the mixture is stirred, the water decanted off, and the benzyl chloride filtered into carboys. This washing is carried on out of doors and the men wear masks soaked in ammonia water to protect them against the dense white fumes, which are very irritating to eyes, nose, and throat. These fumes, however, are not benzyl chloride chiefly, but chlorine, hydrochloric acid, and perhaps unchanged chlortoluenes. One case of severe poisoning in a chemist engaged in making benzyl chloride has been reported. This man worked for nine months in a laboratory where there were at times much benzyl chloride vapor and also chlorine gas and perhaps fumes of toluene. He lost some 25 or 30 pounds in weight, his color changed to a bluish gray, and he found at the end of nine months that he was wholly unable to perform the simplest sort of physical work. Excessive insomnia was another symptom, and he had trouble with his eyesight, though this varied from day to day, increasing in severity if the room was heavily charged with benzyl chloride vapor. He was not examined by a physician. The symptoms are given as he described them.

*Phosgene.*—This substance is important because it is necessary for the formation of Michler's ketone. The action of this gas is familiar to us now because of its use in gas warfare. It causes coagulation of the blood in the finest capillaries, thereby greatly increasing the work of the heart. Absolute repose may carry a man past the danger

point, but if he is obliged to exert himself after inhaling phosgene serious heart strain or death may result. Records were secured of two chemists who were overcome while experimenting with phosgene gas and who suffered from cardiac weakness for some time after. Two workmen were killed by it.

*Dimethyl sulphate.*—This is a very powerful poison, considered by many chemists to be the most dangerous substance, except phosgene, used in making dyes, and it is used in such a way as to cause more exposure to poisoning than is phosgene. In introducing the methyl group, a very common procedure, methyl alcohol or methyl chloride can be used, but they require heat and pressure in an autoclave. The same reaction can be brought about much more cheaply and easily by dimethyl sulphate, which needs neither heat nor pressure. It has an intensely caustic effect on the skin and mucous membranes, which are first white and then red and burning. There is a rapid pulse, the temperature rises, and death may come on in a few hours or there may be pneumonia or toxic jaundice.

*Sulphureted hydrogen.*—This is evolved in gaseous form when sulphur and sodium sulphide are used as reduction agents in the making of sulphur dyes. It is poisonous in very small quantities. Danger to life begins when the quantity has reached 0.075 per cent, and 0.1 to 0.15 per cent is rapidly fatal. It is the poison that in the dye industry itself seems to be more feared than any other. In the making of sulphur browns it is held to be unsafe to have one man working by himself in the sulphide department, for if there is a leak and  $H_2S$  escapes, the effect is almost instantaneous. For instance, a man who was employed in making sulphur browns had climbed a ladder to repair some belting. The fume pipe happened to be out of order and he had only warning enough to enable him to reach the floor before falling unconscious from the fumes. Six men were overcome one night in another dye works. All were stupefied and had to be carried out of doors. One fatal case has been reported. The man was treated with the pulmotor within five minutes of losing consciousness and respiration was reestablished, yet he died of heart failure. As a rule, in  $H_2S$  poisoning, respiration stops before the heart does. There is an increasing susceptibility to  $H_2S$  poisoning, and in one factory a man who has once suffered from poisoning is always shifted to other work. This rule applies even to foremen. One case of blindness following  $H_2S$  poisoning has been reported but without any details being given.

*Fumes from mineral acids.*—The nitrous fumes which caused so much sickness and death in the manufacture of explosives are produced also in the dye industry but are not nearly so dangerous because the acid used is much less concentrated. Occasionally we

hear of nitrous fume poisoning but it is usually because of an accident, as when a man fell and spilled the acid from a carboy. The foreman went to his assistance and both were overcome by the fumes, the workman dying from the effects, the foreman recovering after a week's illness. This gas is dangerous when present in quantities as small as 0.05 per cent.

Sulphur dioxide, which is given off when sulphuric acid is used in certain reactions, is looked upon by many managers and foremen as fairly harmless, yet it is one of the gases which were selected by the Germans for experimental use in gas warfare. Burning in the throat and eyes and sneezing and coughing are caused by as little as 0.03 per cent of  $\text{SO}_2$  in the air.

Chlorine gas is given off especially in the making of anilin chloride, benzyl chloride, and nigrosin. It is an intensely asphyxiating gas, the effects of which are familiar to everyone from the descriptions of gassing in the trenches during the first part of the war. It is dangerous to life in a strength of 0.1 per cent.

*Caustic soda.*—In well-managed plants this substance is handled very carefully, and the men who work with it are required to protect their eyes with goggles. The burns it causes are deep and painful and one of the most distressing accidents that can occur is the splashing of caustic into the eye.

*Poisonous dyes.*—Various dyes are listed by the Germans as having poisonous properties, usually producing dermatitis. In this country we have had reports of severe dermatitis from dyeing fur with paraphenylenediamine, which is often called ursol. Two cases of anilin poisoning, with characteristic symptoms, were reported by Birge.<sup>1</sup> The men were using anilin black paint and washing the surface with hot water and soapsuds. There were no fumes but apparently they absorbed the anilin through the skin.

The above list of poisons is not nearly complete, as reference to German medical literature shows. Much remains to be learned about the dangers of dye manufacture in this country and about the methods for preventing industrial poisoning. This report covers the few facts that have been ascertained so far. It is hoped that a fuller report can be issued in the near future which will not only give more details but also correct whatever errors may have crept into this preliminary report.

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#### INDUSTRIAL HYGIENE AT THE CONVENTION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

Many employers, employment managers, plant engineers, industrial physicians and surgeons, and industrial hygienists were in attendance at the industrial hygiene section of the forty-sixth annual

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<sup>1</sup> Birge, E. G., in Journal of the Americal Medical Association, Jan. 24, 1914, p. 314.



convention of the American Public Health Association held at Chicago, December 9 to 12, 1918.

The chairman, Dr. G. M. Price, in his address on the newer problems of industrial hygiene, drew special attention to the problems which he claimed are of perhaps more vital importance to industry and to industrial workers than the old and as yet unsolved problems of accident prevention, plant construction, factory sanitation, industrial dust, gas fumes, and poisons. These newer problems are the following: (1) The proper economical basis of industrial life; (2) the interrelation of wages and standards of living; and (3) the establishing of a minimum wage in industries while aspiring to the maximum wage attainable. He insisted upon the imperative need of the licensing of all hazardous industries and the physical examination of all those who enter them. Among the problems of industrial hygiene he also included the needs of compulsory State social insurance. He insisted that there can be no improvement in industrial conditions until there is industrial peace, and that there can be no industrial peace until the workers themselves have a right to determine the conditions under which they shall work. Autocracies have been demolished in the political life of nations, and the same fate must follow industrial autocracies. One of the most important problems in industrial hygiene is, he claimed, the democratization of industry.

The problems of industrial poisons were stated by Dr. J. W. Scherschewsky, of the United States Public Health Service. He said that there should be a standard definition of industrial poisons which could be adopted by all States. There should also be standard methods of guarding against these industrial poisons. Dr. Scherschewsky likewise advocated a system of licensing dangerous trades, and maintained the necessity for the cooperation of Federal and State authorities in the prevention of industrial disease.

The problem of the influx of women into industry was dwelt upon by Dr. Francis B. Patterson, of Pennsylvania. Dr. Patterson accused the Federal Government of breaking down many of the labor laws and sanitary standards, especially in the ordnance department in the various big plants for war industries. He claimed that many children under 14 were permitted to work in the aircraft factory in Pennsylvania and in the various steel plants where 75 millimeter shells were being made, that women were allowed to work at night, and that the Federal Government left no stone unturned to increase production even though it was at the expense of the health and even life of the women and child workers. Dr. Patterson's facts were partly admitted by the United States Public Health Service representatives, but it was claimed by them that these conditions existed only at the beginning of the war when production was the great need of the hour

and before proper precautions and standards had been introduced for war work.

The United States Public Health Service presented at one of the meetings the project for a division of industrial hygiene and medicine in the United States Public Health Service, functioning as a part of the Working Conditions Service in the Department of Labor. The plan of organization of the new division was discussed by Dr. A. J. Lanza, chief of the division, and Dr. C. D. Selby and Bernard J. Newman, chiefs of sections in the organization.

According to Dr. Selby, the creation of a governmental agency for the protection of the health of the industrial workers was made in response to the war-time necessity of conserving industrial man power. The agency created for this purpose now exists as the Division of Industrial Hygiene and Medicine of the Working Conditions Service of the Department of Labor, the personnel of which consists of officers detailed from the United States Public Health Service. This division will formulate industrial standards, endeavor to effect a friendly leadership in industrial hygiene, conduct research and investigations in various industrial fields. The country will be divided into zones and districts presided over by district industrial health officers.

The program the Division of Industrial Medicine and Hygiene desires to put into effect is as follows: (a) Facilities for instruction in the prevention of disease; (b) health supervision for all recreation and amusement in industrial plants; (c) adequate laws governing sanitation, food, milk, and water supplies and control of housing; (d) provision of facilities for the relief of sickness, including hospitals, clinics, and visiting nurse service; (e) installation and supervision of departments of health and sanitation in industrial centers; (f) educational service for the people of industrial centers. Special attention is to be given to the standardization of occupational requirements, physical examination of workers, vocational placement of workers, sanitary inspections of plants, research of special hazards, health instruction to workers, control of communicable diseases, first aid service and emergency treatment, treatment for sickness, together with installation of laboratory and X-ray service, special treatments (including dental and ocular), visiting nurse service, keeping of records and reports of morbidity.

The criticisms made by a number of those present were directed to the ambitiousness of the program and the wide scope of the new division. It was asserted by many that it would be preferable to concentrate the efforts to several concrete and definite points, which could probably be better handled than if the work of the division is scattered over too wide a field.

In his paper on the "Problem of compensation for industrial disease," Dr. Frederic L. Van Sickle insisted upon the need of a

revision of our compensation laws so that provision be made for compensation not only for accidents but also for occupational disease. He advocated a limit of 26 weeks in any one year as a fair limit of time for compensation for occupational disease.

The intimate relation between wages and health has long since been recognized by all health authorities. Papers on this subject were presented by Mr. Arthur E. Holder, member of the Federal Board for Vocational Education (read by his son, Mr. James Arthur Holder); Dr. B. S. Warren, assistant surgeon general, United States Public Health Service (Dr. Warren did not deliver this paper in person); Dr. Royal Meeker, United States Commissioner of Labor Statistics; and Miss Julia Lathrop, chief of the Children's Bureau, Department of Labor.

The points emphasized by these papers were that low wages lead to poor health; that mortality is in direct ratio to the wage rate; that the disease rate increases as wages decrease and diminishes as the pay envelope gets fuller. High wages mean better diet, improved housing, warmer clothing, better medical care, prevention of disease, a more robust physique, and a general improvement in health of the workers.

The subject of Commissioner Meeker's paper was "Relation of cost of living to public health: A standard minimum of health budget." This paper has already been published in the MONTHLY LABOR REVIEW for January, 1919 (pages 1 to 10), therefore an extended analysis is not given here. He called attention to the various studies of the United States Bureau of Labor Statistics on cost of living and the countrywide study of that subject now in progress, through which it is hoped to arrive at standard family budgets which will show quantities and kinds of food, clothing, house room, fuel, lighting, and all other expenditures necessary to maintain workmen's families in decency and health and in health plus comfort.

Such budgets will be invaluable in adjusting wages and by means of them it will be possible to determine which families have attained the standard, which are spending more than sufficient to maintain a proper standard, and whether additional expenditures are being made wisely or unwisely.

Dr. Meeker advocated the protection of workmen's families against the hazards of sickness, accident, invalidity, and old age, unemployment, and death, by the enactment of adequate legislation. This advocacy by the Commissioner of Labor Statistics of the introduction of social insurance was violently opposed by Frederick L. Hoffman, of the Prudential Life Insurance Co., who claimed that social insurance emanated from Germany and was introduced by Bismarck to combat the spread of socialism.

Income and infant mortality was the subject of a paper by Miss Julia Lathrop, of the Children's Bureau. She gave the results of investigations made by her bureau in eight cities, ranging in population from about 50,000 to over one-half million inhabitants, and differing in characteristics. These investigations were made in Johnstown, Pa., Manchester, N. H., New Bedford, Mass., Brockton, Mass., Saginaw, Mich., Waterbury, Conn., Akron, Ohio, and Baltimore, Md. The results of the investigations show that the lowest income groups in these cities are likewise the highest infant-mortality groups. The infant-mortality rates, in families earning \$1,250 and over, range from 22.2 to 87.6 per 1,000 live births, while in families earning less than \$550 per annum the infant mortality ranged from 117.5 to 260.9. The contrast, she said, between the most favorable and the least favorable infant-mortality rates in the cities studied indicates the favoring result of income which permits proper housing, good surroundings, and care, and which connotes a fair degree of education. The strongest safeguard against the high-infant mortality, she said, is a decent income, self-respectingly earned by the father of the family.

We still cling to the shaken but not shattered belief that this free country gives every man his chance and that an income sufficient to bring up a family decently is attainable by all honest people who are not hopelessly stupid or incorrigibly lazy. The fathers of 88 per cent of the babies included in the bureau's studies earned less than \$1,250 a year; 27 per cent earned less than \$550. As the income doubled the mortality rate was more than halved. Which is the more safe and sane conclusion? That 88 per cent of all these fathers were incorrigibly indolent or below normal mentally, or that sound public economy demands an irreducible minimum living standard to be sustained by a minimum wage and such other expedients as may be developed in a determined effort to give every child a fair chance?

Dr. Lee K. Frankel, of New York, was elected president of the association for the coming year. New Orleans was chosen as the next meeting place. Other officers elected were: First vice president, Col. J. W. S. McCullough, Toronto; second vice president, Col. Victor C. Caughan, Ann Arbor, Mich.; third vice president, Dr. John Dill Robertson, health commissioner of Chicago; secretary, A. W. Hedrich, Boston; treasurer, Dr. G. H. Summer, Des Moines, Iowa; members of the executive committee, Dr. A. W. McLaughlin, Washington; Dr. C. J. Hastings, Toronto; Dr. Peter Bryce, Toronto; Dr. J. N. Hurty, Indianapolis; Dr. W. C. Woodward, Boston.

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#### POISONING FROM EXHAUST GAS.<sup>1</sup>

Recent reports of a number of cases of poisoning by carbon monoxid gas have drawn attention to the fact that this is a matter of industrial interest, since while the cases are comparatively few

<sup>1</sup> Carbon monoxid poisoning: its nervous and mental symptoms. Charles W. Hitchcock, M. D., in the *Journal of the American Medical Association* for July 27, 1918, pp. 207-259.

there are enough to show the danger to chauffeurs and others working about unventilated garages.

Two years ago at a French Army medical reunion attention was drawn to fatal cases of poisoning which had occurred in motor ambulances where the exhaust-pipe of the motor was leaky, the post-mortem lesions suggesting carbon monoxid poisoning.

A paper was read by Dr. C. W. Hitchcock at the annual session of the American Medical Association in June, 1918, calling attention to the danger of automobile exhaust gases in closed garages and noting the nervous and mental symptoms resulting from carbon monoxid poisoning.

The statement is made that "deaths from carbon monoxid poisoning in large cities now exceed those from any other poison." In 1916 the total number of cases in Cook County, Ill., was 501, or about 8 per cent of the whole number of coroner's cases and while the majority of these were cases of suicide still there was an appreciable number of accidental deaths.

While cases of carbon monoxid poisoning are more frequently fatal than otherwise the author cites cases which are not directly so and others holding out hope of ultimate recovery.

A case immediately fatal was that of a chauffeur who entered a small closed garage to do some work on the machine. About two hours later a maid sent to call him found him seated in the auto, dead, the doors and windows of the garage closed, and the engine of the car running. There was a pinkish discoloration all over the body. The internal organs were found to be healthy but a chemical examination of the blood showed that it was 58 per cent saturated with carbon monoxid.

Another case with a fatal ending was that of a man who went to his private portable garage on an unusually cold morning, started the motor running and returned to the house. After a few minutes he returned to the garage and while oiling the machine smelled something very sweet and had a desire to laugh; he also saw yellow flashes before his eyes and felt weak in the knees. His first thought was to sit down on the running board, but he decided to go to the house and an hour later his wife found him lying unconscious in the snow. When roused, he staggered and could not have walked alone, but went to sleep in an apparently normal manner. On waking, however, he complained of dizziness and a throbbing headache, and talked incoherently. He apparently recovered and went to work the following day but talked incoherently at times and could not remember simple facts. During the night pneumonia developed and the following night the patient died.

A case which did not terminate fatally but in which recovery has been exceedingly slow is that of a chemical engineer who went to the



garage to charge the battery on his car, leaving the engine running for this purpose. He thinks he propped the door open but it blew shut, and beyond this point he has no recollection of events. About an hour later he was found unconscious on the floor of the garage. Medical help was secured in about five minutes, the heart was found to be racing violently and respirations were only five or six per minute, while later the pulse was only 40. He was unconscious about five hours and then was irrational and but partly conscious for some time. About six weeks after the accident his pulse had become normal and he had improved physically. Nearly 14 months after the accident, however, although he had spent much of the intervening time in outdoor occupations, he was unable to work at his laboratory work and there was still present an anterograde amnesia, some emotional disturbance, and some depression.

Other cases cited present this same characteristic loss or impairment of memory. Of the amnesia, peculiar to these cases, Sachs has said, "In the early stage of convalescence, a total amnesia is especially typical, either extending over the time before the poisoning, retrograde, or to the things of the present, anterograde." A case is cited of a physician who, after an incomplete case of poisoning, lost his memory totally, recovering only after 18 months. A woman who had been unconscious for about five hours following a case of gas poisoning and who had suffered severe loss of memory which blotted out previously acquired memories and prevented acquiring new memories showed some improvement five years after the accident but still had a defective memory.

A French physician, Le Dosseur, 'has collected a number of cases in which the following mental disturbances were noted: Aphasia, acute delirium, transitory chronic delirium, mental confusion, amnesia, melancholia, dementia. On the physical side he found muscular paralysis of diverse types, hemiplegias, paraplegias and monoplegias, various trophic disorders, convulsions, etc."

In the discussion which followed the reading of the paper one physician stated that he thought it doubtful if any case of a fair degree of carbon monoxid poisoning ever fully recovers.

#### SICKNESS AS RELATED TO INCOME, IN COTTON-MILL FAMILIES.<sup>1</sup>

A study of pellagra<sup>2</sup> which was begun in 1914 by officials of the Public Health Service had shown, by the end of 1915, the controlling effects of diet both in the prevention and the causation of the

<sup>1</sup> Summary of article by Edgar Sydenstricker, Public Health statistician; G. A. Wheeler, assistant surgeon; and Joseph Goldberger, surgeon, United States Public Health Service, in *Public Health Reports* for Nov. 22, 1918, pp. 2038-2051. Washington.

<sup>2</sup> A study of the diet of nonpellagrous and of pellagrous households, by the same authors. *Journal of American Medical Association* for September 1918. pp. 944-949.

disease. During the winter of 1915-16 it was decided to supplement this investigation by a study of the dietary, economic, and sanitary conditions in communities where the disease was believed to be prevalent and for this purpose seven cotton-mill villages in the northwestern part of South Carolina were selected. None of these villages had more than 800 or fewer than 500 inhabitants and only the families of white mill operatives were included. In order to determine the prevalence of the disease a complete house-to-house inspection was made every two weeks from the middle of April, 1916, to the end of the year. Only those patients "with a clearly defined bilaterally symmetrical dermatitis were recorded as having pellagra" and the authors felt that by excluding cases which did not show a clearly defined eruption but which did show subjective symptoms possibly some cases were not included which should have been. No case was considered where the individual had not been a member of the household or dietary group for at least thirty days prior to the onset of the attack. A record was kept at the stores, of food purchased by the households included in the study. An element which had not previously been taken into consideration in the study of the disease was that of the seasonal factor, necessitating, for satisfactory results, a study of the diet for the period just preceding or coincident with the incidence of the disease and of the season when both the number of cases and the severity of symptoms were beginning to decline. It was assumed that the season between April 15 and June 15 would cover the period when the disease was at its height, and as it was impossible to secure a record of the complete food supply of each household for the entire period a fifteen-day period was selected—this period for the different villages falling somewhere within the selected two months. In comparing pellagrous with nonpellagrous households in regard to the diet those were classified as "nonpellagrous" which were under observation from April 15 to October 1, 1916, and in which no one with suspicious symptoms was observed, and those in which one or more clearly defined cases occurred before August 1, 1916, were classified as "pellagrous."

The families were divided into four dietary groups, those in nonpellagrous households according to income and in pellagrous households according to the number of cases. In comparing the foods the highest income group in the nonpellagrous households was taken as a basis. The nonpellagrous groups were found to differ chiefly in the amount of lean meat, butter, milk, cheese, and eggs consumed, while the pellagrous households fell considerably below the standard of the lowest income group of the nonpellagrous families in the consumption of these articles.

Of 196 households whose daily supply of milk was less than 250 grams per adult male unit, 126 averaged less than 30 grams of fresh meat daily and of these 25, or 19.8 per cent, had one or more cases of pellagra, whereas of 70 that had a supply of fresh meat averaging in each over 30 grams per adult male unit per day, only 4, or 5.7 per cent, were pellagrous. In 368 families whose supply of fresh meat was less than 30 grams daily, 207 had less than 500 grams of milk per adult male unit, and of these 34, or 16.4 per cent, had one or more cases of pellagra; while of the remaining 161 having a daily supply of fresh milk averaging more than 500 grams per person, 8, or only 5 per cent, were pellagrous. No particular relation was found between the use of dried peas and beans and pellagra incidence, contrary to deductions which had been drawn previously by the authors as to their value as preventives.

The conclusions drawn therefore are "that the pellagra-producing dietary fault is the result of some one or, more probably, of a combination of two or more of the following factors: (1) A physiologically defective protein supply; (2) a low or inadequate supply of fat-soluble vitamin; (3) a low or inadequate supply of water-soluble vitamin, and (4) a defective mineral supply." It is considered also that the "pellagra-producing dietary fault may be corrected and the disease prevented by including in the diet an adequate supply of the animal protein foods (particularly milk, including butter and lean meat)." It is still considered possible, of course, that other classes of food may also serve this purpose.

In connection with this study an investigation of disabling sickness was carried on among the population of these same villages during May and June, 1916, and statements secured as to the number of days lost on account of disability or from other causes by wage-earning persons from January 1, 1916, to the date of the inquiry. The study covered 747 households comprising 4,161 individuals and the reader is cautioned that, while the villages are typical of cotton-mill villages in that part of the State both as to economic and health conditions, the morbidity experience is not extensive enough to justify broad conclusions, though the results are definite enough to establish the relation of family income to disability incidence.

Data were secured as to the sex, age, occupation, earnings, and regularity of employment of each individual member and the family as a whole, and the length of disability of those unable to work, either from sickness or accident (not industrial). For purposes of comparison the definition of "sick" was the same as used in recent sickness surveys, that is, persons confined to bed at home or in hospital and those able to be up but unable to work. It was somewhat difficult to draw the line between disabling and nondisabling sickness

for persons who were "up and about," especially in the case of non-wage-earning women and children under 12 (the age of employability in the mills at the time the census was made). Family income was used as the basis in classifying the population. The usual method of classification according to total family income for a given period was discarded, however, for while nearly all the incomes came within a limited range—between \$700 and \$1,000—the difference in size of families was so marked that, failing a better common denominator, the Atwater scale of basal food requirements was used<sup>1</sup> and the membership of each family reduced to "adult male units," the assumption being that expenditures for individuals varied according to the sex and age in the same proportion as did their basal food requirements. While this method is not so accurate as could be desired, still since the family expenditures in most cases equaled the total family income, and since at least half of the total expenditures was for food, a scale based on food requirements alone is undoubtedly more accurate than one omitting consideration of the number, sex, and age of the families to be compared.

As the same general differences in average incomes for the four groups are shown by any of the methods of classification, that is, "total family income, income per capita, and income per adult male unit," the average income has been computed by these different methods and the result termed the "family income per adult male unit."

The 747 families thus classified have been grouped into four classes, according to income, and the table on page 225 shows that the sickness rate among families with low incomes is very much higher than among persons with a better economic standing.

<sup>1</sup> Principles of Nutrition and Nutritive Value of Food, by W. O. Atwater, U. S. Department of Agriculture, Farmers' Bulletin No. 142 (1915 ed.), p. 33. The scale used was as follows:

Age.	Equivalent adult male unit.	
	Male.	Female.
Adult (over 16).....	1.0	0.8
15 to 16.....	.9	.8
13 to 14.....	.8	.7
12.....	.7	.6
10 to 11.....	.6	.6
6 to 9.....	.5	.5
2 to 5.....	.4	.4
Under 2.....	.3	.3

CASES OF DISABLING SICKNESS AND RATE PER 1,000 PERSONS, AS ASCERTAINED BY A CENSUS OF SEVEN COTTON-MILL VILLAGES OF SOUTH CAROLINA DURING MAY AND JUNE, 1916, CLASSIFIED ACCORDING TO FAMILY INCOME.

Half-month family income per adult male unit. <sup>1</sup>	All persons.			Wage-earning persons.			Nonwage-earning persons.		
	Number of persons considered.	Number of sick persons. <sup>2</sup>	Sick persons <sup>2</sup> per 1,000 persons considered.	Number of persons considered.	Number of sick persons. <sup>2</sup>	Sick persons <sup>2</sup> per 1,000 persons considered.	Number of persons considered.	Number of sick persons. <sup>2</sup>	Sick persons <sup>2</sup> per 1,000 persons considered.
Less than \$6.....	1,312	92	70.1	450	36	80.0	862	56	65.0
\$6 to \$7.99.....	1,038	50	48.2	426	22	51.6	612	28	45.8
\$8 to \$9.99.....	784	27	34.4	426	8	18.8	358	19	53.1
\$10 and over.....	1,027	19	18.5	538	8	14.9	489	11	22.5
All incomes.....	4,161	188	45.2	1,840	74	40.2	2,321	114	49.1

<sup>1</sup> According to the Atwater scale of basal food requirements.

<sup>2</sup> Exclusive of disability due to confinement.

A comparison of the sick rate per 1,000 persons of different family income groups in these cotton-mill villages, with the result of community sickness surveys conducted by the Metropolitan Life Insurance Co. which showed a rate of 18.8 for 579,197 persons of all ages, shows that this rate is approximated only by those cotton-mill families coming in the highest wage group—the sickness rate rising rapidly with the lowering of the income. It was possible to compare sickness rates for millworking and nonmillworking persons only among females, since practically all the males of wage-earning age worked in the mills. For 1,283 women of all income groups the rate per 1,000 was 39.2 for nonmillworking and 45.2 for those employed in the mills. The difference in sickness rate between millworking and nonmillworking women, as a whole, is relatively slight, but taken by incomes the difference is more striking, showing a rate for those with incomes of less than \$8 per adult male unit of 49.6 for unemployed women against 67.9 for those employed in the mills. It is a matter of interest to note that among the same persons the pellagra rate was the reverse of the sickness rate, it being four times as high for the nonmillworking as for the millworking. It would seem from this fact that the idea that general debility is a factor in the contraction of pellagra is erroneous.

To sum up the results of the study, it was found that the greatest amount of working time lost was among members of families of low incomes, and that to approximate what may be assumed from other censuses to be the normal sickness rate an income of \$10 per half month per adult male unit, or about \$900 a year for a normal-sized family (3.3 adult male units), is necessary.

Employment in millwork does not seem to be so important a factor in a high sickness rate among females as small incomes, and a



greater amount of disabling sickness of relatively long duration was found among those persons whose family income was below the average.

To what extent low family income was a cause of higher sickness rate and to what extent it was an effect of disability (and thus of inability to increase income) can not, of course, be determined from these data. The condition, however, is manifest that a greater amount of disabling sickness existed among persons who were living under less favorable economic conditions than among persons whose economic status was more favorable—a condition which has been pointed out by previous observations in the literature on the social aspects of ill health and indicated by several recent studies. The data here presented afford additional ground for the suggestion that in the analysis of morbidity facts the factor of economic status should be given proper emphasis.

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### HEALTH HAZARDS OF THE CLOTH SPONGING INDUSTRY IN NEW YORK.

The New York State Industrial Commission, through its bureau of inspection, has recently made an investigation of the health hazards in the cloth sponging industry in that State, covering 90 establishments using cloth sponging devices. In its report<sup>1</sup> the commission states at the outset that as a result of the investigation 88 orders to correct conditions inimical to the health of employees were issued, that compliance with these orders will be insisted upon and obtained, and that, generally speaking, the investigation revealed the importance of requiring some provision for the removal of steam and vapor and the consequent lowering of the humidity in the rooms in which the machines are operated and the men employed. Without going into a detailed description of the processes of cloth sponging, as the commission has done in its report, it may be said that "cloth sponging comprises the process of subjecting cloth, as it comes from the mill, to the action of steam under pressure, or, to the action of cold water according to the material and weave of the goods, in order to shrink it evenly and prevent further shrinkage when made up into clothing or used for other purposes." The industry is divided into three branches: (1) Examining; (2) cold water or London shrinking, which is the older branch of the business; and (3) steam shrinking or sponging, which was devised as a labor and time saving device.

The health hazards in this industry, according to the report, consist of the dangers to which the examiners and the spongers and their helpers are subjected. One hazard is the ordinary danger of the inhalation of the so-called "shod" or "fluff" which flies from the material as it is pulled over the rack or "perch" in order to disclose defects in the cloth. Respiratory diseases are the consequence of this branch of the business and to eliminate this hazard "it is evident

<sup>1</sup> Health hazards of the cloth sponging industry, State of New York Department of Labor. Special bulletin, No. 89. Issued under the direction of the Industrial Commission, Albany, November, 1918. 24 pp. Illustrated.

that \* \* \* a light mask or respirator should be worn during the hours of work." Another hazard to which these workers are subjected arises from a combination of "actual hard labor, entailing the carrying of rolls of cloth weighing from 60 to 150 pounds when rolled on the steam cylinders, with working in the presence of high temperature and humidity," which "must certainly be followed by a general lowering of the body vitality." The report cites authorities to show that humidification in any shape or form causes bodily discomfort and injury to health.

Barker's analysis, as quoted in his volume on Heating and Ventilation (p. 106), was that the degree of discomfort experienced by workers in a hot, moist atmosphere is measured not by the temperature of the air, nor by its relative saturation, nor the absolute percentage of aqueous vapor present, but "by the temperature shown by the wet bulb thermometer. If this exceeds about 78° F. hard work becomes impossible." He further says that "A temperature of 75° F. wet bulb should not be exceeded, and a limit of 70° F. is still more desirable."

The report includes a table which shows the high degree of the wet bulb readings in sponging establishments. Of the 37 plants in which the wet bulb and dry bulb thermometer readings were taken, not one showed wet bulb readings of 70° or less; 15, or 40.5 per cent, showed readings of 78° and over; and 30 or 81.1 per cent, showed readings of 75° and over.

Another hazard incident to this industry, as in other employments, causing a rather large proportion of acute respiratory conditions, arises from the fact that promptly at the hour of cessation of labor, at both noon and night, the employees go immediately from the high humid atmosphere into the cold of the street.

Brief statements of conditions found in 10 plants are given as typical of those in the 37 establishments mentioned above.

The report notes that during the investigation 95 men employed in this industry were examined physically, the results of which are given in a table which may be summarized as follows:

The table shows groups of men who have worked in the industry in periods ranging from one to 35 years. In the group from 31 to 35 years, but one man was found and examined. A close perusal of the chart shows the marked preponderance of diseases of the respiratory tract, the most important of which is pulmonary tuberculosis. With the exception of one group (31 to 35 years), this lesion was found present in all the groups; 18 cases showing various stages of tuberculosis were observed, giving a percentage for this condition of 19.

Other diseases of the respiratory tract, such as acute bronchitis, chronic bronchitis, asthma, and pleurisy were found. Skin diseases were also noticed and some cases of anemia.

In the group 16 to 20 years the largest number of incidental diseases were observed, these comprising gastric ulcer, lipoma, cataract, chronic endocarditis, myocarditis chronic alcoholism, and cirrhosis of the liver.

It will also be observed in the column showing previous histories that all of the groups, except that of 31 to 35 years, give histories of diseases of the respiratory tract at some time during the period of employment.

The presence of high morbidity rate in the diseases of the respiratory tract led to an analysis of the mortality of the industry. It was shown by the records that 17 men engaged in this industry had died during the last three years. Through the courtesy of the Department of Health of the City of New York the actual cause of death in 11 cases out of the 17 cases was ascertained. In five instances death was due to tuberculosis of the lungs (pulmonary tuberculosis), thus bearing out to an unusual degree the relation between morbidity and mortality statistics.

Hoods to collect the excess steam were found in use in some plants, but proprietors stated that metal hoods are objectionable because the steam condenses on them and the dirty water rolls down and spots the cloth which is under treatment. They also rust or corrode. Wooden hoods contain salts and other extractives, all of which are easily carried down by the drip which causes spotting of the cloth. The commission makes the following recommendation for overcoming these objectionable features:

Hoods or canopies made of sailcloth stretched on wooden, aluminum, or other non-rustable metal frames, should be placed at heights varying from 10 to 12 feet above the machines and provided with an exhaust fan of sufficient capacity at upper end to completely remove all excess steam generated in the process of sponging; the size of the fan will vary according to conditions, it being found that a 30-inch disk fan removing 7,500 cubic feet of air per minute usually suffices, under ordinary conditions, for the removal of steam from a Hebdon roll and a steam box. When the height of the ceiling will permit, the canopy should have a pitch of not less than 1 foot in 6 feet to properly guide the steam to the fan. In some instances, where metal hoods are now in use, gutters at base of hoods were found to be necessary to convey the drip away from machines.

It must be remembered that atmospheric conditions, factory conditions, construction, outside temperature, relative humidity, air currents, size of room, size, type, and velocity of fan, also size of hood, all have an important bearing on steam removal. Admission of cold air from outside, during winter months especially, lowers the dew points in the room and renders the removal of steam much more difficult; therefore, heated air injected into the rooms containing these machines raises the dew point and assists in the removal of the steam.

It has been found by experience, that sailcloth, instead of wood, is the most suitable material for use in the construction of the canopies, as the fibers soon swell and thereby lessen the size of the interstices of the cloth, partly filling them with water, thus rendering the material practically vapor-proof; felt is too expensive; burlap is too loosely woven, and wood does not dry out with sufficient rapidity; while wooden hoods lined with felt show less condensation than wood alone. The point of discharge from the fans must be so located as regards the factory that the vapors do not again enter the workroom.

As a result of the investigation, the commission makes the following recommendations:

That a dressing room, properly heated to 68° F. in winter, containing sanitary lockers, be installed in each factory for use of sponging workers.

That suitable means shall be provided to dry clothing of employees working in sponging rooms.

That fans should be of such capacity as to maintain a wet bulb temperature in sponging rooms not to exceed 75° F.

## NEW PROCESS FOR ELIMINATING DUST AND FUMES.

It is a rare occurrence for an entirely new industrial process to appear, according to a recent article in *Industrial Management*<sup>1</sup> but when one does its effect upon industry is likely to be revolutionary as, for example, that of the invention of the steam engine or the electric motor. Although the electrostatic method of dust precipitation is said to have already proved highly successful, it remains to be seen whether the process has industrial possibilities far-reaching enough to be in any sense revolutionary. It is, however, unlike anything which has been used in the past and while at present it is used mainly for the collection of dust particles its application may in time be greatly extended. Of the many chemical and mechanical methods which have been devised for the suppression of dust, no other has been entirely successful, particularly when very fine dust is to be handled.

This process is in practical service for suppressing dust from rock crushers and smoke from locomotive roundhouses and other places where mechanical stokers can not be used; for removing dust, tar, and soot from illuminating gas, and for collecting the fine powders produced in the manufacture of lampblack, desiccated foods, etc. It can also be used to remove fine drops of liquid carried in gases and is therefore valuable in the removal of acid fumes from the emissions of chemical plants. In short, it appears applicable wherever there are problems due to fine suspended particles in the process of manufacture.

Although this method of dust precipitation is new, the principle underlying it is that of the familiar example of scraps of paper or other small particles adhering to a rubber comb which has become electrified by being rubbed on a woolen garment.

Some years ago scientists discovered that if a gas containing small solid particles was passed through an intense electrostatic field the particles would be precipitated. The principle was not put to any practical use, however, until Dr. Cottrell, now of the United States Bureau of Mines, developed what is now generally known as the Cottrell process. Following is a description of this process:

Fine vertical wires are charged to a very high potential by means of direct current at from 50,000 to 100,000 volts pressure. Around each wire is a tube that is grounded so that a strong electrostatic field is set up inside the tubes. The dust-laden gases pass upward through this field, becoming ionized, and when charged to the polarity of the wire, which is much higher per unit area than the tube, the dust particles are attracted to the walls of the tubes where they adhere, are jarred off and collected.

<sup>1</sup> Electrostatic dust precipitation, by William H. Easton, in *Industrial Management* (New York), December, 1918, pp. 473-475.

The particles of dust adhere to the tube until it is jarred or hammered by a mechanical device, when they fall into containers below. A properly constructed Cottrell treating system can remove about 95 per cent of the foreign substances passing through the tubes. New apparatus had to be designed and is now being built by several electrical manufacturers, as a direct current of 100,000 volts was unknown to industrial electrical engineering when the process was first devised.

It is a point of interest that while the process was developed solely to eliminate a nuisance it has been a means of considerable profit financially. A copper smelting company installed a precipitating plant at a cost of \$113,000. Operating expenses were \$14,600 per year but the value of the copper dust saved was \$180,018 a year—these figures all being based on prewar prices. Cement plants can also show a good saving even in such low value material as raw cement dust, as a cement plant installing this equipment at a cost of \$180,000 with operating expenses of \$10,395 saved cement dust to the value of \$25,000 and potash worth \$50,000 in one year.

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#### USE OF FACTORY STATISTICS IN THE INVESTIGATION OF INDUSTRIAL FATIGUE.<sup>1</sup>

In this work the author, Philip Sargant Florence, confines himself rigidly to the field indicated by its title. It is intended primarily as a practical guide for those who may desire to make investigations in industrial fatigue, through the use of factory statistics. Beyond a few brief sentences in the introduction and incidental references in the body of the text there is no systematic account of the methods pursued in previous investigations, nor are the results of such investigations outlined except in so far as they are used as illustrative material. The author states in the introduction that he has in preparation a work on "Industrial Fatigue" in which will be presented the results of the past labors of investigators in this field and the conclusions that they have reached. Such a survey of the work already accomplished is much needed and will have a popular appeal which is lacking in the present volume.

Within its limited field, the present book is an admirable piece of work, to be criticized perhaps occasionally for an extreme brevity of treatment. It sets forth clearly the problem to be attacked, the statistical material which the factory may be asked to furnish the investigator, the limitations upon the value of the material for the

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<sup>1</sup> Use of factory statistics in the investigation of industrial fatigue. A manual for field research, by Philip Sargant Florence. Columbia University studies in history, economics, and public laws. Vol. LXXXI No. 3, New York, 1918. 153 pp.



purpose in view, and the technical methods of handling the statistical material so as to derive from it the maximum amount of accurate information. The treatment is so condensed that it is impossible to do more in a brief review than to indicate in a general way the problem and the method as they appear to the author.

Industrial fatigue is defined by the author as "a diminution of working capacity caused by the length or intensity of some activity at a gainful occupation," and as the term is ordinarily used we are told that it refers to "the fatigue occurring mostly in the factory among those gaining a bare living by their work." The restriction quoted in the last sentence will undoubtedly impress most readers as unnecessarily and undesirably narrow. It could be justified, if at all, only on the ground that the problem of fatigue among the lowest-paid workers is so pressing that until it is taken care of we have no time to extend our investigations further.

How shall the existence, and still more the rate, of diminution of working power among factory workers be determined? The author proposes the use of the well-known tests: Output, use of mechanical power, accidents, spoiled work, and sickness. But while the tests are not new, no more careful and on the whole successful attempt has been made than in this work to point out the complications involved in the use of these statistics and the methods which must be adopted to eliminate the influence of disturbing factors and to isolate the effect of "length or intensity of activity at the gainful occupation."

The book reveals the great complexity of the problem of measuring the effects of fatigue and the number and variety of disturbing factors whose influence must be allowed for. To experiment under actual factory conditions with the individual worker would give results of no value at all, and even in the case of large groups of workers disturbing factors may influence so many of them in the same direction that generalizations as to the effect of length and intensity of activity can be drawn only with the utmost circumspection.

Indeed one can not help wondering whether the zeal for rigidly scientific measurement of the causes and effects of fatigue may not be carrying us beyond the point of practical utility. We have abundant evidence that large groups of workers are suffering from the effects of overwork; that the shortening of the labor day, the provision for more frequent rest periods, or even for changes of position or occupation are likely to increase the efficiency of the worker, if not for the day, at any rate over longer periods of time; but are we wise or humane in proceeding on the assumption that

every detail of the life of the industrial worker should be controlled for the purpose of securing the greatest possible output, either for the single day or for the lifetime of the worker.

At any rate, it is not strange that the worker does not enter into the plan with very great enthusiasm. For after all the worker is a human being and not a machine, and he may very properly feel that if it is shortsighted and brutal for society to treat him with less consideration than it treats a machine, it is only less inconsiderate and brutal to treat him as a machine. Even so, it may be remarked, it is better to treat men as machines than to continue to treat them with less consideration than machines.

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#### REDUCTION OF OCCUPATIONAL DISEASES IN GREAT BRITAIN.<sup>1</sup>

The total number of cases<sup>2</sup> of poisoning and of anthrax reported to the Home Office under the Factory and Workshop Act during November, 1918, was 29, of which 11 were due to lead poisoning, 1 to mercurial poisoning, 2 to arsenic poisoning, 7 to toxic jaundice, and 8 to anthrax. One death due to lead poisoning, 1 to toxic jaundice, and 1 to anthrax were reported. In addition 6 cases of lead poisoning (including 4 deaths) among house painters and plumbers came to the knowledge of the Home Office, but notification of these cases is not obligatory.

During the 11 months ended November, 1918, the total number of cases of poisoning and of anthrax reported under the Factory and Workshop Act was 243, compared with 623 in the corresponding period of 1917. The number of deaths in 1918 was 25, compared with 79 in 1917. In addition 35 cases of lead poisoning (including 20 deaths) among house painters and plumbers came to the knowledge of the Home Office during the 11 months ended November, 1918, compared with 53 cases (including 17 deaths) during the corresponding period of 1917.

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<sup>1</sup> Labour Gazette, London, December, 1918, p. 507.

<sup>2</sup> Cases include all attacks, fatal or otherwise, reported to the Home Office during the month, and not previously reported, so far as is known, during the preceding 12 months. Deaths include all fatal cases reported during the month, whether included (as cases) in previous returns or not.

## CASES OF INDUSTRIAL DISEASE REPORTED UNDER FACTORY AND WORKSHOP ACT, BY INDUSTRY.

Industry.	Cases.			Deaths.		
	Month of November, 1918.	Eleven months ended—		Month of November, 1918.	Eleven months ended—	
		November, 1918.	November, 1917.		November, 1918.	November, 1917.
Lead poisoning.						
Among operatives engaged in—						
Smelting of metals.....	1	15	45	1	1	1
Brass works.....		1	3			1
Sheet lead and lead piping.....			3			
Plumbing and soldering.....	1	14	34		1	
Printing.....		11	6			3
File cutting.....		3	4			1
Tinning of metals.....		2	2			
White-lead works.....			16			
Red lead works.....	1	2	13			
Pottery.....	1	11	14		1	5
Glass cutting and polishing.....		1				
Vitreous enameling.....			1			
Electrical accumulator works.....	1	14	26			1
Paint and color works.....	1	3	9			
Coach and car painting.....	1	9	20		1	2
Shipbuilding.....		9	18		2	
Paint used in other industries.....		15	20			1
Other industries.....	4	21	69		1	4
Total.....	11	131	303	1	7	19
House painting and plumbing.....	6	35	53	4	20	17
Other forms of poisoning.						
Mercurial poisoning:						
Barometer and thermometer making.....	1	4	2			
Furriers' processes.....						
Explosives works.....		4	3			
Other industries.....		1	12			
Total.....	1	9	17			
Phosphorus poisoning.....		3	3			
Arsenic poisoning:						
Paints, colors, and extraction of arsenic.....	2	2	28		1	5
Other industries.....						
Total.....	2	2	28		1	5
Toxic jaundice.....	7	32	186	1	9	44
Total "other forms of poisoning".....	10	46	234	1	10	49
Anthrax.						
Wool.....	7	47	52	1	5	7
Handling of horsehair.....		4	3		2	1
Handling and sorting of hides and skins (tanners, fell-mongers, etc.).....	1	14	27		1	2
Other industries.....		1	4			1
Total.....	8	66	86	1	8	11
Total reported under Factory and Workshop Act.....	29	243	623	3	25	79
Grand total.....	35	278	676	7	45	96

<sup>1</sup> The person affected in the pottery industry was a female.<sup>2</sup> One was caused by arseniuretted hydrogen gas.

FACTORY CONDITIONS AND PULMONARY PHTHISIS IN GREAT BRITAIN.<sup>1</sup>

Prof. Benjamin Moore in a recent number of the London Lancet expresses the opinion that there is an urgent need for an industrial health medical service for Great Britain, and that this need has been made evident by the examinations during the war period for fitness for military service, which have revealed serious shortcomings in the physique and health of the nation. The desire for bettered conditions along many lines which this era of reconstruction has brought to the nations engaged in the war leads to the hope that the resources of science and research will in the future be devoted with as great energy to preserving life and health as they have been in the recent past to the invention of instruments of destruction. Attention therefore is being directed to the necessity for applying the resources of science to the eradication of disease and the building up of a physically stronger race.

Disease is not an eliminator of the unfit, contrary to a quite common impression to that effect, but is simply a blind destroyer attacking those of the highest mentality as well as those of the lowest, and in the case of phthisis, as well as other preventable diseases, those of otherwise good constitutions. It follows, therefore, according to the writer, that the physique of the race has deteriorated as a result of the misery and destitution that follows in the train of these diseases, and that in the death, often at the age of maximum productivity, of large numbers of men and women, among them some of the world's greatest geniuses, there is a loss to civilization which can not be estimated.

If phthisis, which has been one of the greatest factors in this deplorable waste of life, could be stamped out, the general health standard would improve, for susceptibility to this disease does not by any means signify general debility in the ones attacked.

The author has been engaged for several years in a study to determine "how far the rate of incidence of phthisis in the different sections of the community varies with the nature of the employment and the strain of living conditions, such as indoor and outdoor work and prolonged or irregular hours of employment." The method of conducting the inquiry was through observation of actual working conditions in those industries most subject to the disease, study of the insurance cards obtained under the National Health Insurance Act, and study through the returns of the registrar general of the effects of the massing together of workmen in factories and workshops as distinct from the effects of urban housing as shown by the prevalence of the disease among the female urban populations.

<sup>1</sup> Factory and workshop conditions and the prevalence of pulmonary phthisis: The need for an industrial health service, by Benjamin Moore, D. Sc., F. R. S., *The Lancet*, London, Nov. 9, 1918, pp. 618-622.

The results of this last study show clearly the effects of urban employment in increasing the prevalence of phthisis. The author states that while it is fairly well known that there are more cases of phthisis among males than females, it has not been generally known that this applies only to workers living in cities and towns and that the reverse is the case in rural communities, also that this greater death rate among males is an outcome of modern working conditions and did not exist 70 years ago. Up to about the fourteenth or fifteenth year—that is, about the age of the beginning of employment—the death rate is about 50 per cent greater among females than among males. The mortality of both sexes is greater in rural than in urban districts up to the twentieth year, between the twentieth and thirtieth years this condition is reversed, and after the thirtieth year there begins an enormous increase of the death rate among urban males, so that while the death rate from the disease stays nearly at a level for rural males and for both rural and city females, the urban males on an average throughout the country die at double this rate or over.

Since the great majority of employed men are engaged in urban occupations, it becomes evident that there is a great monetary loss not only through the death of these men but through the incapacity for work of others suffering from the disease. There is also to be regarded the menace which these workers are to their fellow workmen, and also the fact that this death rate is one of the causes of the inequality in numbers of males and females—a condition of sociological importance, especially at the present time, when so many young men have been killed in the war.

Further proof of the fact that the cause of this higher death rate among urban males is due to working and not to housing conditions is found in the fact that up to the twentieth year both urban and rural males are healthier than females, and in the case of both sexes urban dwellers are healthier than rural. If the difference were due to sex, after the twentieth year the rate for rural males should be up with that for urban males instead of remaining, as it does, nearly on a level with females both of city and town. In refutation of the claim which might be made that if the high death rate is due to working conditions it ought to appear at commencement of employment (about the fifteenth or sixteenth year) it is stated that these records are records of deaths due to chronic disease, and that it requires some years to produce infection, debility, and death.

Deaths from phthisis among printers, bootmakers, quartz workers, cutlers, grinders, and file makers follow the same upward trend as those among all urban males, and observations in factories and shops of conditions of work seem to fix the working conditions as the true cause of the trouble. The two main factors are long-continued



strain of work under unhealthy conditions and infection of men whose resistance is thus reduced by those already suffering from the disease. A proof of this is found in the fact that the highest rate of disease is found in those occupations where the required muscular exertion is so small that persons suffering from the disease can stay at work until the last stages of it are reached. Given this possibility of infected persons remaining at work, with the addition of bad workshop conditions, such as bad atmospheric conditions, long hours of labor, and close contact, the death rate from phthisis will become a maximum one.

In the printing trade there was a noticeable improvement in the death rate among compositors during the last 35 years previous to the war, the rate falling during that period from one death from phthisis in three total deaths to one in five. This improvement is undoubtedly due to better shops, larger use of machinery, and more regular hours. Among operative printers' assistants, however, at the present time nearly one-half of all the deaths are due to phthisis. This is accounted for by long periods of overtime, a working period sometimes lasting 30 successive hours with only short pauses for meals. Overcrowding also accounts for excessive infection in other departments.

The author advocates the organization of an efficient factory service of medical men, since persons suffering from tuberculosis rarely seek medical assistance until they are seriously ill; and he states that from many friendly discussions with employers, secretaries of trade-unions, and foremen of shops, he believes that no opposition would be found to any practical scheme for the improvement of the health of the workers. He states explicitly, however, that he does not favor any system of industrial health service which would involve frequent medical examination of all workers, since such a system would arouse opposition, would require an excessively large staff, and would not bring results commensurate with the amount of labor spent on it, but that the work rather should be carried on along preventive and educational lines. Such a service, which he estimates could be carried on in England and Wales by a staff of 1,500 medical men, would in no sense be a rival of the private practitioner, but its function would be, by inspection and education, to improve the sanitary conditions of factories, the care of the health of individual workers, would lay special stress on the preventive side and upon conditions which precede chronic sickness; that is, catching the prospective consumptive and applying preventive measures before he really is consumptive.

That there is no better time than the present for instituting such a movement the author believes, since there are so many young

medical men in the army who have learned the system of corps work, preventive work, and hospital treatment, and few of whom have a practice to which they can come back. He states, further, that in order to accomplish this "all that is needed is a statesman of power and imagination who will put this scheme in being, and let Great Britain lead the world to the greatest conquest that has ever been won."

# INDUSTRIAL SAFETY.

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## CONFERENCE ON NATIONAL INDUSTRIAL SAFETY CODES.

The present lack of uniformity in safety legislation and practices among the various States and the conflicting safety regulations required by different agencies within the States has emphasized the necessity of national industrial safety codes. A conference called for the purpose of formulating such codes was held January 15-16, 1918, at the United States Bureau of Standards, of the Department of Commerce, Washington, D. C. Representatives at the conference included the Federal Departments of Commerce and Labor, the Federal Employees' Compensation Commission, the National Safety Council, the national engineering societies, several State industrial accident commissions, manufacturers' associations, and insurance companies.

The first day's session was devoted chiefly to the work of attempting to form a permanent organization which should be responsible for the compilation and promulgation of these codes. The second day the national safety codes relating to elevators, head and eye protection, power transmission machinery, and the electrical code were taken up for consideration.

The discussions developed several conflicting viewpoints relative to the personnel and powers of the proposed permanent organization. One group held the opinion that the United States Bureau of Standards should assume the leadership in the formulation of the safety codes, while another group favored the plan presented by Mr. Comfort A. Adams, of the American Institute of Electrical Engineers, according to which the five national engineering societies should assume responsibility. Mr. Adams's plan provided for a central or main committee which should have supervisory authority. This main committee was to be composed of the five engineering societies and the Federal Departments of Commerce, War, and Navy. Whenever the formulation of safety standards in any particular field was deemed desirable the main committee would assign the work to a sectional or sponsor committee, which then became responsible for the working out of these standards, which would finally be submitted to the main committee for approval. The main committee would not scrutinize the details of the standards but would concern itself rather with the methods used. All interests should be represented in the formulation of the standards. The sponsor committee should have the right to publish the approved safety codes after which they would become the standard American codes. One point continually emphasized at the meeting was that in the formulation of the standards their acceptability and reasonableness should be constantly borne in mind.

Neither of the above plans were approved at the conference. On motion, the entire matter was referred to the organizations there represented for further consideration.

# WORKMEN'S COMPENSATION AND SOCIAL INSURANCE.

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## RECOMMENDATIONS ON HEALTH, HEALTH INSURANCE, AND OLD-AGE PENSIONS BY OHIO HEALTH AND OLD-AGE INSURANCE COMMISSION.

[The following recommendations are published by the commission in a pamphlet, which also includes a summary of findings, to enable the public to be informed briefly as to the work which the commission has done in investigating these subjects and in making recommendations for legislation. The summary of findings will be fully noted in the March issue of the MONTHLY LABOR REVIEW.]

### SICKNESS PREVENTION.

I. Adequate health supervision of all elementary and high schools, including annual medical examinations of all children by physicians and supervision by public health nurses, should be provided. The cost should be borne by the State, the cities, and the counties in some equitable proportion.

II. Provision should be made for adequate public health nursing service in each city and county, including prenatal and infant care. The cost should be borne by the State, the cities, and counties in an equitable proportion. The State department of health should fix the qualifications of public health nurses and have general supervision over the work.

III. Physical education should be required in all schools for all children, and practical teaching of health and hygiene should be required in the elementary schools.

IV. The teaching of home economics, including home nursing, should be developed as rapidly as possible under the system of vocational education provided by the State in cooperation with the Federal Government through the Smith-Hughes Act. Home demonstration work should be widely extended under the Smith-Lever Act, and legislation to authorize such work on the same basis as farm demonstration should be immediately enacted.

V. All children's homes should provide for adequate health care and supervision, and the board of State charities and the State department of health should have wider power to enforce standards of health care of children in institutions.

VI. The local public health system should be revised. The township, village, and small city health boards and officers should be abolished and in their place should be a county or a district health commissioner, subject to the supervision of the State department of health, who should have control of all public-health work in the county or the district. Cities of more than 50,000 population may, if they so elect, be separate health units as now constituted, subject to the same State supervision as the county health unit.

VII. A State program should be adopted to cooperate with the Federal Public Health Service for the suppression of venereal diseases in the State.

VIII. A law should be passed prohibiting industrial work by women for at least six weeks after childbirth.

IX. Every child under 18 should be physically examined before going to work and a certificate be obtained from the health authorities that the work to be engaged in will not be physically injurious to him. The State department of health shall formulate rules and regulations for such examinations.

X. The program adopted for the study and care of the feeble-minded by the Ohio board of administration under recent legislation should be pushed through as rapidly as possible.

XI. Provision should be made without delay for the care of tuberculosis patients in county and State institutions. These institutions should become agencies for treating incipient cases and not merely for the treatment of incurables. The counties should be required to furnish sanatorium facilities.

XII. In accordance with the report of a special committee, made to the governor, on hospital legislation, there should be created a bureau of hospitals in the State department of health to survey the hospital facilities of the State, classify hospitals and dispensaries, and require reports on uniform blanks.

#### HEALTH INSURANCE.

I. The principle of health insurance is approved as a means of distributing the cost of sickness.

II. Health insurance should be required for all employees, to be paid for by employers and employees in equal proportion. The State should pay all costs of State administration as in the case of the workmen's compensation act and all costs of supervision of insurance carriers.

III. The benefits to workers under health insurance should consist of: (a) Cash payment of a part of the wages of workers disabled by sickness; (b) complete medical care for the worker, including hospital and home care and all surgical attendance and the cost of all medicines and appliances; (c) adequate provision for rehabilitation, both physical and vocational, in cooperation with existing public departments and institutions; (d) dental care; (e) medical care for the wives and dependents of the workers if the same can be done constitutionally, and a burial benefit for the worker.

IV. (a) The exact form of organization of the medical service, including hospital and dental service, should be left largely to the State health insurance commission which administers the act to develop plans to meet conditions in different parts of the State.



Minimum standards should, however, be established to insure that such service shall be adequate.

(b) It should be clearly established that medical, hospital, and dental care shall be adequately compensated.

V. The insurance should be carried in establishment funds mutually managed and in public mutual associations. Companies or associations writing insurance for profit should not be permitted to be carriers of such insurance.

VI. The system should be administered by a State health insurance commission of four members, one of whom shall be the State commissioner of health. The State commission may fix such administrative districts as may be necessary and shall coordinate their work so far as possible with the local health authorities.

VII. There should be a reasonable waiting period, not less than six days, before cash benefits are paid. Medical benefits should be given during the entire time of disability. Benefit payments should be continued as long as disability lasts, but not exceeding three years.

#### OLD-AGE PENSIONS.

I. The State should provide for the payment of a weekly pension, not exceeding \$5 per week, to all persons over 65 years of age, but the combined pension and income of any such person shall not exceed \$350 annually.

II The following shall be excluded:

1. Aliens and persons who have been citizens for less than 15 years.
2. Persons who have not been residents of the State for 15 years.
3. Persons convicted of a penitentiary offense within 10 years.
4. Persons who have disposed of any property in order to qualify for a pension.
5. Tramps and professional paupers.

III. A voluntary system should be established and administered at the expense of the State so that individuals may purchase annuities not to exceed \$10 a week by regular payments or by lump sum purchase.

IV. A person 65 years of age or over who qualifies for a pension, but does not take his pension until later, should receive the deferred pension, computed from the date of qualification, as an annuity when he does go on the pension roll. Such deferred pension shall not be considered in determining the amount of income as provided in section I.

V. The property in excess of \$100 of any person who receives an old-age pension shall, upon the death of such person, be transferred

to the State for disposal and from the proceeds thereof shall be deducted the amount which has been paid to the pensioner. Any residue shall then be paid to the lawful heirs.

VI. The old-age pension system should be administered by a State board of pensioners consisting of three members.

VII. A county board of welfare should be created to combine all of the welfare work of the county, including administration of old-age pensions, mothers' pensions, and blind pensions. The board should be unpaid and should employ a county welfare director selected from a civil-service list without regard to residence or political consideration.

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#### PROCEDURE OF COLORADO WORKMEN'S COMPENSATION COMMISSION.

A decision of the Supreme Court of Colorado, of recent date, declares invalid decisions and awards as to workmen's compensation rendered otherwise than after a hearing and determination by the industrial commission of the State in its own person. The case was before a division of the court for determination of a claim by one Johnson, an employee of the Electrical Supply and Construction Co., of Denver, the claimant contending that the award made was inadequate. An increased award was made by the court, and this appeal was thereupon taken by the commission.

The merits of the case were not discussed in the opinion, as the court decided that the procedure adopted by the commission was improper and unauthorized, and its purported findings and award thereunder void. It appeared that neither the commission as a whole nor any member of it heard the testimony upon which the finding was based, nor participated in any way in the conduct of the proceedings leading to the award. Hearings were had at two different times, once before "the duly appointed and qualified and acting chief of the claim department," and a second time before an official designated as a referee.

The law provides that "the commission shall have full power and authority to hear and determine all questions within its jurisdiction." The practice of conducting hearings by examiners and referees, followed by the commission as a regular method of procedure, was recognized as a proper method for the securing of information, but it was declared that the law "nowhere provides that any one of these may hear and determine a controversy." "The law contemplates, and litigants have a right thereunder to a hearing and determination of their causes by the lawfully constituted body, expressly charged with such duty, and intrusted with such power."

It is obvious that if this decision is sustained, all awards made through the instrumentality adopted by the commission will be void,

and that the burdens of the commission will be greatly increased if not made overwhelming. The point upon which the decision turned was not raised before the commission, nor in the court below, nor was it argued by anyone in the Supreme Court, but was brought forward by the division of the court considering the matter, without notice to anyone, and of its own volition. A rehearing has been asked for, and the commission reports itself as "confident that this decision, which entirely overlooks the strongest provisions of the law, will not be allowed to stand by the court upon reconsideration."

### WORKMEN'S INSURANCE FUND OF PENNSYLVANIA.

The second annual report of the Workmen's Insurance Fund of Pennsylvania<sup>1</sup> is frankly an appeal to the employers of Pennsylvania to insure their obligations under the workmen's compensation law in the State fund. It is set forth that in the years 1916 and 1917 a sum in excess of \$483,000 was saved to its policyholders, as against the costs that would have been incurred by insuring in the ordinary agencies. The saving for 1918 is estimated as more than \$450,000; while if all employers in the State now carrying insurance were insured in the State fund, the savings effected would exceed \$2,500,000.

"Absolute compensation protection with the very best claim and inspection service" are offered at a saving of from 15 to 25 per cent. More than 17,000 employers, having above 250,000 employees, are now insured in the fund, while adequate reserves and catastrophe protection are claimed. Dividends have been distributed each year, and no assessments can be levied on policyholders in addition to the premium.

The following table shows the status of the fund at the end of the first year, of the second year, and of the first half of the third year:

WORKMEN'S INSURANCE FUND OF PENNSYLVANIA, JAN. 1, 1916, TO JUNE 30, 1918.

	Dec. 31, 1916.	Dec. 31, 1917.	June 30, 1918.
Premiums written <sup>2</sup> .....	\$770, 094	\$1, 522, 086	\$2, 100, 646
Investments.....	\$492, 823	\$1, 204, 370	\$2, 376, 676
Claims, reserve.....	\$404, 825	\$971, 425	\$1, 363, 567
Interest.....	\$18, 526	\$38, 116	<sup>3</sup> \$70, 000
Dividends.....	\$93, 162	\$135, 659	<sup>3</sup> \$250, 000
Total assets.....	\$700, 428	\$1, 747, 153	\$3, 551, 222
Catastrophe surplus.....	\$68, 050	\$144, 708	\$265, 225
General surplus.....	\$75, 004	\$392, 541	\$634, 865
Total surplus.....	\$143, 054	\$527, 249	\$900, 090
Claims to premiums.....per cent..	64.7	69.6	69.3
Expenses to premiums.....do.....	17.9	11.2	10.2
Dividends to premiums.....do.....	12.0	8.9	<sup>3</sup> 12.0
Assets to liabilities.....do.....	119.8	129.7	134.0
Policies issued.....	15, 342	20, 736	23, 706

<sup>1</sup> Second Annual Report: Financial Statement as of June 30, 1918. State Workmen's Insurance Fund. Harrisburg, 1918. 16 pp.

<sup>2</sup> For each period and not cumulative.

<sup>3</sup> Estimated for full year.

### REGULATIONS BY ALBERTA (CANADA) WORKMEN'S COMPENSATION BOARD TO DISCOURAGE MALINGERING.

The Alberta (Canada) Workmen's Compensation Act (1918) <sup>1</sup> contains a provision (sec. 62) requiring every employer under the act to give notice of accidents and every physician attending an injured workman to forward a report to the board within seven days after date of his first attendance upon such workman. To supplement this provision the workmen's compensation board recently issued regulations, the first issued by the board, requiring further reports from employers and physicians, the purpose being to reduce as much as possible the opportunity for malingering by keeping track of the progress being made by an injured workman toward recovery. The text of the regulation is as follows:<sup>2</sup>

1. In addition to the report required to be forwarded to the board in accordance with the provisions of section 62, subsection 2 of the act, the physician or surgeon attending any workman shall forward to the board progress reports on the first and fifteenth days of each month during the time such injured workman is unable to resume work as a result of injuries sustained by him, as stated in the report first mentioned herein, and shall also forward to the board a final report within three days after said workman is, in his opinion, able to resume work. All reports required to be provided in accordance with this regulation shall be on a form which may be prescribed from time to time by the board.

2. Every employer, in addition to the report required to be forwarded to the board in accordance with the provisions of section 62 of the act, shall also forward, on a form prescribed by the board, within 24 hours after the same comes to his knowledge, notification that the injured workman has returned to work, or is, in his opinion, able to return to work.

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### NEW GERMAN SCHEME FOR COMPULSORY UNEMPLOYMENT INSURANCE.

In an article in *Soziale Praxis* <sup>3</sup> Dr. Gruner, while discussing the question of insurance against unemployment, suggests a scheme for combining the psychologically favorable effects of individual thrift, with the financial advantages of the insurance principles, and formulates his proposals as follows:

1. For every worker subject to compulsory unemployment insurance the employers must deposit weekly 50 pfennigs [11.9 cents] in a savings bank by means of savings stamps; of this amount they may deduct 30 pfennigs [7.1 cents] from the wages of the worker.

For navvies and building workers as well as for other seasonal workers designated by decree of the Federal Council (*Bundesrat*), contributions at double rates are to be made and deducted.

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<sup>1</sup> A brief summary of the provisions of the act was given in the MONTHLY LABOR REVIEW for August, 1918 (pp. 210, 211).

<sup>2</sup> Taken from The Labor Gazette, Ottawa, for December, 1918 (pp. 1140, 1141).

<sup>3</sup> *Soziale Praxis und Archiv für Volkswohlfahrt. Zur Frage der Arbeitslosenversicherung*, by Dr. E. Gruner. Berlin, Oct. 3 and 10, 1918.

For workmen engaged by an employer for less than a week, 10 pfennigs [2.4 cents] are to be deposited and 5 pfennigs [1.2 cents] deducted from the wages, for every day's work begun.

2. If the sum standing to the credit of a worker reaches 54 marks [\$12.85] his obligation to contribute shall cease, but begins again when his bank balance sinks below 54 marks.

The obligation of the employer to contribute to the savings fund shall continue even after the worker's obligation to contribute ceases. The contributions of the employers paid for workmen whose obligation to contribute has thus ceased shall be placed by the savings bank to the credit of the commune.

3. The savings bank credit balance of the worker, inclusive of the interest credited to him, shall remain nonwithdrawable up to a total amount of 54 marks [\$12.85] and shall be released only (a) in case of unemployment; (b) for withdrawal by the worker when the latter is no longer subject to the obligation of insuring; (c) for payment to his survivors after his death.

If a worker moves to another district his savings bank balance shall be transferred to the savings bank of that district.

In addition to the compulsory contributions the worker may make voluntary deposits in the savings bank, which he may withdraw at will.

4. In the event of unemployment the insured may claim withdrawals from his balance only if it exceeds 27 marks [\$6.43]. For the first week of unemployment no withdrawal is permissible; likewise no withdrawal can be made if unemployment is due to any strike or lockout, so long as the dispute lasts.

5. For the second to fourth week of unemployment the insured shall, at the end of each week, on his request be paid from his credit balance 1.5 marks [35.7 cents] for each working day.

If he has thus withdrawn 27 marks (\$6.43) of his credit balance he shall receive, while his unemployment continues, further aid at the same rate from the commune up to the expiration of the seventh week.

Beginning with the eighth week of unemployment his still existing balance from the nonwithdrawable amount of 54 marks [\$12.85] will be released at the rate of 1.5 marks [35.7 cents] per day until that amount has been entirely withdrawn, and he shall receive from the commune a like unemployment benefit for as many days as his bank balance will cover.

6. If an insured worker dies, his bank balance, increased by 5 marks [\$1.19] for each of the last five years in which the insured has claimed no aid from the commune, shall be paid out to his survivors as a death benefit.

7. The benefits designated in paragraphs 2 and 3 of section 5, and the increases of the death benefit designated in section 6 shall be paid from communal funds. The communes will, however, be compensated in part for these disbursements through the arrangement by which the employer's contributions, after the worker's obligation to contribute ceases, are placed to the credit of the communes.

8. The cost of administration of the unemployment insurance shall be borne by the communes.



## HOUSING.

### HOUSING BY THE UNITED STATES DEPARTMENT OF LABOR.<sup>1</sup>

#### INTRODUCTION.

The housing problem was changed from a local to a national issue upon the outbreak of the war. Not until war forced us to see it did we realize that so undramatic a problem as housing had any connection with our efficiency in the winning of the war.

The war revealed the housing shortage not as a temporary thing, but apparently as something chronic. Of course we always had houses in which to live; it was merely a question of the adequacy of those houses in relation to our standards. Some people were living in quarters above their means perhaps, while others were without means to get the standard of houses which they desired, while a third group having the means were unable to get the desired accommodations. It is a peculiarity of housing that the supply is usually adequate or ahead of that required by a certain class of the population, namely, the higher income earning classes. On the other hand, the lower income earning classes usually find a very limited supply to meet even their modest demand.

In scarcely any active industrial community was the supply of houses for workingmen adequate to take care of normal business expansion, not to say the increased activity demanded by war-time production. Apparently neither individual nor corporate private initiative, urged by a desire for profit, had been adequate to supply all demands for industrial housing. Those in touch with the housing situation were aware of this shortage, even before the war. For several years—at least since 1913—the problem of industrial housing had taken on great significance in the United States. There had been considerable activity in the formation of housing companies, through philanthropic agencies and through the cooperation of employers and chambers of commerce. The State of Massachusetts had agitated housing reform for some time and in 1917 began in a small way the work of constructing and selling houses to workmen. In 1915 a bill was introduced in Congress urging the use of Government funds for the construction of houses for workingmen.

The war, then, broke in upon an industrial situation in which there existed a great shortage of housing accommodations. How the Department of Labor assisted in meeting the need is contained in the annual report of the United States Housing Corporation here summarized.<sup>1</sup>

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<sup>1</sup> Annual Report of the U. S. Housing Corporation, Dec. 2 1918.

## THE UNITED STATES HOUSING CORPORATION.

The first official governmental body to take up the question for the Federal Government was the Council of National Defense and its Advisory Commission, composed of representatives of labor and industrial interests. This was in October, 1917. In February, 1918, a bill was introduced in Congress, with an appropriation of \$50,000,000, to meet housing for war needs of the War and Navy Departments. A bill had already been introduced authorizing the Emergency Fleet Corporation to construct houses for ship workers; and the Ordnance Department also was about to construct houses.

It was on the advice of the Council of National Defense that the housing work was delegated to the Department of Labor in so far as it affected workers in munition establishments and in the District of Columbia. Before the passage of the above act, Mr. Eidlitz, contractor and architect of New York, was appointed by the Secretary of Labor to direct the housing work. On May 16, 1918, a bill was passed authorizing the President to form a housing bureau. May 28 a bill was introduced making an appropriation of \$60,000,000, and on June 18 the President directed the Secretary of Labor to proceed with the housing work. On July 8 an additional appropriation of \$40,000,000 was made, to be expended under the Housing Act.

On July 9 the United States Housing Corporation was incorporated under the laws of the State of New York. It would have been possible for the Bureau of Industrial Transportation already established in the Department of Labor to execute the housing work as a bureau within the department, but if it had done so the properties it would have purchased and built up would have been in a peculiar way directly Government owned and not subject to local taxation laws. Primarily in order to avoid that, a corporation was created which had an equal standing with other corporations owning property in any particular locality. The ownership of the stock of this corporation is in the Secretary of Labor, who holds all the shares except two, one each being held by the president of the corporation and the treasurer.

On July 25, 1918, the first funds became available for the United States Housing Corporation, and on November 11, upon the signing of the armistice, a large share of the work of this corporation was halted and now it is to complete only those projects which were at that time in a fair way to completion. Thus its work has been confined to scarcely five months; it took six months of preliminary work to get its work under way.

## METHODS AND POLICIES OF THE HOUSING CORPORATION.

The Housing Corporation sought to meet the housing situation before it by five methods:

(1) By making available housing facilities found by careful investigation to exist in or near the particular communities in question.

(2) By connecting, through improved transportation, places where labor was needed with places capable of housing it.

(3) By encouraging and aiding private capital to build.

(4) By aiding in the distribution of labor and the placing of war contracts in such a manner that housing congestion might be avoided or reduced.

(5) By construction and operation of houses, apartments, and dormitories.

While the last named was the principal purpose for the creation of the corporation, the corporation has not assumed to apply this method except as a last resort.

Preliminary to undertaking the housing work in any community agents of the corporation made a careful survey of the community in question and in no community was such investigation made until it had been certified to by the War or Navy Department that there was an urgent need for housing. The survey was thorough and included a report of the number, kind, and condition of local industries in the community; classes and earnings of employees; labor turnover; residence of the employees, whether near or at a distance from the place of work; rates and quality of transportation; sanitary conditions and state of public utilities generally; rents and land values; available building sites; extent of community activities; schools, recreation facilities, etc.; amount of building being done or projected by private interests, and the extent to which the community is able to supply funds for such an enterprise.

## HOMES REGISTRATION SERVICE..

The Homes Registration Service within the corporation was established in response to the first purpose of the corporation, to make available to the utmost such housing facilities as existed in any community. Largely through local cooperation and voluntary effort this Service has established in various communities local renting bureaus, made censuses of vacant houses and rooms, taken cognizance where possible of rent profiteering, and requisitioned unoccupied dwellings where necessary.

In dealing with rent profiteering a method has been devised, the essential element of which is publicity. As it started in New London, Conn., it has been termed the New London method. A committee of

three is appointed in a locality representing, respectively, the public, the employer, and the employee. Complaints are heard and if possible settlement secured. If settlement is not secured in any particular case all the facts are published in the local press the day following the hearings. Practically all cases which have arisen have been amicably settled without publication of the facts.

#### TRANSPORTATION FACILITIES.

Very frequently the corporation has been able to solve the housing questions in a particular locality by the provision of transportation. Local utility companies have been assisted financially. Such assistance has amounted to approximately \$7,000,000 in the way of loans or advances. The corporation has chartered a ferryboat system in one locality and put special trains in operation in another. It has provided reduced fares for workmen by paying the difference between the regular fare and the reduced fare fixed by the corporation.

Adding the loans and subsidies for the payment of reduced fares supplied by the corporation, it is estimated that the cost per workman per year for transportation has amounted to about \$35, an average of less than \$3 per month per workman. As against housing workmen at an average capital cost of \$550 per man in dormitories and between \$1,750 and \$2,250 in houses, it was an economy to the corporation to subsidize fares.

#### STIMULATION OF BUILDING BY PRIVATE CAPITAL.

In order to stimulate private capital to undertake housing, the corporation secured priorities for the delivery of the necessary material and informed the community that unless some disposition was made to cooperate with the corporation during the war emergency in the provision of houses, it might be expected that future war contracts would be placed elsewhere. The corporation has not adopted the policy of advancing money for the construction of houses either to private builders and building companies or to employers.

#### CONSTRUCTION OF HOUSES.

As stated, it was only as a final resort that the corporation proceeded to the acquisition of land and the construction of houses thereon. Before embarking upon such enterprise or "project," as it was termed, the corporation informed itself as to the industrial stability of the community and its probable continuance after the war—whether they were such as to justify an addition to its housing facilities.

The corporation has favored the construction of permanent communities and houses. Dormitories have been employed only where urgently needed, where speed was essential, and where the nature of the industry indicated impermanence.

The Housing Corporation has built up the largest house-building agency in the country at the present time, outside perhaps of a similar organization set up by the United States Shipping Board Emergency Fleet Corporation. Naturally, therefore, the work of the corporation is highly specialized. The real estate division tends to the valuation, acquisition, and purchase of land. This division, it may be noted, has bought land to the value of about \$5,000,000. The architectural, engineering, and town planning divisions of the corporation perform the functions implied in their respective titles. The legal division handles the drafting and submission of contracts. After that the construction division with its architects, engineers, and supervisory staff directs the construction of each particular project undertaken by the corporation.

When a housing enterprise or project is completed it is turned over to the operating division, which is called upon to organize the community, rent the houses, supervise community functions, public activities, and recreational facilities. Each community has as its directing head a town manager representing the corporation.

#### PROJECTS EXECUTED AND PLANNED.

At the time of the signing of the armistice the United States Housing Corporation had under consideration 94 housing enterprises or projects. Contracts had been let for 60 of them. Plans had been completed and ready for contracts in 25 cases. Plans were in preparation or had been ordered in the case of 7, while preliminary investigations had been completed but construction postponed in the case of 4. With the signing of the armistice, November 11, 54 projects were immediately abandoned and 15 were curtailed, while 25 were proceeded with as planned. It is quite likely that several more projects have been abandoned since that time.

Before the subcommittee of the Senate, investigating the operations of the Housing Corporation, the president of the corporation estimated that it would require \$45,000,000 to complete the 25 projects with which it was proceeding.

If the corporation completes the projects it now has under consideration housing will then have been provided for probably 25,000 workers.

#### MANAGEMENT AND OPERATION OF THE HOUSES.

The plans of the corporation for the management of the housing project have been drawn on a broad scale. Consideration has been given to all the aspects of community planning and operation, as it has been felt that the work of the corporation did not cease merely with the provision and erection of houses.

At the time of the making of this annual report, the affairs of the corporation were under investigation by the Senate. A Senate



resolution has been introduced to halt the work of construction on some war-workers' dormitories in Washington, D. C. Hearings have been asked before a committee of the House of Representatives. In the meantime, as stated, the corporation is finishing some 20 odd projects.

The report of the corporation to Congress concludes with the following observation:

It is to be hoped that the work performed by the United States Housing Corporation will not be lost when the war emergency is over, and that some means will be found to make use of the vast fund of experience and of material which that emergency has thus made available. Just how this is to be accomplished must, of course, be left to those powers in the Government which control such matters, but it might be well for our country to turn its eye to what our Allies are doing on the other side, and perhaps learn a lesson that may be of importance in promoting a contented citizenship in these United States.

#### AID BY CANADIAN GOVERNMENT FOR PROVINCIAL HOUSING SCHEMES.

Some of the Provinces of Canada have taken steps to remedy the conditions brought about by scarcity of houses owing to cessation of building operations during the war, and in order to encourage this movement and render financial assistance to such Provinces, the Canadian Government, on December 3, 1918, passed an order in council (P. C. 2997), the text of which, as given in *The Labor Gazette* (Ottawa) for December, 1918 (p. 1104), is as follows:

The committee of the Privy Council have had before them a report, dated December 2, 1918, from the Minister of Finance, submitting that at the conference recently held at Ottawa, between the premiers and other members of the Governments of the several Provinces and representatives of the Dominion Government, one of the important subjects of discussion was that of creating better housing conditions for the industrial population of our larger centers.

The minister observes that owing to the practical cessation of building operations during the war there is at present a great scarcity of housing accommodation in most of our cities, and this condition will become intensified with the return of our soldiers from overseas and their reestablishment with their families in civil life and occupation.

The minister states that at the conference it developed that some of the provincial Governments were considering the adoption of a policy of making loans to municipalities or otherwise, extending over a long period of years, and repayable upon the amortization plan, for the purpose of promoting the erection of dwelling houses of a modern character to relieve congestion of population in cities and towns in their respective Provinces, and the question was raised as to whether the Dominion Government would aid the several provincial Governments in carrying out such a policy by making loans to them to place them, to the extent that might be necessary, in funds for the purpose.

In view of the national importance of the matter, which touches vitally the health, morals, and general well-being of the entire community and its relation to the welfare of returned soldiers and their families, together with the fact that the carrying out of such a policy on a substantial scale by provincial Governments would afford considerable employment during the period of reconstruction and readjustment of industry following the war, the minister recommends as follows:

(1) That the Minister of Finance be authorized under the provisions of the War Measures Act upon request from the Government of any Province of Canada to make loans to such Government for the purpose mentioned.

(2) That the aggregate amount to be loaned to all Provinces shall not exceed \$25,000,000, and the amount of loan to any one Province shall not exceed the proportion of the said \$25,000,000 which the population of the said Province bears to the total population of Canada.

(3) That the loans made hereunder may be for a period not exceeding 20 years, with the right of any Province to pay off the whole or any part of the principal of the loan at any time during the said term.

(4) That interest at the rate of 5 per cent per annum, payable half-yearly, shall be charged upon advances from the dates thereof, respectively.

(5) The Minister of Finance may accept bonds, debentures, or such other form of security as he may approve evidencing the indebtedness of any provincial Government for loans made hereunder.

(6) Advances shall be made from the war appropriations.

(7) Advances may be made as soon as a general scheme of housing shall have been agreed upon between the Government of Canada and the Government of the Province applying for a loan hereunder.

The committee concur in the foregoing recommendations and submit the same for approval.

## LABOR DECISIONS.

### REGULATION OF WAGE CONTRACTS BY THE SEAMEN'S ACT.

The Seamen's Act, frequently referred to as the La Follette law, received construction in a number of cases decided by the Supreme Court of the United States on December 23, 1918.

This act, bearing the date of March 4, 1915 (38 Stat. 1165), is the culmination to date of efforts continuing for more than 100 years to secure legislation to better the conditions surrounding the employment of seamen. It is entitled "An act to promote the welfare of American seamen in the merchant marine of the United States; to abolish arrest and imprisonment as a penalty for desertion and to secure the abrogation of treaty provisions in relation thereto; and to promote safety at sea." It was frequently referred to during the discussion preceding its enactment as an act to abolish the involuntary servitude of those to whom it applies, since it does away for the first time with the principles of the compulsory fulfillment of the labor contract of seamen, though as to other workers such a position had been regarded as untenable for many years.

Among the evils to which seamen were long subject is the payment of excessive charges to keepers of sailors' lodging houses and others acting as agents for the furnishing of ships' crews. The first legislation directed at this evil was the Dingley Act of 1884, the tenth section of which contains in substance the provisions under consideration in the cases in hand. It made unlawful the payment of wages to seamen, or any other person than an officer authorized by act of Congress to collect fees for the shipment of seamen, "before leaving the port at which such seamen may be engaged in advance of the time when he has actually earned the same." In 1898 the provision permitting payments to an official was stricken out, as were the words "before leaving the port at which such seaman may be engaged," thus placing it beyond the power of the parties to pay, receive, or dispose of the wages in any way prior to their being earned. Beginning with the Dingley Act, the sections as to wage payments have been applicable "as well to foreign vessels as to vessels of the United States," and it is declared that where the provisions of the law conflict with existing treaty provisions, they are repealed. Besides its provisions as to contracts, desertion, and punishments, the act of 1915 contains detailed requirements as to safety, quarters, lifeboats,

rafts, life preservers, crew, etc., but these have given rise to no such difficulties of interpretation as were involved in the section relating to wage payments. This received its first and final authoritative construction on a single point in the case of *Patterson v. The Eudora* (1903), 190 U. S. 169, 23 Sup. Ct. 821. The *Eudora* was a British bark and shipped a crew at Portland, Me., on a voyage to South America and return to a port of the United States or Canada. With the seamen's consent the sum of \$20 was advanced and paid for each seaman as a fee to the shipping agent, but at the completion of the voyage they sued to recover the whole amount earned, disregarding the advance. Under the British laws the advance was legal, and recovery impossible; but the Supreme Court held, on the certification of certain questions to it by the Circuit Court of Appeals, that the act of Congress applied to a British ship in an American port, and that recovery of the wages should be had under the Federal law, and not as would have been the case had the British law controlled.

The cases of recent decision relate to another phase of the wage payment, and are based on that provision of the law which gives to every seaman the right to receive at any port where cargoes are loaded or unloaded before the end of the voyage one-half the wages earned to date, full payment of the balance to be made at the end of the voyage. This provision is applicable to American vessels and to foreign vessels in the ports of the United States.

Failure to incorporate sufficient data in the certification sent up made it impossible for the Supreme Court to take cognizance of one of these cases, and it was therefore dismissed. However, on the same day cases of other petitioners involving identical points (No. 392; *Sandberg et al. v. McDonald*) were considered. The claimants in this case were British sailors shipped under contracts made at Liverpool. Certain advances had been made at the time of signing up, and the ship's master had paid the men, on their demand, in the American port, the amount that he thought due them, taking into account the advances paid. The sums actually paid exceeded one-half the wages due, taking the advances into account, but the American statute in question prohibits the payment of advances at the time of making seamen's contracts, and the men claimed the benefit of this provision. The Supreme Court recognized the evil involved in permitting advance payments of seamen's wages, which were very generally charges made by employment agents, and traced the legislation through its various stages of enactment and interpretation. In view of the history of the law and of its present provisions, it was held that there was no evident intention on the part of Congress to invalidate contracts of foreign seamen made in a foreign jurisdiction and sanctioned by the law of that jurisdiction. "There is nothing

to indicate an intention, so far as the language of the statute is concerned, to control such matters otherwise than in the ports of the United States. \* \* \* We think that there is nothing in this section to show that Congress intended to take over the control of such contracts and payments as to foreign vessels except while they were in our ports."

Even conceding that Congress might have legislated to annul contracts involving advances, as a condition of the admission of foreign vessels to ports of the United States, it was held that no such provision existed in the present law and the judgment of the Circuit Court of Appeals denying the right of the claimant to recover was affirmed.

A dissenting opinion was delivered by Mr. Justice McKenna, Justices Holmes, Brandeis, and Clarke uniting in the dissent. In his opinion, Mr. Justice McKenna quoted the prohibition as to advance payments which declares that it is "unlawful in any case to pay any seaman wages in advance of the time when he has actually earned the same or to pay such advance wages." This is declared to be without limitation of place or circumstance, and is further emphasized by the declaration that the payment of such advances shall not relieve from full payment of all wages under the contract after they have been earned, and that such advances shall be no defense in an action to recover such wages. The minority held that the law should be construed to apply to seamen of whatever nationality, shipping in whatever port, and that the advancement made in the foreign port and under the foreign contract should not be considered in determining the amount due at the time of the making of the demand in a port of the United States—a position that would support the decision of the district court from which the appeal to the Circuit Court of Appeals was taken in the instant case.

A similar history is involved in a third opinion which disposed of two cases (Nos. 393 and 394) in which sailors making claims had shipped at a South American port on American vessels at a stipulated wage, the shipping master, or employment agent, having taken a note for one month's wages as his fee, this note having been honored by the master of the vessel under instructions from the consul resident at the port, who was himself acting in accordance with the consular regulations of the United States. Mr. Justice Day, who delivered the opinion in this case as well as in the Sandberg case, pointed out that the provisions of law involved were identical, though there was a difference as to the nationality of the vessels. The right of Congress to control American vessels as to contracts made in foreign ports was conceded, at least for present purposes. It was stated, however, that it was only by compliance with the local custom of obtaining crews through agents that sailors could be obtained in South



American ports. "This is greatly to be deplored, and the custom is one which works much hardship to a worthy class, but we are unable to discover that in passing this statute Congress intended to place American shipping at the great disadvantage of this inability to obtain seamen when compared with the vessels of other nations which are manned by complying with local usage."

It was pointed out that the provisions of the statute denying clearance papers to vessels violating its terms could apply only to domestic ports, thus furnishing "another evidence of the intent of Congress to legislate as to advances made in our own ports."

It is settled, therefore, that foreign vessels shipping crews in American ports can not make advances of unearned wages, as they might in their own ports, and deduct the same from the aggregate of wages for the voyage—at least where American courts are the forum in which the case is decided; also that crews legally shipped in a foreign port can not read into their contracts the provision of the Federal statute as to advances, whether the vessel be foreign or American owned.

## LABOR BUREAUS.

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### NEW FRENCH MINISTRY OF INDUSTRIAL RECONSTITUTION.

According to the United States Commercial Attaché at Paris, the French Government has decided to wind up the Armament (Munitions) Department and transform it into a Department of Industrial Reconstitution. M. Loucheur, who has been the Minister of Armament, will retain the directorship of the new department. A statement in *Le Matin* of November 27, 1918, gives the following information regarding this change:

The minister will be responsible for the development of industrial production of all kinds, and he will distribute among French industries the orders which shall be placed by the Government departments. He will assist in the preparation of projects relating to the increase of natural production. The office of industrial reconstruction of the liberated regions is now attached to the new department.

M. Loucheur has already taken occasion to explain to the Chamber of Deputies the broad lines of the program he has elaborated with the object of adjusting the munition factories created by the French Government, as well as works installed by private initiative, for the national defense. Thus, the vast arsenal of Roanne will be devoted to the rebuilding of old and the construction of new railway material. The factories at Bourges, which have been devoted to the manufacture of explosives, will now be utilized for the manufacture of chemical fertilizers. Shops which have been working in wood for aviation will hereafter manufacture windows, doors, and parts of all sorts for the construction of houses in the invaded regions. Other works would manufacture the metal parts entering into this sort of construction. M. Loucheur also has in mind the manufacture of telegraphic and telephone material.

On the other hand, M. Klotz, Minister of Finance, has been authorized by the Government to bring in a bill which will have for its object the readaptation of private factories which have been working for the national defense. These establishments will receive as soon as possible important orders for materials needed by the administration of the post offices, telephones, and telegraphs for the reconstitution of the French merchant marine, and also orders for agricultural machinery needed in such great quantity. Moreover, the former Ministry of Armament will distribute orders among private factories for the manufacture of objects and tools of which the country has such great need.

The expense which it will be necessary for the country to assume in this connection amounts to some 2,000,000,000 francs [\$386,000,000]. It is believed that orders to this amount, properly distributed, will permit of the continuance of work in the munition factories.

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### CREATION OF A DEPARTMENT OF LABOR IN GERMANY.

By an imperial decree of October 4, 1918, published in the *Reichsgesetzblatt*, matters relating to social policy administered hitherto by the Imperial Economic Office (*Reichswirtschaftsamt*), are hence-

forth to be within the province of a special central authority, entitled the Imperial Labor Department (*Reichsarbeitsamt*). The decree orders the imperial chancellor to arrange for the transfer of functions and officials from the Imperial Economic Office to the new department. Gustav Bauer, Social-Democratic member of the Reichstag and vicepresident of the executive committee of the German Free Trade Unions, was appointed secretary of state of the new department. He was retained in office after the overthrow of the Imperial Government.

In the *Soziale Praxis*<sup>1</sup> Prof. E. Francke discusses the creation of the new labor department as follows:

The old demand for a special imperial office for social reform has been realized. The Social Democrats petitioned for it 40 years ago, and the Centrum has repeatedly supported this demand. The Imperial Economic Office is now divided, and for sociopolitical matters, i. e., labor protection, social insurance and labor rights, there is created a new department of labor. How the duties and powers will be apportioned is a matter of conjecture. It is to be hoped that the apportionment will be comprehensive and complete, and that sociopolitical questions will not, because they are connected with economic problems, be left in the hands of the Imperial Economic Office. If they are, the existence of the Imperial Economic Office will be precarious. The newly appointed secretary of state of the labor department Herr Gustav Bauer, enjoys the full confidence of organized labor.

Two tasks confront organized labor at the present time: A chamber of labor law corresponding to their demands and the statutory regulation of employment exchanges in agreement with the proposals unanimously adopted by the Reichstag in the spring of 1915, but hitherto neglected. A conference of the combined associations of workmen, minor officials, and salaried employees had been called for the end of October, but it has been abandoned, as it is expected that the new labor department will itself submit legislative proposals satisfactory to the wage workers. A third task is the reform of the right of coalition; with this is connected the giving of a legal status to collective agreements and the extension of the conciliation principle to an imperial conciliation office. A point of first importance is the revival of the protection of workers, especially female and juvenile. Whatever the financial difficulties of the Empire, nothing must be allowed to interfere with the reorganization of labor legislation and the revival of protective labor laws.

It is to be hoped that the new secretary will make the labor department an efficient Government agency. There are several existing institutions which can be employed with advantage. Last May the Reichstag resolved to create a permanent committee on social reform. Then the commission for labor statistics, which was created in 1892, but during the last 10 years has led a dormant existence, could be enlarged and transformed into a sociopolitical advisory council of the labor department, in which representatives of employers, and salaried employees and workers could discuss with neutral social reformers their views and proposals for the preparation of legislative measures. It is also urgently necessary that the division of labor statistics of the imperial statistical office be transferred to the labor department. In addition to the indispensable divisions for labor protection, social insurance, and labor legislation, the labor department must have a division for social reform.

<sup>1</sup> *Soziale Praxis und Archiv für Volkswohlfahrt*. "Reichsarbeitsamt," by E. Francke. Berlin, Oct. 10, 1918.

## CONCILIATION AND ARBITRATION.

### NATIONAL WAR LABOR BOARD UMPIRE'S DECISION IN *EMPLOYEES v. WORTHINGTON PUMP & MACHINERY CORPORATION*.

The attitude of the National War Labor Board as to night work and the question of classification of workers by trades for purposes of wage adjustment is defined quite fully in a decision made by one of its umpires on December 20, 1918, in the case of *Employees v. Worthington Pump & Machinery Corporation*,<sup>1</sup> The Power & Mining Works, Cudahy, Wis. (Docket No. 163). The question of minimum wage for male and female workers is also involved in this decision. The full text of the decision, which quotes quite freely from the record of the hearings, is not given here, but the main points brought out before the umpire and the conclusions reached by him are presented in the following excerpts:

To the National War Labor Board: The Worthington Pump & Machinery Corporation has two plants at Cudahy, Wis., employing in all about 1,150 men and women. One plant is building engines for the Emergency Fleet Corporation; the other is building agricultural machines. The former is making money; the latter is losing money. The work being done for the Emergency Fleet Corporation is being done on a lump sum contract and not on a cost plus basis. The output of both plants is considered "essential."

On June 10 the machinists and electricians made certain demands upon the company including, among others, a demand for an eight-hour day and a demand for "classification." These demands were refused by the company. For the next six weeks there was considerable dissatisfaction among the employees. Early in August the situation became so serious that the company offered to submit the whole question to you. This was finally agreed to by the men.

A hearing was held in Milwaukee on August 14 by an examiner appointed by you. At this hearing a new set of demands was introduced by the machinists and electricians, who asked for a rate of pay slightly above that asked for in June. Boiler makers and pattern makers also presented demands at this hearing. Prior to the hearing the company had granted an eight-hour day.

According to the umpire's statement, this hearing developed the following essential facts: (1) That the wages at that time were considerably higher than they were immediately before the war and had increased about as rapidly as the cost of living; (2) wages were about the same as in other plants in the neighborhood, but were on a lower level than in other similar localities, this latter fact causing considerable unrest and an increase in labor turnover. There was a hearing of the case before the National War Labor Board in Washington, as

<sup>1</sup> Cf. article in the MONTHLY LABOR REVIEW for August, 1918 (pp. 72, 73).

a result of which the board, among other things, decided that the working hours should remain the same, namely, 48 per week, that overtime should be compensated for at the rate of time and one-half with double time on Sundays and holidays, and that the company should meet with a committee of its employees. No unanimous decision was reached by the board at that time, continues the statement, in regard to extra pay for night work, the establishment of minimum wages for men and women, and the "classification" of employees. The statement by the umpire is taken up at this point:

#### POINTS AT ISSUE.

The questions before me for decision, therefore, are the following:

1. *Shall night work receive extra compensation?* The employers say that no extra compensation should be paid; and say that extra compensation is not paid for night work by other similar plants in the neighborhood. They introduce no evidence to that effect. The employees ask for 5 per cent extra on night work.

2. *Shall the minimum wage for men be set at 40 cents an hour or 42 cents an hour?* The employers say that 40 cents an hour is high enough. The employees ask for 42 cents an hour.

3. *Shall the minimum wage for women be set at 30 cents an hour or at 35 cents an hour?* The employers say 30 cents an hour is high enough. The employees ask for 35 cents an hour.

4. *Shall a system of "classification" be established with minimum rates of wages for the different classes?* The employers say that "classification" should not be established. The employees ask for "classification" as follows: Machinists, 75 cents per hour; specialists and handy men, 65 cents; machinists' helpers, 50 cents; electricians, 75 cents; crane operators, 70 cents; electricians' helpers, 50 cents; pattern makers, 80 cents; boiler makers, 72½ cents; layers-out and flange turners, 77½ cents; boiler makers' helpers, 50 cents.

Reference is then made to the fact that the decision of the umpire must be governed by certain well-known principles of the National War Labor Board, such as the maintenance of existing conditions where union or nonunion conditions prevail, no relaxation of established safeguards and regulations for the protection of workers, equal pay for equal work in the case of women employees, regard for the custom of localities in fixing wages, hours, etc., and recognition of the right of workers to a living wage.

#### EXTRA COMPENSATION FOR NIGHT WORK.

You [National War Labor Board] have already, from time to time, decided that night work should receive an extra compensation of 5 per cent. Among other cases where you have reached this decision are:

Employees *v.* General Electric Co. of Schenectady (Docket 127).<sup>1</sup>

Employees *v.* Pollak Steel Company (Docket 102).<sup>2</sup>

Your decisions in these other cases are, it seems to me, based on sound economic reasoning. Night work should receive a larger compensation because it involves a greater strain in all ways upon the employee. A careful study of the brief prepared

<sup>1</sup> This case was noted in the MONTHLY LABOR REVIEW for Sept., 1918 (pp. 34, 35).

<sup>2</sup> This case was noted in the MONTHLY LABOR REVIEW for Oct., 1918 (pp. 26, 27).



by Mr. Justice Brandeis in "The People of the State of New York v. C. S. Press," in April, 1914, can not fail to convince one of this fact. The statements contained therein are so clear and to the point, that I am going to quote several of them in support of each of the following contentions:

In the first place, a night worker does not get so much sleep as a day worker, and sleep in the daytime is not so good.

The most serious physical injury wrought by nightwork is due to the loss of sleep it entails. This is because recuperation from fatigue and exhaustion takes place only in sleep, and takes place fully only in sleep at night. (Brandeis's brief, p. 1.)

The degree of fatigue developed was greater during the night shift than during the day. (Brandeis's brief, p. 6.)

They (the men) are to a great extent victims of insomnia, being unable to sleep in the daytime after night work and can not enjoy a sound night's sleep in the week of their day work; the men in consequence become nervous and depressed. The irregular meals, hurriedly partaken of, disorder the stomach and seriously affect all the organs of digestion, and thus a great deal of time is lost from illness. (Brandeis's brief, p. 11.)

In the forefront of the effects of night work upon health stands, to our mind, the loss of night rest. Sleep at night is certainly far preferable to sleep by day. It is, as everyone knows from his own experience, much deeper, heavier, more refreshing, in a word more restorative.

The inadequacy of day sleep is aggravated, for the men who work at night, by special circumstances affecting both its quantity and its quality. Consider first the case of the grown men. We find from personal observation and inquiry that living conditions and family habits and occupations all have their part in the result. The laborers' dwellings are generally small, noisy, and not well protected from the weather; and the laborer has not the chance that the rich man has to find out a cool and quiet room, darkened for his mid-day nap, but has to put up often with the one room the family possesses—a room in which all the regular activities of the home are going on, and sometimes tenement industries as well. (Brandeis's brief, p. 16.)

In the second place, the lack of sunlight involved in night work is injurious:

Workers who are employed at night are inevitably deprived of sunlight. Scientific investigation has proved that the loss of sunlight is injurious in two ways: First, it results in serious physical damage, both to human beings and to animals. Night workers whose blood was examined showed a marked decrease in the red coloring matter, resulting in a state of chronic blood impoverishment. Second, the loss of sunlight favors the growth of bacteria, such as the germs of tuberculosis. Conversely, the light destroys bacterial life. It has been called the cheapest and most universal disinfectant. (Brandeis's brief, p. 47.)

It has also been shown that animals kept in the dark without sunlight suffer a loss of the red coloring matter in the blood. The same is found true of night workers who are deprived of sunlight; impoverished blood is one of the main symptoms. This fact was confirmed by an examination of 800 bakers by the investigators of the commission, described in its preliminary report. Night work was found to increase their morbidity and mortality, as well as to upset all the normal habits of social life. (Brandeis's brief, p. 48.)

In the third place, night work has an injurious effect upon the eyesight:

Night work often results in life-long injury to the eyes. The danger of eye strains from close application to work is intensified at night by insufficient and improper lighting of work rooms. While it is true that the more general use of electric lighting has improved the illumination of work places and has lessened the vitiation of the air due to gas lighting, yet it has introduced new elements of injury. The glare of excessive or unshaded lights may be as injurious to the eyes as insufficient illumination. Moreover, experience has shown that injuries to the eyes affect general health disastrously. (Brandeis's brief, p. 60.)

In the fourth place, it has a directly injurious effect on the general health of the worker:

The digestive system undergoes functional changes owing to irregularity of meals and night work; appetite fails, breathing becomes labored, the tongue coated, there is frequently weight in the stomach, with sour eructations and constipation. Finally, dyspepsia sets in and may lead to serious gastroenteritis. Lesions occur—if only

functional—of the organs that should supply fresh fuel, and the worker's face indicates a condition of incipient anemia, of general debility.

The respiratory and circulatory systems of night workers do not present specific functional alterations except a frequent sensation of shortness of breath and of palpitation of the heart, to which many can bear witness. The procreative power of men is diminished or impaired and the effect on the female generative organs is also injurious. (Brandeis's brief, p. 113.)

In the fifth place, it interferes seriously with family life and lowers the moral standards.

The workers detest night work, because it is more exhausting. Day sleep is less refreshing. The number of meals necessary in the family budget is increased, extra cooking must be done, and the family order and system are disjoined. Night product is inferior; accidents are more numerous; machines suffer more damage; drunkenness increases and a lower moral standard is established by night work. Switzerland does not hesitate to condemn it, and she has put a stop to it even in many industries where other countries regard it as indispensable. (Brandeis's brief, p. 260.)

The baker sleeps little as a rule, and the sleep he does get is a troubled kind of sleep, broken by noises that go on in the house and out of doors. He goes back to work in the evening without having had the rest he needed. Thus his body is often weakened, his health is broken, his spirits are dulled, and he becomes defenseless against the most dreaded diseases. His nervous weakness, too, makes him subject to violent reactions from even the slightest stimulation, since his inhibitory centers have, as it were, ceased to function.

And all this is encouraged by the fact that his manner of life makes it difficult for him to have a family. He is often driven to seek distraction and forgetfulness of his abnormal life in violent pleasures; or he turns to easier amours \* \* \* as a substitute for the comforts of family life. (Brandeis's brief, p. 262.)

Finally, it interferes with efforts to promote education and to reduce illiteracy:

Nightwork and late overtime hours prevent the workers from taking advantage of the educational opportunities offered by enlightened communities such as evening schools, public lectures, libraries, etc. (Brandeis's brief, p. 263.)

For real cultivation of the mind two things are chiefly requisite—the one, incitement and guidance; the other, intellectual companionship. And how are these to be had when one's evening and night are given up to mechanical labor, and one's day to sleep, to amusement, or, as often happens, to some secondary trade? The most stimulating club meetings and other gatherings, the instructive lectures and courses, the reading of newspapers and books—all these things go on almost exclusively in the evening and in the early part of the night; the night worker is therefore cut off from them, and this alone means an irreparable loss of opportunity for a development that broadens the mind, enlivens the spirit, and often makes for practical advancement also. (Brandeis's brief, p. 275.)

In view of all these facts I rule that "men employed on the night shift shall receive compensation 5 per cent higher than those employed on the day shift."

#### MINIMUM WAGE FOR MEN.

There is no difference in principle between the employer and the employees, since the employer agrees to a 40 cent minimum, while the employees ask for a minimum of 42 cents.

I have gone very carefully over the memorandum on the "Minimum Wage and Increased Cost of Living," prepared for you [National War Labor Board]. I find that 42 cents is as low as any of the workers' living wage budgets, even assuming that the difference in the cost of living between Milwaukee and New York is as great as the difference in the cost of food between those two places. Moreover you have already frequently established 42 cents as the minimum rate for men. Therefore, I rule that "in no case shall any male employee 21 years or over receive less than 42 cents per hour." Provision may be made, however, for pensioners, i. e., old or disabled men.

## MINIMUM WAGE FOR WOMEN.

You have, from time to time, established a minimum wage for women, giving a 30 cents per hour rate in the Pittsfield General Electric case and \$15 per week in the Schenectady General Electric case. I have made a study from all the data I could obtain of the actual cost necessary to maintain a woman in industry in "health and reasonable comfort." I realize that a surprising number of women in industry have to support dependents; but I have been unable to find the percentage of such women in Milwaukee, and have, therefore, disregarded this particular feature of the situation. I also realize that loss of time from sickness makes an additional burden upon women in industry.

I am convinced that the smallest rate of pay on which a woman in industry, without dependents, can maintain herself in "health and reasonable comfort" is 35 cents per hour, and I therefore rule "that women must be allowed equal pay with men for equal work, and must not be allotted tasks disproportionate to their strength. In no case should any female employee 21 years or over, having six months of experience in the plant, receive less than 35 cents per hour."

## CLASSIFICATION.

The arguments advanced by the employer against "classification" are extremely confused, and seem to be directed partly against the principle of "classification" and partly against the minimum rates asked for in the various classes. Their arguments fall under the following broad heads:

1. Your board has no power to establish a system of classification.
2. The classification of men by machines, which now exists, is a natural growth, and must, therefore, not be interfered with by your board.
3. Classification is too difficult an undertaking for your board, or your umpire, sitting in Washington, at such a great distance from the local conditions.
4. Classification if made by your board through a local investigation is too expensive.
5. Classification will make it less easy to base wages on skill.
6. The rates of wages now paid by the Emergency Fleet Corporation are too high for competitive industries.

The first argument, namely, that of jurisdiction, can be dismissed by pointing out that your board has already established systems of classification in various cases, acting presumably under the broad principle that the clause relating to nonunion shops "is not intended in any manner to prevent the War Labor Board from urging, or any umpire from granting, under the machinery herein provided, improvement of their (the workers) situation, in the matter of wages, hours of labor, or other conditions, as shall be found desirable from time to time." Classifications were established by you in the Coffeyville case (Docket 190),<sup>1</sup> the Waynesboro case (Docket 40),<sup>2</sup> and the Worthington Pump, East Cambridge, case (Docket 14).<sup>3</sup>

The second argument, namely, that because the old system of classification is a natural growth no change must be made, is an argument which if taken literally would have destroyed all progress in the past. If a change is wise on its merits, the mere fact that it may change or alter a natural growth should not prevent its being adopted.

In discussing the question of classification on its merits, the matter falls naturally under two separate heads, and under these two heads the remaining arguments advanced against classification, by the employers, will be discussed. These two heads are: First, the principle of classification by trades; second, the minimum rates to be established in the different classes.

<sup>1</sup> Noted in the MONTHLY LABOR REVIEW for October, 1918 (pp. 25, 26).

<sup>2</sup> Noted in the MONTHLY LABOR REVIEW for August, 1918 (pp. 72-75).

<sup>3</sup> Noted in the MONTHLY LABOR REVIEW for August, 1918 (pp. 72, 73.)

First. The principle of classification by trades. I believe that the principle of classification by trades is sound. I base my belief on the following grounds:

A. It is simple and practicable. The classification of workers by their various trades, as distinguished from the present system of classification, by the various machines, is simple and practicable. It has been worked out carefully by the Emergency Fleet Corporation and the United States Navy. Although there has been considerable criticism of the minimum rates established by the Fleet Corporation and by the Navy, there has been no criticism of the methods of classification, which have shown themselves to be extremely practicable and to work well in practice.

B. It makes it easier to grade the men according to their skill. It should be borne in mind that the system of classification asked for by the workers involves: First, the division of the workers into different trades; and second, the subdivision of the workers in different trades into groups, determined by the skill of the worker. For instance; there are machinists and electricians, and other trades; and within the trade of machinists there are "helpers," "handymen," or "specialists," and "machinists," based on the skill and experience of the individual worker.

This trade subdivision can be supplemented at the option of the employer by a greater number of subdivisions, also based on skill, such as first, second, and third class machinists. In other words, the men of each trade can, under this system, be graded, beginning with the common laborer who gets the minimum rate of wages based on the cost of living and going right up to the most skilled mechanic. The question of whether a man in a particular trade should be in one class or another of his trade, is to be decided, in accordance with the award of your board already agreed upon in this case, by representatives of the company and of the employees, and in case of failure, by them to agree, by your board.

I am convinced, therefore, that when this system of classification is clearly understood, it will be seen to work out to the advantage of both employees and employer, as a satisfactory method of seeing that each man has his wage based upon his skill and not upon the strategic advantage which either the employer or the employee may have at the particular moment when the wage bargain is made.

C. It tends toward the establishment of standards, and the ascertainment of actual facts. I am convinced, from my study of this case and other data, that one of the great difficulties in the present industrial situation in the United States is lack of knowledge of the facts. This lack of knowledge, and resulting confusion, is due largely to the lack of standardization in wage rates. The situation in the plant of the Worthington Pump Co. gives a vivid illustration of this. It is absolutely impossible for even the employers themselves to compare their wage rates with the wage rates of their competitors, because their wage rates are divided into over 60 different classes. This multiplicity of classes, and lack of standardization, is at times injurious to the employees, because it enables the employers to reduce the rate of wages arbitrarily by splitting up the employees into different groups. At other times it works against the interest of the employer by preventing him from getting the data necessary, in order to have him find out whether his plant is being conducted efficiently. From the public point of view it interferes with the knowledge of wage conditions, which is essential for the passage of sound economic laws. Therefore, from the public point of view, and from the point of view of both employers and employees, anything that tends toward the standardization of wages, and toward the ascertainment of the exact facts involved, is in the opinion of your umpire a step in advance.

For these reasons I believe that the "principle of classification by trades" along the lines demanded by the employees should be established.

Second. The minimum rates to be established in the different classes.

A. Though the Emergency Fleet Corporation and the United States Navy classification rates may be too high for competitive industry, the relative proportion of

these rates is good. They were carefully studied before they were put into effect and their proportion has not been subjected to criticism. Therefore your umpire feels that your board, in establishing a system of classification, should keep as nearly as possible the same proportions as were established by the Emergency Fleet Corporation and the United States Navy.

The minimum wage of 42 cents an hour, established by you in previous cases and asked for by the employees in this case, is about 90 per cent of the minimum established by the Fleet Corporation and the United States Navy, namely, 46 cents an hour.

I feel that this difference is a fair one and that it should be extended to the minimum rates for the various classes involved.

I think that the minimum rates asked for by the men should be granted except in so far as they exceed 90 per cent of the corresponding rates established by the Fleet Corporation and the Navy.

I therefore rule that "A system of classification shall be established and that the minimum rates of pay shall be as follows:

	Cents per hour.
Machinists.....	72
Specialists.....	56
Machinists' helpers.....	49
Electricians.....	72
Crane operators.....	70
Electricians' helpers.....	49
Pattern makers.....	77½
Boiler makers.....	72
Layers-out and flange turners.....	77½
Boiler makers' helpers.....	49

#### LOCAL MACHINERY FOR CLASSIFICATION.

I feel that there should be some machinery established by which these various minimum rates can be changed as conditions change; and by which new classes for trades in these plants, not represented before your board, can be established, these changes and additions, however, to be consistent with the general principles laid down herein. I therefore rule that for this purpose "a permanent committee of four persons shall be appointed, two of whom shall be designated by the company and two by the workers. The decision of any three of these shall be binding. In the event of failure of the committee to reach an agreement, the case may be referred to the administrator appointed by the secretary of your board under the award already agreed upon by your board in this case, who shall promptly render his decision, from which an appeal may be taken by either of the parties to your board; pending such appeals, the decision of the administrator shall be in force. This committee may from time to time change the minimum rates for the classes hereby established, and may provide new rates for additional classes, subject, however, to the general principles laid down herein."

#### CONCILIATION WORK OF THE DEPARTMENT OF LABOR, DECEMBER 16, 1918, TO JANUARY 15, 1919.

Under the organic act of the department, which gives the Secretary of Labor the authority to mediate in labor disputes through the appointment, in his discretion, of commissioners of conciliation, the Secretary exercised his good offices between December 16, 1918,



and January 15, 1919, in 104 labor disputes. The companies involved, the number of employees affected, and the results secured, so far as information is available, were as follows:

STATEMENT SHOWING THE NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, THROUGH ITS COMMISSIONERS OF CONCILIATION, DEC. 16, 1918, TO JAN. 15, 1919.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Strike, salt miners, Detroit Rock Salt Co., Detroit, Mich.	55	45	Company refused to meet a committee of workers or make any concession whatever, nor would it agree to a joint submission to National War Labor Board.
Controversy, bakers, Top Notch Baking Co., Columbus, Ohio.	7	.....	Adjusted.
Controversy, International Association of Machinists, Hoover, Owens & Rentslar Co., Hamilton, Ohio.	650	1,250	Referred to National War Labor Board.
Strike, electrical workers, Interior Storage Depot, New Cumberland, Pa.	45	.....	Adjusted.
Threatened strike, metal workers, Wm. Vogel & Bros. Co., Brooklyn, N. Y.	200	.....	Do.
Controversy, electrical workers, Municipal Gas Co., Albany, N. Y.	100	.....	Referred to National War Labor Board.
Controversy, Electrical workers, Adirondack Electrical Power Corporation, Glens Falls, N. Y.	125	.....	Pending.
Controversy, scarf link chain makers, S. J. Taylor Chain Co., Hammond, Ind.	40	70	Adjusted.
Controversy, employees, Mead Johnson & Co., Evansville, Ind.	10	100	Do.
Controversy, pressmen, Tulsa (Okla.), World and Tulsa Times-Democrat, Tulsa, Okla.	12	50	Unable to adjust.
Threatened strike, machinists, Nordyke-Marmion Co., Indianapolis, Ind.	7,000	.....	Adjusted.
Controversy, metal polishers, Cleveland Steel Products Co., Cleveland, Ohio.	4	.....	Pending.
Controversy, R. H. Long Co., Framingham, Mass.	.....	.....	Do.
Controversy, Web Pressmen's Union, Los Angeles Publishers Association: Los Angeles Examiner, Los Angeles Evening Express, Los Angeles Evening Herald, Los Angeles Record.	100	300	Do.
Controversy, machinists and specialists, Wm. Wharton Jr., Co. (Inc.), Easton, Pa.	47	1,200	Unable to adjust.
Threatened strike, butchers, Swift & Co. et al., Greater New York, N. Y.	3,000	.....	Adjusted.
Threatened strike, employees, electrical workers, Commonwealth Edison Co., Chicago, Ill.	3,000	2,000	Pending.
Controversy, employees, Texas Steam Ship Co., Bath, Me.	.....	.....	Do.
Strike, men in packing department, National Milling Co., Toledo, Ohio.	26	149	Do.
Threatened strike, Butchers' Union and Master Butchers, Butchers' Union Local No. 265, Los Angeles, Cal.	300	.....	Do.
Controversy, trainmen, Sioux City Service Co., Sioux City, Iowa.	140	.....	Found that company had an agreement with men as to wages and conditions; also provision for arbitration for disputes growing out of agreement. The agreement does not expire until May 1, 1919. Men concluded to let matter rest until expiration of agreement.
Controversy, Indianapolis Printing Pressmen's Union, Indianapolis Publishers Association, Indianapolis, Ind.	65	200	Adjusted.
Controversy, machinists, Birmingham Southern R. R. Co., Birmingham, Ala.	3	600	Do.
Controversy, New York Central Lines, Englewood, Ill.	1	16	Do.
Controversy, Terre Haute, Indianapolis & Eastern Traction Co., Indianapolis, Ind.	.....	.....	Pending.
Controversy, Indiana & Cincinnati Traction Co., Indianapolis, Ind.	.....	.....	Do.

STATEMENT SHOWING THE NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, THROUGH ITS COMMISSIONERS OF CONCILIATION, DEC. 16, 1918, TO JAN. 15, 1919—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Controversy, Interstate Public Service Co., Indianapolis, Ind.	-----	-----	Pending.
Strike, blacksmiths, Ingersoll-Rand Co., Phillipsburg, N. J.	40	4,000	Do.
Threatened strike, linemen, drivers and wiremen, Public Service Corporation, Newark, N. J.	80	3,700	Company claims that it accepted National War Labor Board ruling in case of employers vs. Chicago Ry. and increased all of its employees' wages about 25 per cent. They are now paying their men more than companies in surrounding territory. That they can not accede to request of men or make any compromise offer, that they are now paying the maximum rate the company can afford to pay.
Controversy, electrical workers, Indianapolis, Ind.	-----	-----	-----
Bute Telephone Co., Automatic Telephone Co., Indianapolis Light & Heat Co., Merchants Light & Heat Co., Traction Terminal Car Line Co., Western Union & Postal Telegraph Companies.	290	40	As most of companies concerned are now in hands of receiver, and as the men are but recently organized and chances of winning a strike are doubtful, Commissioner believes there will be no strike.
Controversy, weavers, Philadelphia, Pa.	-----	-----	Pending.
C. H. Masland & Sons, Ferguson Carpet Co., John Hamilton & Co., Chas. P. Cochrane, Harvey Fibre Carpet Co.	-----	-----	-----
Controversy, various milling companies, Evansville, Ind.	-----	-----	Do.
Strike, mine men, Louck & Hill Co., Richmond, Ind.	9	-----	Unable to adjust.
Controversy, unionists, Beloit, Wis.	25	-----	Pending.
Controversy, employees, American Hominy Co., Terre Haute, Ind.	2	100	Adjusted.
Controversy, Italian factory workers, Philadelphia, Pa.	-----	-----	Pending.
Strike, pipe fitters, service men, stationary engineers and machinists, Atlanta Gas Light Co., Atlanta, Ga.	53	110	Do.
Lockout, cigar makers, Havana American Cigar Co., Chicago, Ill.	300	-----	Do.
Controversy, machinists, Four Lakes Ordnance Plant, near Madison, Wis.	4	200	Do.
Controversy, granite cutters, Rockport Granite Co., Rockport, Mass.	90	-----	Referred to National War Labor Board.
Controversy, L. W. F. Engineering Co. plant, College Point, N. Y.	-----	-----	Pending.
Controversy, employees, Evansville Ry. Co., Evansville, Ind.	55	-----	Adjusted.
Controversy, electrical workers, Aberdeen Proving Ground, Aberdeen, Md.	-----	-----	Do.
Walkout, coach cleaners, Kansas City, Mo.	-----	-----	Referred to Railroad Administration.
Threatened strike, coal drivers and chauffeurs, dealers, New York, N. Y.	25,000	-----	Adjusted.
Threatened strike, Standard Conveyor Co., St. Paul, Minn.	60	-----	Pending.
Controversy, Amalgamated Association of Street & Electric Railway employees:	-----	-----	-----
Attleboro Branch Railroad Co., Interstate Consolidated Street Railway Co., Worcester Consolidated Street Railway Co., Milford, Attleboro & Woonsocket Street Railway Co., Worcester, Mass.	1,100	-----	Do.
Controversy, copper workers, Taunton-New Bedford Copper Works, Taunton, Mass.	375	-----	Do.
Controversy, machinists, American Steel & Wire Co., DeKalb, Ill.	6	2,000	Do.
Controversy, machinists, specialists, and helpers, Ohio Motor Co., Sandusky, Ohio.	14	-----	Do.
Controversy, butcher workmen, Philadelphia, Pa.	600	-----	Do.

STATEMENT SHOWING THE NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, THROUGH ITS COMMISSIONERS OF CONCILIATION, DEC. 16, 1918, TO JAN. 15, 1919—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Controversy, linemen, combination troublemen, metermen and substation operators, Montana Power Co., Lewistown, Mont.	5	.....	Pending.
Controversy, linemen, etc., Mountain States Telephone & Telegraph Co., Lewistown, Mont.	11	.....	Do.
Controversy, Sinclair Refining Co., Vinita, Okla.	.....	.....	Do.
Controversy, toolmakers, machinists, and specialists, Hobbs Manufacturing Co., Worcester, Mass.	125	.....	Do.
Controversy, machinists, Midwest Engine Co., Indianapolis, Ind.	.....	.....	Do.
Controversy, Stockham Pipe Fitting Co., Birmingham, Ala.	25	775	General manager of company states he will conduct his business on any system he deems best for company and refused to answer any questions put to him concerning the business. Commissioner would not be surprised if stoppage of work should take place in near future.
Strike, machinists, David Lupton Sons Co., Philadelphia, Pa.	.....	.....	Pending.
Threatened strike, fire fighters, Scranton, Pa...	210	.....	Fire fighters were to leave the service of the city at 8 p. m., Dec. 31, 1918, but have agreed to continue at work pending an effort to get the officials of city of Scranton to arbitrate the questions at issue.
Controversy, machinists, Independent Pneumatic Tool Co., Aurora, Ill.	600	200	Pending.
Controversy, material carriers, Southern Pacific Railway, Los Angeles, Cal.	20	100	Do.
Controversy, cooperage workers, Green Bay, Wis.	.....	300	Do.
Strike, electrical workers, Richmond, Va.: Stringer Electric Co., Winston Electric Construction Co., Bauman and Hines, W. H. Jenks, J. E. Candle, Ben Engleberg, Edgar M. Andrews, W. B. Cattlett Electric Co., Wingfield & Hundley, Godsey & Fry, Morris Hunter.	46	31	Do.
Strike, electrical workers, Great Falls, Mont.; Butte, Mont.; Anaconda, Mont.	.....	.....	Adjusted.
Controversy, employees, Logan Iron Works, Burnham, Pa.	.....	.....	Pending.
Strike, electrical workers, contractors, Norfolk, Va.	550	12,000	Adjusted.
Strike, machinists, Apperson Bros., Kokomo, Ind.	80	258	Pending.
Strike, street car men, Kansas City Railway Co., Kansas City, Mo.; Kansas City, Kans.	2,700	.....	Do.
Controversy, electrical workers, ordnance department in Baltimore, Baltimore, Md.	.....	.....	Adjusted.
Controversy, foundry employees, several establishments, Brooklyn, N. Y.	600	.....	Pending.
Controversy, electrical workers, Atlantic City, N. J.	.....	300	Adjusted.
Strike, spring makers (automobile springs), Mather Spring Works, Toledo, Ohio.	200	310	Do.
Controversy, Leather Workers Union, Pfister & Vogel Leather Co., Milwaukee, Wis.	4,000	.....	Pending.
Strike, Durand Steel Locker Co., Chicago Heights, Ill.	180	.....	Adjusted.
Threatened strike, Bohm Refrigerator Co., St. Paul, Minn.	.....	.....	Pending.
Controversy, Norristown Woolen Co., Norristown, Pa.	.....	.....	Do.
Controversy, Pittsburg Railways Co., Pressed Steel Car Co. employees, McKees Rocks, Pa.	500	.....	Do.
Controversy, Alamo Iron Works, San Antonio, Tex.	.....	.....	Do.
Strike, coal drivers and helpers, Madison, Wis: Conklin & Sons Co., C. F. Cooley Coal Co., Struck & Irwin, Castile & Doyle.	60	100	Adjusted.
Strike, carpenters and other building trades, Bausch & Lomb plant, Rochester, N. Y.	.....	.....	Pending.

STATEMENT SHOWING THE NUMBER OF LABOR DISPUTES HANDLED BY THE DEPARTMENT OF LABOR, THROUGH ITS COMMISSIONERS OF CONCILIATION, DEC. 16, 1918, TO JAN. 15, 1919—Continued.

Name.	Workmen affected.		Result.
	Directly.	Indirectly.	
Controversy, coal companies, versus miners, Carbon County (Salt Lake City), Utah.	.....	.....	Pending.
Strike, molders, Hyde Windlass Co., Bath, Me.	.....	.....	Do.
Controversy, longshoremen, Superior, Wis.	.....	.....	Do.
Controversy, machinists, locomotive plant, Chicago, Ill.	20	.....	Adjusted.
Controversy, inspectors, Curtiss Aeroplane Co., Buffalo, N. Y.	.....	.....	Pending.
Strike, machinists, J. B. Wise plant, Watertown, N. Y.	.....	.....	Do.
Controversy, electrical workers, Santa Barbara, Cal.	.....	.....	Do.
Controversy, employees, Hudson Valley Ry. Co., Albany, N. Y.	.....	.....	Do.
Threatened strike, miners, lignite mines, vicinity of Minot, N. Dak.	.....	.....	Adjusted.
Controversy, Electrical workers, Wm. Wharton, jr., Co., Easton, Pa.	.....	.....	Pending.
Controversy, Simmons Saddlery Co., St. Louis, Mo.	.....	.....	Do.
Controversy, P. Burns Saddlery Co., St. Louis, Mo.	.....	.....	Do.
Controversy, bakers, New Orleans, La.	.....	.....	Do.
Controversy, The Industrial Works, Bay City, Mich.	.....	.....	Do.
Controversy, Smalley General Co., Bay City, Mich.	.....	.....	Do.
Controversy, Chevrolet Motor Co., Bay City, Mich.	.....	.....	Do.
Controversy, Western Electrical Co., Boston plant, Boston, Mass.	.....	.....	Do.
Controversy, building trades, New Orleans, La.	3,000	.....	Do.
Controversy, employees, International Shipbuilding Co., Orange, Tex.	900	.....	Do.
Strike, electricians and mechanics, Lackawanna Coal Co., Scranton, Pa.	30	1,000	Do.
Controversy, blacksmiths, Chambersburg Engineering Co., Chambersburg, Pa.	.....	.....	Do.
Threatened strike, labor trouble, Green Bay, Wis.	.....	.....	Do.
Strike, Jessop Steel Co., Washington, Pa.	.....	.....	Do.
Controversy, Springfield Street Railway Co., Springfield, Mass.	950	.....	Do.

## ADJUSTMENTS REPORTED.

Controversy, Bethlehem Shipbuilding Corporation (Alameda plant), Oakland, Cal.  
 Controversy, McCormick Harvester Co., Chicago, Ill.  
 Threatened strike, Anton Engineering & Contracting Co., Albany, N. Y.  
 Strike, Foundation Ship Yard, Savannah, Ga.  
 Strike, Hecla Iron Works, Brooklyn, N. Y.  
 Controversy, Fort Whipple job, Prescott, Ariz.  
 Controversy, Delany Forge Co., Buffalo, N. Y.  
 Strike, General Manufacturing Co., Philadelphia, Pa.  
 Threatened strike, Columbus Foundry Co., Columbus, Ind.  
 Threatened strike, Emerson Brantingham Co., Columbus, Ind.  
 Threatened strike, Chicago Telephone Co., Chicago, Ill.  
 Threatened strike, Western Electric Co., Chicago, Ill.  
 Lockout, Jacksonville Drydock & Repair Co., Jacksonville, Fla.  
 Controversy, packers, St. Joseph, Mo.  
 Controversy, Haynes Automobile Co., Kokomo, Ind.

### COMPULSORY ARBITRATION IN GREAT BRITAIN DURING THE WAR.<sup>1</sup>

In this article the course of the strike movements in Great Britain during the war, together with the reasons for the principal strikes, is shown in their relation to the question of the effectiveness as well as the desirability of endeavoring to force industrial peace in war times by the enactment of antistrike legislation.

At the outbreak of the war the problem confronting Great Britain was that of securing immediate maximum production and to secure this it was necessary to prevent the loss of time incidental to strikes involving large numbers of workers. The industrial truce of August, 1914, agreed to by the labor unions and the Labor Party, was the first effort by the Government toward securing this result, and when this broke down as a consequence of profiteering by employers and rise in the cost of living it was followed by the Treasury Agreement of March, 1915, and by the Munitions of War Act of July, 1915.<sup>2</sup> By the provisions of the Munitions of War Act no employer could declare a lockout and no employee could take part in a strike unless the question had been referred to the Board of Trade and 21 days had elapsed since the date of the report. Penalties provided were a fine of £5 (\$24.33) for each day on strike and £5 for each man locked out. This act also provided that no workman could leave his employment without a leaving certificate under penalty of six weeks' unemployment—an order which was such a prolific cause of dissatisfaction and unrest that it was finally repealed in October, 1917.

According to figures compiled from the files of the Board of Trade Labor Gazette<sup>3</sup> there were 2,504 strikes reported from the 1st of August, 1914, to the last of March, 1918, which involved more than 1,700,000 men and caused a loss of about thirteen and one-quarter million working days. While the number of strikes in the last five months of 1914 involved only 5 per cent of the number of workmen engaged in strikes in the first seven months of that year, the rise in the number of striking workers in the early part of 1915 reflects the unrest caused by the increase in the cost of living without any corresponding increase in wages and the excess profits of employers. Shortly after the Munitions of War Act went into effect the coal miners of South Wales struck for higher wages. They were out nine days altogether and the strike was settled by conceding the demands of the men. As no penalties were inflicted as a result of this violation of the act it was recognized that it did not in reality contribute in any way to the settlement of the strike.

<sup>1</sup> Summary of an article on Compulsory arbitration in Great Britain during the war, by Milton Moses, in the *Journal of Political Economy* (Chicago) for November, 1918 (pp. 882-900).

<sup>2</sup> See Annual Conference of the British Labor Party in *MONTHLY LABOR REVIEW* for September, 1918, pp. 320, 321.

<sup>3</sup> Changed in July, 1917, to *The Labour Gazette*, issued by the Ministry of Labor.



During the remainder of 1915, through the next year, and the first four months of 1917 there were no very great deviations in the strike curve except for the Clyde strike and a textile strike in Dundee. In May, 1917, however, widespread unrest extended to all the important engineering industries so that for the year there was an increase of 18 per cent in the number of strikes and an increase of nearly 120 per cent in the number of working days lost. In this series of strikes about one and one-half million working days were lost by the 160,000 men included, and in November of the same year a strike of 2,600 colliery examiners over recognition of the union affected nearly 128,000 workers.

The Munitions of War Act was modified in August, 1917, by amendments giving the minister of munitions power to repeal the leaving certificate provision and to extend awards applying to a majority of a trade to the minority. The Government set up eight commissions to inquire into the prevalent unrest and the reports showed that the main reasons, besides the munitions of war acts, were "delay in settling disputes, the high cost of living, profiteering, employers' spy systems, allegations of rate cutting, withdrawal of the trade-card scheme, and the introduction of dilution on private work." In the first few months of 1918 the engineering, coal-mining, and shipbuilding industries were the ones showing the most important disagreements, the threatened strike of the Amalgamated Society of Engineers, which was afterward called off, being designed as a protest against the Government's policy. Altogether in the 33 months during which the munitions acts were in effect over 1,500,000 workmen violated these acts by taking part in strikes, and if these workmen had been fined according to the provisions of the law the amount of the fines would total more than £55,000,000 (\$267,657,500).

As practically the entire time lost was the result of a few important strikes each month, the author selected 80 strikes taking place after the passage of the munitions act to show the actual results of the act. In these 80 strikes 989,401 men took part and there was an aggregate loss of 8,351,190 working days. While these 80 strikes were only about 4 per cent of the total, they involved 65 per cent of the number taking part in strikes and 74 per cent of the working days lost.

In the majority of cases the strikes either for increased wages or for other objectives resulted in the men's demands being met and the settlement was usually effected by the personal intervention of some Government official. In the engineering disputes of March and April, 1916, the shop steward movement began to find place in the troubles and the situation became so serious that the Ministry of Munitions felt it necessary to remove some of the ringleaders, which was accomplished under the Defense of the Realm Act. In this case 9 men were deported and 30 strikers were fined. Government control of

coal fields was also instituted in South Wales when it was found impossible to settle the dispute there by agreement. Other large strikes in June and December, 1916, and the first part of 1917 were dealt with by the Government by threat to proceed against the strikers under the Munitions of War Act and against those who instigated the strikes under the Defense of the Realm Act.

The engineering strike of May, 1917, caused by withdrawal of the trade-card scheme and introduction of dilution in private engineering work, and which was a very serious one from point of view of production, was finally settled by the prime minister after efforts at settlement had been made by prominent Government officials and seven of the strike leaders had been arrested. These arrested men were subsequently released on their own recognizance, and although after the settlement there were some prosecutions, mostly of shop stewards, in nearly every case the charges were withdrawn after the return to work. Disputes which threatened to become serious later in the year were averted by concessions made on the part of the Government. In the early part of 1918, in connection with the threatened strike of the Amalgamated Society of Engineers over the Government's man-power scheme, Mr. Arthur Henderson made the statement that the industrial situation was graver than at any time during the war and that "the unyielding attitude of the Government is bringing the country on the verge of industrial revolution."

From a report published by the Ministry of Munitions in 1916 giving the number of prosecutions of workers and employers under the munitions act it is seen, however, that up to that time only about one-fifth of 1 per cent of those taking part in strikes were as a matter of fact prosecuted under the act.

In conclusion the author says:

On the basis of this information it is possible to come to some conclusion regarding the efficacy and desirability of introducing antistrike legislation as a means of establishing industrial peace during the war. Great Britain established two methods of dealing with strikes: The Defense of the Realm Act and the munitions of war acts of 1915, 1916, and 1917; the one of a criminal nature, the other providing for compulsory arbitration. The information available is not complete enough to show the exact number of cases in which the law was invoked to bring about a settlement or when it was successful in achieving this result. It is a fact, however, that strikes have increased proportionately since the passage of the munitions of war acts. It has already been stated that, although the time during which the acts have operated is only 75 per cent of the total war period, 85 per cent of the total time lost by strikes throughout the war has occurred in this period. Less than 100 of the most important strikes, practically all of which were in violation of the law, in which nearly 1,000,000 men took part, caused an aggregate loss of over 8,000,000 working days. The industry showing the greatest loss due to strikes are among the most vital war industries. The attitude of the Government toward one of the strongest compulsory features is evidenced by the repeal of the leaving-certificate provision in October, 1917. Leading labor men of the Kingdom have expressed their dissatisfaction with the principle of compulsion during the war. Further developments have yet to show us which policy will ultimately prevail in Great Britain.

# IMMIGRATION.

## IMMIGRATION IN NOVEMBER, 1918.

In January, 1918, the number of immigrant aliens admitted into the United States decreased 9 per cent as compared with the number admitted in December, 1917. February showed an increase over January of 16.2 per cent, while March as compared with February showed a decrease of 11.9 per cent. April as compared with March showed an increase of 46.7 per cent, May as compared with April an increase of 59.5 per cent, while June as compared with May decreased 6.4 per cent. July as compared with June showed a decrease of 45.4 per cent. In August there was an increase of 1.1 per cent over the number reported for July, and the number in September showed an increase of 27.2 per cent over the number for August. October compared with September showed an increase of 17.7 per cent and November compared with October showed a decrease of 27.8 per cent.

IMMIGRANT ALIENS ADMITTED INTO THE UNITED STATES IN SPECIFIED MONTHS  
1913 TO 1918.

Month.	1913	1914	1915	1916	1917	1918	
						Number.	Per cent increase over preceding month.
January.....	46,441	44,708	15,481	17,293	24,745	6,356	<sup>1</sup> 9.0
February.....	59,156	46,873	13,873	24,740	19,238	7,388	16.2
March.....	96,958	92,621	19,263	27,586	15,512	6,510	<sup>1</sup> 11.9
April.....	136,371	119,885	24,532	30,560	20,523	9,541	46.7
May.....	137,262	107,796	26,069	31,021	10,487	15,217	59.5
June.....	176,261	71,728	22,598	30,764	11,095	14,247	<sup>1</sup> 6.4
July.....	138,244	60,377	21,504	25,035	9,367	7,780	<sup>1</sup> 45.4
August.....	126,180	37,706	21,949	29,975	10,047	7,862	1.1
September.....	136,247	29,143	24,513	36,398	9,228	9,997	27.2
October.....	134,440	30,416	25,450	37,056	9,284	11,771	17.7
November.....	104,671	26,298	24,545	34,437	6,446	8,499	<sup>1</sup> 27.8
December.....	95,387	20,944	18,901	30,902	6,987	.....	.....

<sup>1</sup> Decrease.

Classified by nationality, the number of immigrant aliens admitted into the United States during specified periods and in November, 1918, was as follows:

IMMIGRANT ALIENS ADMITTED INTO THE UNITED STATES DURING SPECIFIED PERIODS AND IN NOVEMBER, 1918, BY NATIONALITY.<sup>1</sup>

Nationality.	Year ending June 30—				November, 1918.
	1915	1916	1917	1918	
African (black).....	5,660	4,576	7,971	5,706	488
Armenian.....	932	964	1,221	221	12
Bohemian and Moravian.....	1,651	642	327	74	7
Bulgarian, Serbian, Montenegrin.....	3,506	3,146	1,134	150	4
Chinese.....	2,469	2,239	1,843	1,576	207
Croatian and Slovenian.....	1,942	791	305	33	.....
Cuban.....	3,402	3,442	3,428	1,179	47
Dalmatian, Bosnian, Herzegovinian.....	305	114	94	15	.....
Dutch and Flemish.....	6,675	6,443	5,393	2,200	186
East Indian.....	82	80	69	61	4
English.....	38,662	36,168	32,246	12,980	1,532
Finnish.....	3,472	5,649	5,900	1,867	30
French.....	12,636	19,518	24,405	6,840	677
German.....	20,729	11,555	9,682	1,992	82
Greek.....	15,187	26,792	25,919	2,602	61
Hebrew.....	26,497	15,108	17,342	3,672	144
Irish.....	23,503	20,636	17,462	4,657	548
Italian (north).....	10,660	4,905	3,796	1,074	89
Italian (south).....	46,557	33,909	35,154	5,234	223
Japanese.....	8,609	8,711	8,925	10,168	798
Korean.....	146	154	194	149	11
Lithuanian.....	2,638	599	479	135	5
Magyar.....	3,604	981	434	32	2
Mexican.....	10,993	17,198	16,438	17,602	1,300
Pacific Islander.....	6	5	10	17	.....
Polish.....	9,065	4,502	3,109	668	31
Portuguese.....	4,376	12,208	10,194	2,319	77
Roumanian.....	1,200	953	522	155	5
Russian.....	4,459	4,858	3,711	1,513	133
Ruthenian (Russniak).....	2,933	1,365	1,211	49	2
Scandinavian.....	24,263	19,172	19,596	8,741	630
Scotch.....	14,310	13,515	13,350	5,204	607
Slovak.....	2,069	577	244	35	9
Spanish.....	5,705	9,259	15,019	7,909	242
Spanish-American.....	1,667	1,881	2,587	2,231	161
Syrian.....	1,767	676	976	210	10
Turkish.....	1,273	216	454	24	.....
Welsh.....	1,390	983	793	278	40
West Indian (except Cuban).....	1,823	948	1,369	732	63
Other peoples.....	1,877	3,388	2,097	314	32
Total.....	326,700	298,826	295,403	110,618	8,499

<sup>1</sup> The total number of departures of emigrant aliens in November was 3,969.

### EMIGRATION FROM ITALY AFTER THE WAR.

The Epoca<sup>1</sup> publishes an interview with Senator Bettoni, who has been elected president of the emigration section of the next colonial reconstruction congress, on the subject of emigration after the war. The following is a summary of the interview:

Many foreign countries will be in need of labor immediately after the war. Italy, even after the sacrifices of the past three years, and after having provided for her own needs, will be able to supply some of the demands of these foreign countries. The Italian workingman will be in a position to choose the market for his labor, and in these markets to choose the occupation for which he is best adapted. Up to the present time, foreign countries in need of Italian labor created the impression here

<sup>1</sup> Epoca. Rome, Oct. 23, 1918.

that by employing our workmen they were performing an act of philanthropy. Our emigrants, unorganized, isolated, with no guidance, lent an appearance of reality to this assertion. Henceforward, however, the position will be clearly understood owing to the incontestable fact that the demand will come from abroad. There will be no question of charity or philanthropy in giving work to Italians; it will be a question of absolute necessity. It is necessary for our emigrants to realize this state of affairs. The Government must take up the matter so as to coordinate, direct, and evaluate the current of emigration. It will be necessary to regulate emigration, so as to satisfy the requirements of the country in conformity with the interests of the emigrants themselves. It may appear at first sight that these suggestions must class with the liberal tendency of the "open door" and "freedom of travel." The interests in play are, however, of such great importance that it may be necessary to sacrifice an abstract theory in face of a national economic problem of such urgency.

The provisions made and to be made by the Government for demobilization must include the allocation of labor both at home and for abroad. Contracts for labor abroad should be approved by the emigration commission and should be based on the principle of equal treatment with the native inhabitants. Brazil, France, Switzerland, Belgium, etc., will all need Italian labor, but they will have to give guaranties assuring to our workmen proper living and working conditions before Italian labor will respond to the invitation.



## PUBLICATIONS RELATING TO LABOR.

### OFFICIAL—UNITED STATES.

CALIFORNIA.—*Industrial Accident Commission. Electrical station safety orders effective December 1, 1918. Sacramento, 1918. 54 pp.*

— *Reported decisions. Volume V. Bulletin No. 6. Index for Bulletins 1 to 5 inclusive. Sacramento, 1918. pp. 161–192, xiv. Price, \$2 per year, 25 cents per copy.*

A digest of this report appears on pages 192 to 194 of the present issue of the MONTHLY LABOR REVIEW.

— *State Land Settlement Board. Farm allotments and farm laborers' allotments in the Durham State Land Settlement. Sacramento, 1918. 10 pp.*

CONNECTICUT.—*Board of Compensation Commissioners. Vol II: Compendium of Awards of the Compensation Commissioners, June 1, 1916 to May 31, 1918, inclusive, together with the decisions of the Superior Court of appeal, and the decisions of the Supreme Court of Errors on appeal. Hartford, 1918. 702, 192 pp.*

The title of the volume is explanatory of its contents, and further indicates that it is the second of the series. The first part is devoted to decisions of the commissioners and of the Superior Court, and covers the period of two years, as indicated. The second part presents all opinions of the Supreme Court of Errors since the act came into effect, January 1, 1914, up to the date of publication in the latter part of the year 1918. Some 270 decisions and opinions are included in the volume, of which 31 are opinions of the Supreme Court of Errors and Appeals. The volume is indexed quite fully, but not cumulatively with the earlier volume, as might be expected in such a case.

IDAHO.—*Department of Farm Markets. Third and fourth annual report 1917-1918. Boise, 1918. 76 pp.*

INDIANA.—*Proceedings of conference on Reconstruction and Readjustment called by Gov. James P. Goodrich at the State House, Indianapolis, November 26, 1918. Indianapolis, 1918. 83 pp.*

MASSACHUSETTS.—*Bureau of Statistics. Labor Division. Forty-second quarterly report on employment in Massachusetts, quarter ending June 30, 1918. Boston, 1918. 16 pp.*

According to returns made by 1,093 labor organizations at the close of June 1918, representing 212,181 members, 6,324 members, or about 3 per cent of the total membership, were unemployed for all causes, as compared with the 6 for the close of March, 1918, and 8.4 per cent at the close of June, 1917. The present percentage is the lowest recorded during the entire period of over 10 years during which the bureau has collected data of this character. By industries, the greatest number of unemployed were 1,685 in the building trades, 883 in transportation, and 826 in the boot and shoe industry. During the quarter the three public employment offices in the State had requests from employers for 17,332 persons, while the total number of positions reported filled was 10,601, or 61.2 per cent of the total number of persons applied for. The number of strikes occurring during the quarter was 142 as compared with 51 during the preceding quarter.

— *Minimum Wage Commission. Wages of women in hotels and restaurants in Massachusetts. Bulletin No. 17. September, 1918. 68 pp.*

Contains results of an investigation completed January, 1917. Describes the different occupations followed by women in hotels and restaurants, giving their wages,

hours, relation between experience and wages, etc. Supplementary investigations made in 1918 showed general increases in money wages in Massachusetts restaurants ranging from 15 to 50 per cent. "Since the greatest increase in the cost of living is for the item of food, and since the majority of restaurant workers receive from one to three meals a day in addition to a money wage, the restaurants of Massachusetts are at the present day paying to most of their female employees a wage sufficient to cover the minimum cost of living." Not all employees, however, are receiving such wages and the commission calls on all proprietors of restaurants, etc., to make such increases as may bring the wages of all female employees of ordinary ability up to the minimum cost of living, and states that pending a satisfactory response to this appeal the creation of a wage board for this occupation will be postponed. (See article in *Monthly Labor Review* for October, 1918, pp. 186, 187.)

MICHIGAN.—*Department of Labor. Thirty-fifth annual report. Lansing, 1918. 686 pp.*

Includes compilations of the labor laws of 1917; Statistical report of work accomplished by the 10 State free employment bureaus, which shows that from December 1, 1916, to November 30, 1917, there were 37,805 applications from employers and 119,629 requests from these employers; that there were 38,632 new registrations and 72,560 renewals from persons applying for work; that persons referred to positions for the year reached the total of 111,192, out of which number 108,463 positions were filled, or 4,415 more positions filled than during the previous year; Statistical report on the inspection of factories and workshops, with factory orders issued in 1917; Store inspection, giving a list of establishments inspected in 1917, date of inspection, name of firm, location, nature of business, and number of persons employed; and orders issued for stores in 1917; Inspection of hotels and restaurants, showing name of hotel, town where located, and number of persons employed, and orders issued on hotels and restaurants in 1917; Summary of accidents reported; Coal mine inspection; Boat inspection; Report of private employment agencies; Statistics of prisons and reformatories; and related matter.

NEW YORK.—*Industrial Commission. Bureau of Inspection. Health hazards of the cloth-sponging industry. Special bulletin, No. 89, November, 1918. Albany, 1918. 24 pp. Illustrated.*

A digest of this report appears on pages 226 to 228 of this issue of the MONTHLY LABOR REVIEW.

— — — *Bureau of Statistics and Information. Industrial code with amendments, additions, and annotations to August 1, 1918. Albany, 1918. 207 pp. Chart.*

This volume contains the following 21 bulletins which have been published separately from time to time: 1, Employment of women in canneries (rule 1); 2, Inclosure of factory stairways (rule 2); 3, Storage of combustible material about factory stairways (rule 3); 4, Sanitation of cannery labor camps (rules 200-232); 5, Sanitary code for bakeries and confectioneries (rules 300-347); 6, Fire-alarm signal systems of factories (rule 375); 7, Existing fire escapes of factories (rule 380); 8, Fireproof and fire-resisting material (factory construction and tests) (rules 500-513); 9, Factory elevators and hoistways (rules 400-445); 10, Sanitation of factories and mercantile establishments (rules 100-198); 11, Equipment, maintenance, and sanitation of foundries and employment of women in core rooms (rules 550-599); 12, Milling industry and malt-house elevators (rules 650-664); 13, Removal of dust, gases, and fumes from factories (rules 700-723); 14, Fire escapes as means of exit (rule 4); 15, Steam boilers in factories, mines, tunnels, and quarries (rules 800-850); 16, Smoking in factories (rule 15); 17, Trough water-closets (rule 10); 18, Mines (rules 1000-1076); 19, Quarries (rules 1100-1122); 20, Artificial lighting of factories and mercantile establishments (rule 50); 21, Guarding of dangerous machinery, vats, pans, and elevated runways (rules 875-920); 22, Automatic sprinkler systems (rule 75); 23, Window cleaning (rule 5).

NEW YORK.—*Industrial Commission Bureau of Statistics and Information. Miscellaneous labor laws. 1918. Albany, 1918. 136 pp.*

Contains text of laws as given in the Consolidated Laws of 1909 and succeeding years, with amendments to August 1, 1918, with references to such amendments. Notes give cross references to laws and references to court decisions and opinions of the Attorney General construing the laws. An introductory note states the issuance, besides the present pamphlet, of three others containing, respectively, the general labor law, the industrial code (comprising the rules and regulations of the industrial commission supplementary to the labor law), and the workmen's compensation law.

— *University. Attendance division. Census, child welfare, and compulsory education bureaus established 1917. Bulletin No. 672. Albany, October 1, 1918. 27 pp.*

— (CITY).—*Department of Education. Nineteenth annual report of the superintendent of schools. 1916-17. Report on evening schools. New York, November 13, 1918. 48 pp.*

Includes a section devoted to Evening trade schools.

— *Mayor's Committee on Unemployment. How to meet hard times. A program for the prevention and relief of abnormal unemployment. New York, 1917. 132 pp.*

This report of the committee appointed by Mayor Mitchel after the industrial crisis of 1914 "to deal constructively with the problem of unemployment and prepare against a recurrence of unemployment crises" goes exhaustively into the subject and includes "(1) a theoretical consideration and analysis of the financial and industrial aspects of trade crises and of the preventive and meliorative measures which may be taken by consumers, employers, and particularly by 'high finance,' 'big business,' and Government to avert or mitigate the distressful effects of such crises; (2) a review and critical examination of the principles to be adopted in meeting the relief needs of these crises, in so far as, and to the extent that, relief may or must be given, and of the respective shares of responsibility for meeting such needs which should be assumed by the city and by voluntary relief societies supported by private contributions; (3) a discussion of methods of relieving distress and of providing emergency employment; (4) an analysis of the means by which the relief of distress and the provision of emergency employment may best be accomplished."

OHIO.—*Industrial Commission. Department of Inspection. Division of mines. Directory of Ohio coal operators for the year 1917. Columbus, 1918. 41 pp. Vol. IV, No. 14.*

— *Department of Investigation and Statistics. Directory of Ohio manufacturers, 1918. Report No. 35. Columbus, 1918.*

Gives information concerning the location, character, and extent of the State's industries.

— *Division of workshops, factories, and public buildings. The laws governing factory and building inspection and compulsory education. Columbus, July 1, 1918. 140 pp.*

PENNSYLVANIA.—*State Workmen's Insurance Fund. Second annual report: Financial statement as of June 30, 1918. Harrisburg, 1918. 16 pp.*

This report is reviewed on page 243 of this issue of the MONTHLY LABOR REVIEW.

WASHINGTON.—*Industrial Welfare Commission. Third biennial report. 1917-18. Olympia, 1918. 61 pp.*

This report covers the period from Jan. 1, 1917, to Nov. 20, 1918. It contains a brief review of minimum-wage legislation in the United States, and a general discussion of women's relation to the war, and women and children in war-time employment. A section is devoted to legal regulations of the conditions of employment of women and children in the State, and another section presents the results of a survey made in April, 1918, to ascertain, by obtaining the rates of wages paid in January, 1917, and in January, 1918, what advances employers had voluntarily made to meet war conditions. The tabulations show that 63.6 per cent of the workers were receiving less than \$12.15 per week, a figure obtained as a basis for computation by applying

a 35 per cent advance in living costs to the legally established minimum wage of \$9 per week. The report includes an order fixing the minimum wage for women at \$13.20 per week, and an order increasing the minimum wage of minors, noted, respectively, in the MONTHLY LABOR REVIEW for November, 1918 (pp. 177-179), and January, 1919 (pp. 211, 212); and also an account of the revision of the apprenticeship schedules made necessary by the adoption of the new minimum wage scales. The report notes a general increase in the employment of children in the State as a result of the war, presenting a statement of the number of age certificates and work permits issued, and in this connection recommending legislation to provide for the raising of the compulsory school age to 16 years and for the establishment of compulsory continuation schools. The commission announces that in the period, Nov. 20, 1916, to Nov. 1, 1918, back wages, amounting to \$7,205.39, were collected from 147 firms for 364 women workers who had been underpaid. This is an average of \$19.79 each. The text of the decision of the Washington Supreme Court in holding the minimum-wage law constitutional is included in the report. During the biennium the commission expended a total of \$7,316.98 of the \$10,000 appropriated. Request is made for an additional \$5,000.

WISCONSIN.—*Industrial commission. Second annual report. Apprenticeship in Wisconsin.* [Madison], 1918. 12 pp.

This is the report for the period Jan. 1, 1917, to June 30, 1918. The foreword states that the report attempts "to present in a general way the condition of apprenticeship in the State; to show the relationship of apprenticeship to skilled labor as brought to the observation of the commission; to present the relation of apprenticeship to the State with reference to industry and citizenship; and to give an idea of some of the things which are being accomplished, and the methods employed."

— *The apprenticeship system of the plumbing trade in Wisconsin. Comprising rules for indenture, supervision, and instruction of apprentices in the plumbing trade, with a statement of standards of journeymanship required for certification.* Madison, 1919. 18 pp.

— *Women's department. Factory equipment, housekeeping, and supervision. A handbook for employers of women, containing the provisions of the statutes regarding labor standards and suggestions for improved equipment and housekeeping.* Madison, September, 1918. 22 pp. Illustrated.

Contains sections devoted to Hours of labor; Prohibited employments; Safety; Sanitation; Equipment; and Housekeeping and supervision.

UNITED STATES.—*Bureau of Efficiency. Report for the period from November 1, 1917, to October 31, 1918. Washington, 1918. 65th Congress, 3d session, Doc. No. 1429. 15 pp.*

Contains a brief outline of the work of the bureau, statement of expenditures, list of employees, and related matter.

— *Congress. Senate. Committee on Public Lands. Homes for returning soldiers and sailors. Report No. 580 [to accompany S. 4947], 65th Congress, 2d session. Washington, October 7, 1918, 8 pp.*

Report on the bill (S. 4947) to provide for a survey and classification of all unentered public lands of the United States, and all unused cut over, logged, and swamp lands and other unused lands of the United States, with a view to disposing thereof to honorably discharged soldiers and sailors and others.

— *Council of National Defense. Advisory commission. Committee on Labor. Section on sanitation, Committee on welfare work. Requirements and standards upon heating and ventilation. Report of divisional committee on heating and ventilation. Welfare work series No. 4. Washington, July, 1918. 21 pp.*

Directed principally toward the improvement of conditions in workrooms and factories, including work places where excessive heat, vapor, and injurious substances obtain in the atmosphere, arising from manufacturing processes. The ventilation and heating of homes and other living quarters are noted in passing.

In the first section of the pamphlet general policies and requirements in heating and ventilation are stated, such as the value and use of window ventilation alone; ventilation in rooms without windows; the amount of fresh air, heat, and moisture required under varying circumstances; methods of banishing excessive heat, vapor, and injurious substances from the air in manufacturing establishments; the combination of ventilation by mechanical means with ventilation by natural means, and how it may be effected.

Following the statement of general policies comes a section devoted to standards, which gives such helpful, scientific facts as the amount of space in a work room desirable per occupant; the proper amount of window area in a workroom desirable per occupant; the amount of mechanical ventilation necessary in workrooms lacking the proper amount of window space.

(Standards are also stated for removing injurious substances from the air, such as excessive dust, fumes, gases, fibers, or other impurities released in the course of manufacturing.)

The bulletin will be found helpful by those interested in establishing desirable working conditions in places of employment. It has the advantage of being free from technical terms.

UNITED STATES.—*Department of Commerce. Bureau of Foreign and Domestic Commerce. Annual report for the fiscal year ended June 30, 1918. Washington, 1918. 93 pp.*

— *Department of the Interior. Bureau of Mines. Eighth annual report of the Director for the fiscal year ended June 30, 1918. Washington, 1918. 124 pp.*

The report on rescue and first-aid investigation and training work shows that during the year 36,274 miners visited the eight mine rescue cars, which were distributed throughout the country for the training of miners in first-aid and mine-rescue work, the stations, and the rescue trucks; 33,629 attended lectures and safety demonstrations; 8,369 were given initial training; and 482 took additional training, making a total of 8,851 trained. During the year 38 accidents were investigated by members of the Bureau of Mines. In these accidents 188 men were killed, 65 escaped unassisted, and 13 were rescued. Of the 38 accidents, 30 were in coal mines and 8 in metal mines.

— *Department of Labor. Bureau of Immigration. Annual report of the Commissioner General. Fiscal year ended June 30, 1918. Washington, 1918. 322 pp. Charts.*

Besides statistics of immigration, the report contains a report of the chief of the division of information; a report on seamen's work; a digest of reports of commissioners and inspectors in charge of districts; and sections devoted to the bureau's most important war activities; importation of labor for war necessities; the new immigrant law; admissions and rejections; illiterate defective aliens; aliens subject to exclusion or deportation on economic grounds; and other related subjects.

— *Bureau of Naturalization. Student's Text Book. A standard course of instruction for use in the public schools of the United States for the preparation of the candidate for the responsibilities of citizenship. Compiled from material submitted by the State public schools to the Bureau of Naturalization. Washington, 1918. 131 pp.*

— *Children's Bureau. Juvenile delinquency in rural New York, by Kate Holladay Claghorn. Dependent, Defective, and Delinquent Classes, Series No. 4, Bureau Publication No. 32. Washington, 1918. 199 pp.*

This report is reviewed on pages 196 to 198 of this number of the MONTHLY LABOR REVIEW.

— *Sixth annual report of the Secretary of Labor for the fiscal year ended June 30, 1918. Washington, 1918. 231 pp.*

This report includes an account of the activities of the President's mediation commission, of which the Secretary of Labor was chairman, and a history of the organization and work of the war labor administration, including the origin, purposes, and functions of the various services set up in the department to carry on the increased duties occasioned by the war. Considerable space is devoted to an account of the



establishment of the United States Employment Service, which has grown to be one of the largest branches of the department. The Secretary submits recommendations on employment for returning soldiers, and superannuation and retirement. For returning soldiers it is recommended that "for the uncertainties of homesteading there should be substituted an orderly, properly planned scheme of colonization, in which the Federal Government shall establish and equip not only individual farms, but also link them together into organized communities." The legislation suggested to provide in this way for soldiers desiring to settle on the land should include three minimum provisions, declares the Secretary: (1) Possibilities of commercialized speculation in titles must be guarded against; (2) colonists must be given access not only to land but to farms, not the bare soil but fully equipped agricultural plants ready to operate; (3) the farms themselves must be welded together into genuine communities by provision for roads, schools, and markets, under the general supervision of the Federal Government. The primary principle, it is pointed out, is not the use of men for the development of land, but the development of land for the use of men. To organize and supervise such a plan the creation of a board consisting of the Secretaries of Agriculture, Interior, and Labor is recommended, but it is added, "regardless of the machinery by which it is put into operation, whatever legislation is granted should recognize the cardinal principle that the natural resources of the Nation are for the common good of all and should be accessible on such terms as to discourage speculation and exploitation and to reward diligence and thrift.

UNITED STATES.—*Department of Labor. Training and Dilution Service. A successful apprentice toolmakers' school. Methods used by a large manufacturing company for training new employees to operate machine tools and for subassembly work, and to upgrade experienced operators for work in the toolroom. Training bulletin No. 2. Washington, 1918. 8 pp.*

——— *British methods of training workers in war industries. Bulletins upon training and dilution, No. 3. Washington, 1918. 78 pp. Illustrated.*

——— *Training employees for better production. A symposium of experiences in American factory training departments. Training bulletin No. 4. Washington, 1918. 29 pp.*

——— *United States Housing Corporation. Annual report to the Secretary of Labor, December 3, 1918. Washington, 1919.*

This report is noted on pages 246 to 251 of this number of the MONTHLY LABOR REVIEW.

——— *District of Columbia. Annual report of the commissioners, year ended June 30, 1918. Vol. III. Report of the health officer. Washington, 1918. 236 pp.*

A section devoted to the administration of the eight-hour law for females shows that there were 1,892 establishments coming under this law in the year covered by the report; that during this year 10,704 inspections were made; and that 147 complaints were made, necessitating 104 inspections.

——— *Federal Board for Vocational Education. Agricultural education. Bulletin No. 26, Agricultural series No. 4. Washington, December, 1918. 32 pp.*

In three parts, the first of which points out those factors which are essential for the success of the State plans for vocational agricultural education; the second contains a discussion of the relationship between teacher-training departments and State supervisors; and the third considers sectional conferences and periods of professional improvement work for teachers of high-school agriculture.

——— *Buildings and equipment for schools and classes in trade and industrial subjects. Bulletin No. 20, Trade and industrial series No. 4. Washington, November, 1918. 77 pp. Illustrated.*

An attempt to summarize the best experiences of industrial trade schools in the United States, so far as it relates to buildings, their location, arrangement, and mechanical or instructional equipment. Part 1 contains a survey of the whole field of trade

and industrial education from the point of view of buildings and equipment for type schools and classes; part 2, a discussion of equipment, courses of study and methods of instruction in carpentry, which was prepared as the first of a series of articles which will treat in a similar manner all the more common trade subjects.

UNITED STATES.—*Federal Board for Vocational Education. Second annual report, 1918. Washington, 1918. 172 pp.*

A review of the educational activities of the Federal Board for Vocational Education, together with its publications, statistical report, allotment tables, and five appendixes covering the administration of the vocational education act, rulings and decisions of the Federal Board, and other subjects of interest in regard to the board's work.

— *Ward occupations in hospitals. Bulletin No. 25, Reeducation series No. 4. Washington, December, 1918. 58 pp.*

The importance, therapeutic, and economic values of ward occupations for disabled men are discussed in this bulletin. It also includes among other important subjects a classification of ward activities, the Canadian methods of training teachers for rehabilitation work, and a suggested method open to the Federal Government for insuring adequately trained occupational therapists.

— *Public Health Service. Annual report of the Surgeon-General, for the fiscal year 1918. Washington, 1918. 373 pp.*

— *I. An experimental investigation of the toxicity of certain organic arsenic compounds. By George B. Roth. II. On the toxicity of emetine hydrochloride, with special reference to the comparative toxicity of various market preparations. By Gleason C. Lake. Washington, July, 1918. 61 pp. Hygiene Laboratory, Bulletin No. 113.*

— *Shipping Board Emergency Fleet Corporation. Industrial Relations Division. Employment branch. Handbook on employment management in the shipyard, dealing with modern methods and practices of employment management. Bulletin II, The Employment Building. Philadelphia, 1918. 29 pp. Plans.*

This outline takes up in order: General requirements of the employment building, special requirements of the employment building, and floor plans for employment building. The description of each room or section in a modern employment building is given, being presented under the heads: Purpose, layout, equipment, and staff.

— *Superintendent of Documents. Tariff and taxation. List of publications. Washington, July, 1918. 25 pp. Price list 37, 7th edition.*

— *War Department. Annual report of the Secretary of War, 1918. Washington, 1918. 141 pp.*

— *Annual reports, fiscal year ended June 30, 1918. Report of the Governor of Porto Rico, 1918. Washington, 1918. 752 pp.*

Appendix IX forms the report of the commissioner of agriculture and labor. The pages devoted to labor contain a survey of general labor conditions, of labor disputes, the enforcement of labor laws, publications, free employment agency, and recommendations. This is followed by statistical tables of strikes; inspection in industrial establishments; four types of salaries that prevailed in agricultural work in sugar-cane zone during crop season, 1918; work accomplished in connection with the workmen's compensation act; work of the free employment agency; work done in connection with the women and children law; and the results of investigation made into various industries. From July 1, 1917, to June 30, 1918, 504 accidents were investigated under the workmen's compensation act. For the fiscal year 1917-1918, the free employment agency enrolled 449 applicants and recommended 203, of whom 45 were employed, and 84 who were recommended failed to report.

— *[War Department] Ordnance Department. Safety operating rules for manufacturing, loading, handling, and storing powder, explosives, and loaded shell at munitions plants operated for or by Ordnance Department, United States Army. Form 3109. Washington, November, 1918. 16 pp.*

UNITED STATES.—[War Department] Ordnance Department. *Sanitation operating rules for manufacturing, loading, handling, and storing powder, explosives, and loaded shell at munitions plants operated for or by Ordnance Department, United States Army.* Form 3110. Washington, November, 1918. 21 pp.

— [War Industries Board.] Central Bureau of Planning and Statistics. *A list of food statistics issued by the Statistical-Clearing House.* [Washington] 1918. 463 typewritten pages.

— — Division of planning and statistics. *A comparison of prices during the civil war and the present war.* Washington, November, 1918. 30 pp., mimeographed. Charts.

This was reviewed in the MONTHLY LABOR REVIEW for January, 1919 (pp. 105-109).

— — — Fluctuations of controlled and uncontrolled prices. *Price fixing bulletin No. 10.* Washington, December, 1918. 54 pp., mimeographed. Charts.

This is reviewed on pages 110 to 112 of this issue of the MONTHLY LABOR REVIEW.

### OFFICIAL—FOREIGN COUNTRIES.

AUSTRALIA (QUEENSLAND).—Department of Labor. *Report of the director of labor and chief inspector of factories and shops for year ended 30th June, 1918.* C. A. 69-1918. Brisbane, 1918. 46 pp.

Contains reports of the operations of labor exchanges, statistics of employment, inspection, and various reports from inspectors of different districts. A table giving operations during the year 1917-18 for the whole State of Queensland as reported at State labor exchanges for the year ended June 30, 1918, shows that there were 29,963 persons registered; that the demand was for 17,158; and that 14,641 persons were sent to employment, of which number 7,592 were sent to Government employment and 7,049 to private employment.

— (SOUTH AUSTRALIA).—Department of Agriculture. *Land settlement for soldiers.* [Adelaide] 1918. 4 pp.

This pamphlet contains the rules under which discharged soldiers who wish to take up land under the discharged soldiers settlement act may be trained at one of the training farms established by the Government for this purpose.

— — — Mount Remarkable training farm; its objects and the chief regulations governing returned soldiers admitted on the farm. Adelaide. [1917] 8 pp.

— — — Parliament. *An act to make further and better provision for the settlement of discharged soldiers on land.* No. 1313. Adelaide, 1917. 7 pp.

— — — Soldiers' settlements. *Report of second official town planning conference and exhibition, Brisbane, 30th July to 6th August, 1918.* [Brisbane.] 1918. 16 pp.

This report covers the conditions under which discharged soldiers may take up land; the provisions under which inexperienced men may receive agricultural training at the three Government training stations comprising altogether nearly 52,000 acres; the housing of returned soldiers and their dependents, houses being either built or purchased by the Government and sold on easy terms to returned soldiers or their widows; the proposed plan for a semirural settlement for cooperative dairying near Adelaide, and its estimated cost.

CANADA.—Statement of food commodities in Canada. December 1, 1918. Compared with the previous month, November 1, 1918, and with the same month of the previous year. pp. 2-9. Typewritten.

GERMANY.—Kaiserlich statistisches Amt. Abteilung für Arbeiterstatistik. *Ausländische Gesetzgebung über Berufsvereine, Einigungs-, Schieds-, und Tarifwesen.* (18. Sonderheft zum Reichs-Arbeitsblatte) Berlin, 1918. 28\*, 463 pp.

A compilation by the German statistical office, division of labor statistics, of foreign laws relating to trade unions, strikes, lockouts, boycotts, collective agreements, conciliation and arbitration of labor disputes, chambers of labor, and advisory labor councils. The countries included in the compilation are: Austria, Switzerland,

France, Italy, Belgium, the Netherlands, Denmark, Sweden, Norway, the British Empire, and the United States. An introduction giving a brief summary of the legislation in force on the subjects in question in the countries enumerated above is followed by the text of the various laws in the original language and translated into German. This publication is valuable as a reference book.

GERMANY.—*Kaiserlich statistisches Amt. Abteilung für Arbeiterstatistik. Beiträge zur Kenntnis der Lebenshaltung im dritten Kriegsjahre. (17. Sonderheft zum Reichs-Arbeitsblatte.)* Berlin, 1918. 48 pp.

This supplement to the bulletin of the German Bureau of Labor Statistics contains the results of an investigation into the cost of living of German urban families made by the war committee on consumers' interests. The investigation covers the month of April, 1917. It was preceded by two investigations covering April and July, 1916, the results of which were discussed in detail in the MONTHLY REVIEW of March, 1918 (pp. 13-28). Owing to lack of space only the general results of the investigation of April, 1917, can be given here.

The investigation of 1917 having covered families of the same income classes as the two investigations of 1916, the general results of the three investigations are comparable. The household budgets for April, 1917, show that the average expenditure for food, rent, clothing, fuel, light, and miscellaneous items per unit of consumption was 75.58 marks (\$17.99) as against 74.87 marks (\$17.82) for April, 1916. Of the individual items of expenditure per unit of consumption the following show an increase in April, 1917, as compared with the same month of the preceding year:

	April, 1917.	April, 1916.
	Marks.	Marks.
Fuel.....	4.11 (\$0.98)	2.70 (\$0.64)
Rent.....	8.51 (2.03)	7.99 (1.90)
Clothing and shoes.....	7.49 (1.78)	5.70 (1.36)
Laundry.....	1.96 (.47)	1.44 (.34)
Household utensils.....	.99 (.24)	.48 (.11)
Books and newspapers.....	1.78 (.42)	.92 (.22)
Barber, baths.....	.44 (.10)	.39 (.09)
Car fares.....	1.18 (.28)	1.17 (.28)

The following items of expenditure show a decrease:

	April, 1917.	April, 1916.
	Marks.	Marks.
Food.....	38.57 (\$9.18)	39.04 (\$9.29)
Taxes.....	1.82 (.43)	2.32 (.55)
Physician, medicines.....	.91 (.22)	1.09 (.26)
Insurance.....	1.58 (.38)	2.25 (.54)
Dues for societies.....	.61 (.15)	.79 (.19)
Amusements, sports.....	.36 (.09)	1.09 (.26)
Gifts.....	1.72 (.41)	1.94 (.46)
Wages, tips.....	.92 (.22)	2.27 (.54)
Miscellaneous expenditures.....	2.63 (.63)	3.29 (.78)

The expenditures per unit of consumption for food for April, 1917, as compared with those for April, 1916, show an increase of expenditures for rationed bakery goods (bread), flour, macaroni, noodles and other farinaceous foods, meat, sausages, fruit, vegetables, and coffee substitutes, while expenditures for nonrationed bakery goods, potatoes, butter, fats, oleomargarine, canned meat and fish, eggs, cheese, jam, preserved foods of all kinds, sugar, candy, and coffee have decreased. The expenditures for fresh fish and milk remained stationary.

A table giving the average quantities of food consumed per unit of consumption during April, 1916, and 1917, shows that the consumption of rationed bread has increased from 8,304 grams (18.3 pounds) to 8,407 grams (18.5 pounds), while that of

nonrationed bakery goods which have nearly entirely disappeared from the bakeries of large cities has decreased from 466 grams (1 pound) to 199 grams (7 ounces). The consumption of flour and farinaceous foods has increased from 1,445 grams (3.2 pounds) to 2,005 grams (4.4 pounds). The consumption of potatoes shows a very considerable retrograde movement from 16.79 kilograms (37 pounds) to 10.93 kilograms (24.1 pounds), i. e., a decrease of nearly 6 kilograms (13.2 pounds), or of nearly 35 per cent. The great scarcity of potatoes in the spring of 1917 finds expression in these figures.

There was also a heavy decrease in the consumption of butter and fats from 862 grams (1.9 pounds) to 539 grams (1.2 pounds). The consumption of meat and sausage rose from 1,524 grams (3.4 pounds) to 1,941 grams (4.3 pounds) owing to an increase of the meat ration in April, 1917. The consumption of fresh fish decreased from 857 grams (1.9 pounds) to 404 grams (14 ounces), that of canned meat from 377 grams (13.3 ounces) to 42 grams (1.5 ounces), of eggs from 12 to 7 eggs, of milk from 8 to 7.7 liters (8.5 to 8.1 quarts), of cheese from 363 to 334 grams (12.8 to 11.8 ounces). There was a considerable increase in the consumption of fresh vegetables and fruit and of dried vegetables. Other foodstuffs of which the consumption decreased were: Preserved vegetables, jam, sugar, and coffee. On the whole, it may be said that the consumption of foodstuffs per unit of consumption decreased considerably in April, 1917, as compared with April, 1916, while the amount expended for food remained practically the same.

The present investigation confirmed the fact already brought out by the two preceding investigations that the budgets of a large majority of the families in the three lowest income classes, i. e., those with incomes of under 100 marks (\$23.80), 100 to 200 marks (\$23.80 to \$47.60), and 200 to 300 marks (\$47.60 to \$71.40) showed an excess of expenditures over income covered through expenditure of former savings or contraction of debts.

GERMANY.—*Kaiserlich statistisches Amt. Abteilung für Arbeiterstatistik. Die Tarifverträge im Deutschen Reiche am Ende des Jahres 1914. Berlin, 1916. pp. 34\*, 49. ... am Ende des Jahres 1915. Berlin, 1917, pp. 14\*, 36. (12. and 15, Sonderheft zum Reichs-Arbeitsblatte.)*

The above two supplements to the Reichs-Arbeitsblatte give statistics on collective agreements concluded and in force in Germany during 1914 and 1915. The following table shows to what extent collective bargaining has developed in Germany during the period 1912-1915:

COLLECTIVE AGREEMENTS CONCLUDED AND IN FORCE IN GERMANY AND NUMBER OF ESTABLISHMENTS AND WORKERS COVERED BY THEM FOR THE YEARS 1912 TO 1915.

Year.	Collective agreements.					
	Concluded during the year.			In force at the end of the year.		
	Number.	Establishments covered.	Workers covered.	Number.	Establishments covered.	Workers covered.
1912.....	3,826	37,634	382,350	10,730	159,930	1,574,285
1913.....	3,975	64,203	645,321	10,885	143,088	1,398,597
1914.....	2,889	26,025	258,728	10,840	143,650	1,395,723
1915.....	227	3,324	71,873	10,171	121,697	943,442

The German Statistical Office states that the number of establishments and workers covered by collective agreements in force at the end of 1915 is probably much smaller than that shown in the preceding table, for in the absence of reliable current data a number of reports gave the same data for 1915 as for 1914.



The large falling off in 1915 in the number of establishments and workers covered by collective agreements is of course due to the closing down of many establishments during the war and to the large number of workers in military service.

The statistical data as to hourly wages determined in collective agreements show that 99 per cent of all skilled workers covered by such agreements received an hourly rate in excess of 45 pfennigs (10.7 cents) and that 32.7 per cent of these workers received over 75 pfennigs (17.9 cents) per hour. That 50.1 per cent of the unskilled workers covered by collective agreements received an hourly wage of between 35 and 45 pfennigs (8.3 and 10.7 cents) is chiefly due to the national agreement concluded for the leather war equipment industry in which the minimum hourly wage for unskilled workers was fixed at 42 pfennigs (10 cents).

GREAT BRITAIN.—*Board of Education. Regulations for the training of teachers. (In force from October 1, 1918.)* London, 1918. 63 pp. [Cd. 9176.] Price, 4d.

— *The Admiralty method of training dock-yard apprentices. Educational pamphlets, No. 32.* London, 1916. 12 pp. Price, 1½d.

An account of a scheme for the scientific training of apprentices which is notable for the results it has achieved during nearly three-quarters of a century.

— *Board of Trade. Memorandum on the scheme for the allocation and administration of the funds provided by Parliament for the development of the dye industry by means of financial assistance to companies and firms in aid of developments, extensions, and research.* Cd. 9194. London, 1918. 12 p. Price, 2d. net.

— *Committee on Currency and Foreign Exchanges. First interim report of the Committee on currency and foreign exchanges after the war. (Cd. 9182.)* London, 1918. 12 pp. Price, 2d. net.

— *Committee on the Treatment by the Enemy of British Prisoners of War. Report on the employment in coal and salt mines of the British prisoners of war in Germany. Miscellaneous. No. 23 (1918).* London, 1918. Cd. 9150. 7 pp. Price, 1d. net.

— *Development Commission. Eighth report of the development commissioners, being the report for the year ended the 31st March, 1918.* 118. London, 1918. 16 pp. Price, 3d. net.

Contains sections on Agriculture and rural industries, including a consideration of research and education and of the various agricultural industries separately; Forestry; Reclamation and drainage of land; Construction and improvement of harbors; Development and improvement of fisheries; Finance of the development fund; Appendixes; and General remarks.

— *Ministry of Munitions. Report of the controller of the department for the development of mineral resources in the United Kingdom.* Cd. 9184. London, 1918. 62 pp. Price, 6d. net.

— *National health insurance joint committee. Medical research committee. Fourth annual report. 1917-1918. [Cd. 8981.]* London, 1918. 78 pp. Price, 4d. net.

— *Select committee on transport. Second report, together with appendixes.* London, 1918. 22 pp. Price, 3d. net.

The report reviews the organization of internal transport agencies under prewar and war conditions, and the manner and extent to which changes have been made during the war. From a consideration of the information on these two points and of suggestions for improvements made by previous commissions, the committee recommends a unified ownership of the main railway systems of Great Britain. No specific recommendations are made regarding canals, road transport, harbors and docks, and other transport agencies.

— (IRELAND).—*Registrar General. Fifty-fourth detailed annual report containing a general abstract of the numbers of marriages, births, and deaths registered in Ireland during the year 1917. General summary: Population; marriages, their number and their relation to population; Religious denominations, ages, and civil condition; Births, their number and their relation to population; Deaths, their number and their relation to population, ages, and causes; Emigration; Weather. (Cd. 9123.)* Dublin, 1918. 59 pp. Price, 9d. net.

ITALY.—*Ministero dell'Industria, del Commercio e del Lavoro. Direzione Generale del Credito e della Previdenza. L'assicurazione obbligatoria contro la invalidità e la vecchiaia degli operai, by F. Insolera. (Annali del credito e della previdenza, series II, vol. 18<sup>bis</sup>.) Rome, 1917. 138 pp.*

In view of the increasing agitation in Italy for the introduction of compulsory old-age and invalidity insurance the Ministry of Industry, Commerce, and Labor has published the above monograph by Prof. F. Insolera. On the basis of actuarial experience in foreign countries and of Italian mortality statistics, Prof. Insolera attempts to make an estimate of the financial burden which would have to be borne by the State in case such insurance is introduced.

— *Ministero per le armi e munizioni. La vigilanza igienico-sanitaria negli stabilimenti ausiliari. Rome, 1918. 103 pp. Illustrated.*

A booklet on hygienic-sanitary supervision of war industries published by the Italian Ministry of Munitions. The booklet consists of a compilation of hygienic-sanitary regulations issued during the war and describes the medical service established and measures taken for the practical application and enforcement of these regulations. The last chapter of the booklet is devoted to an outline of a program of social aid to workers in the form of education, nursing rooms, combating of infant mortality, education of female workers in domestic science, hygiene in cooking, etc., lunchrooms for workers, promotion of the habit of saving, etc.

MEXICO.—*Secretaría de Agricultura y Fomento. Dirección de Estadística. Tercer Censo de Población de los Estados Unidos Mexicanos verificado el 27 de Octubre de 1910. Volume I. Mexico, 1918. 556 pp.*

The results of the third census of the population of Mexico will appear in three volumes and a volume of charts. Volume I gives the general data as regards sex, age, and language of the population by States and municipalities.

NEW ZEALAND.—*Statistics for the year 1917. Vol. I: Blue Book. Population and Vital Statistics. Law and Crime. Wellington, 1918. 238 pp.*

SWITZERLAND.—*Conseil Fédéral Suisse. Rapport du Bureau Suisse des Assurances sur les Entreprises Privées en Matière d'Assurances en Suisse en 1916. Berne, 1918. 205 pp.*

This is the thirty-first annual report relative to the operation of private insurance companies and associations in Switzerland, and covers the year 1916, with comparative data for previous years. The presentation of statistical data is followed by a reproduction of the Federal law of June 25, 1885, and subsequent legislative acts relative to Federal supervision of private insurance enterprises.

— (ZÜRICH).—*Statistisches Amt der Stadt Zürich. Statistisches Jahrbuch der Stadt Zürich, 1916. Vol. 12. Zürich, 1918. xxvii, 42\*, 328 pp.*

A yearbook of the city of Zurich giving municipal statistics for the year 1916 and partly also for 1917. Of interest to labor are those relating to the labor market, housing and rents, prices of foodstuffs and other necessities, the choice of occupation of children leaving school, etc. The statistical part of the yearbook is preceded by two articles of which one deals with the determination of maximum prices for foodstuffs and fuel during the war and the other with the mortality in Zurich from tuberculosis and cancer during the period 1896-1915.

UNION OF SOUTH AFRICA.—*Office of Census and Statistics. Statistics of population, 1918 and previous years, including vital and health statistics for the year 1916 and previous years. U. G. Number 40-18. Pretoria, 1918. 81 pp. Price, 5s.*

#### UNOFFICIAL.

ABBOTT, EDITH.—*Democracy and social progress in England. University of Chicago War Papers No. 8. Chicago. University of Chicago Press, 1918. 17 pp.*

The purpose, according to the author, of this pamphlet is to review, briefly, some of the English legislation that has set standards in the democratic control of industry far in advance of our own and to show that England has quietly provided a much more

adequate scheme of insurance than Germany had before the war. The subject is treated under the heads of: Social legislation the result of democratic control; England's pioneer factory acts; The protection of the wage earning woman; How America has lagged behind; The minimum wage a last step in the State regulation of industry; Social insurance not made in Germany; A democratic old-age pension system; Lloyd George's scheme for insuring a nation; The inadequacy of Germany's social insurance system; National labor exchanges and unemployment insurance; The enfranchisement of English women; and The war and the new social order.

AMERICAN ASSOCIATION FOR LABOR LEGISLATION.—*Foundations for reconstruction. The American Labor Legislation Review, December, 1918. 131 East Twenty-third Street, New York City. 97 pp. Price, \$1.*

The contents of this number cover five phases of reconstruction problems—Public employment service; Workmen's compensation; Health insurance; Woman's work; and Protective labor standards. In the introductory note it is said that "the Association for Labor Legislation would feel that it were falling far short of its ideals of patriotic service did it not again while the new world is in forming present some of the more fundamental of these ideals as foundations for reconstruction."

The article on "A national employment service," by Margaret A. Hobbs, recounts the activities of the Employment Service of the United States Department of Labor in effecting the mobilization of workers to aid in the prosecution of the war, and states that as this service has been developed as a war emergency measure steps must be taken to put it on a permanent footing if the system is to be retained. "Some problems of the partially disabled, in war and industry," by Irene Sylvester Chubb, takes up the subject of rehabilitation for both war and industrial cripples with special reference to workmen's compensation. A brief account of the rehabilitation and vocational training of war cripples in this country is given by Constance Drexel. "Limitations of occupational disease compensation," by John B. Andrews, discusses the difficulties of establishing claims for compensation for occupational disease under the workmen's compensation acts, and states that the chief backing for social insurance against occupational diseases comes now from "certain reactionary commercial interests and others who in the past have overlooked no opportunity to oppose the progress of labor legislation." The statement is also made that while it is clear that it is only just to include all occupational diseases under workmen's compensation, it is so difficult to establish claims that the effective way to deal with the matter is to cover all sickness regardless of its cause. "Year's developments toward health insurance legislation," by Solon de Leon shows the progress during 1918 of the educational movement in different States looking to the enactment of social health insurance laws and lists are given of labor organizations, prominent persons representing employers, labor representatives, physicians, and nurses, social workers, public officials, economists, and jurists who have gone on record as favoring health insurance. Other articles are "War time employment of women," by Margaret A. Hobbs, "Maternity protection," by Irene Osgood Andrews, and "Maintenance of protective standards," by Frederick W. MacKenzie. In "Regulation of women's working hours in the United States," a table is given showing the principal provisions of the laws in the various States and the main provisions of minimum wage laws are given in an article on the subject of minimum wage legislation.

AMERICAN FEDERATION OF LABOR.—*California branch. Proceedings of the nineteenth annual convention, held at San Diego, Cal., October 7 to 11, 1918. San Francisco, 1918. 96 pp.*

— *Florida branch. Proceedings of the seventeenth annual convention, held at Tallahassee, Fla., April 11, 12, and 13, 1917. Tampa, Tampa Printing Co., Inc., 1917. 48 pp.*

— *Illinois branch. Proceedings of the thirty-sixth annual convention, Bloomington, Ill., December 2 to 7 inclusive, 1918. Bloomington, 1918. 90 pp.*

- AMERICAN FEDERATION OF LABOR.—*Louisiana branch. Proceedings of the sixth annual convention, held at Alexandria, La., April 1, 2, and 3, 1918. Shreveport, La., Quality Printing Co., 1918. 61 pp.*
- *Montana branch. Official proceedings of the second biennial and twenty-second convention, January 29 to February 3, 1917, Helena, Mont. Butte, McKee Printing Co., 1917. 152 pp. Table.*
- *New Jersey branch. Official proceedings of the fortieth annual convention, held at Palace Hall, Perth Amboy, N. J., on August 19, 20, and 21, 1918. Newark, N. J., 1918. 52 pp.*
- *Oklahoma branch. Official proceedings of the fifteenth annual convention, September 16-18, Ardmore, Okla. Oklahoma City, 515-17 Baltimore Building, 1918. 82 pp.*
- *Constitution, by-laws, rules and order of business. As amended and adopted at the fifteenth annual convention. Oklahoma City, The Printery, 1918. 24 pp.*
- *Tennessee branch. Book of laws, as amended and adopted September 11, 1918, together with the proceedings of the twenty-second annual convention, held at Knoxville, Tenn., September 9, 10, and 11, 1918. Nashville, 1918. 64 pp.*
- *Utah branch. Proceedings of the fourteenth annual convention, held at Eagles Hall, Ogden, Utah, September 9-11, 1918. Salt Lake City, Arrow Press, 1918. 32 pp.*
- *Vermont branch. Proceedings, constitution and by-laws of the sixteenth annual convention, with preamble and declaration of principles, Rutland, Vt., August 14, 15, and 16, 1917. Barre, Vt., Modern Printing Co., 1917. 107 pp.*
- *Washington State branch. Proceedings of the seventeenth annual convention, held at Aberdeen, Wash., June 24-29, 1918. Tacoma, Wash., T. V. Copeland and Son, printers, 1918. 165 pp.*
- *Wyoming branch. Proceedings of the ninth consecutive and first biennial convention, Sheridan, Wyo., July 16, 17, 18, and 19, 1918. Cheyenne, Wyoming Labor Journal Publishing Co., 1918. 55 pp.*

ASSOCIATION OF NATIONAL ADVERTISERS, INC. *Reconstruction of foreign and domestic markets. Part 1. Manufacturing capacity and world trade. New York, 15 East 26th Street, 1918. 37 pp.*

The first part of what is described as a "brief on reconstruction", the object of which is "to present collectively information which has hitherto existed in a fragmentary and scattered form; to establish a relation between both the various classes of data and the new problems that a vast increase of productive capacity and the creation of an international consciousness have thrust upon the manufacturers of the United States; and to draw attention—in the concluding section—to the need of commercial organization in the United States and to the necessity for an unqualified recognition and scientific employment of a factor in trade promotion that has already achieved vast success in American business." Labor, war production, and other subjects are examined separately for the United Kingdom, France, Germany, and the United States. The sections devoted to labor are limited to brief outlines of conditions, the most pertinent statement being, in relation to industrial reconstruction in Great Britain, that "capital and labor must manage to get along together. No one is quite clear how this is to be done, but everyone insists that there must be cooperation."

DENMAN, THOMAS. *The discharged consumptive soldier: His treatment in relation to the treatment of consumption as a whole. With a foreword by H. de C. Woodcock, M. D. London, John Bale, Sons and Danielsson, (Ltd.), (1917). 40 pp. Price, 1s.*

The paramount object of this work is stated to be "to excite some interest among the citizens of this great country in this tremendous and vital problem and through them to create a determination on the part of Parliament to find ways and means of providing adequate and comprehensive measures to cope with it, if not finally to solve it." Dr. Woodcock in his foreword says, "It is computed that over two hundred thousand tuberculous fighters will require treatment" and that "The hospitals and sanatoria are insufficient in themselves to rid the land of tuberculosis and kindred plagues. I say kindred plagues, for every salient driven into territory of tuberculosis

is an attack on all disease." The author considers first the inadequacy of present methods of dealing with the disease generally and of the machinery established by the Government through the Ministry of Pensions, and then outlines a scheme for State provision for tuberculous sailors, marines, and soldiers of health colonies in which will be secured for the men and their dependents not only medical treatment, but a favorable environment for a normal life, including schools, churches and amusements, training in occupations compatible with their infirmity, and means of being self-supporting through such occupations. An appendix is devoted to a few details of colony treatment which has proved successful, both from the medical and economic points of view, at Bourn, and which has lead to the establishment of the more ambitious colony in and around the Papworth Hall estate.

DUTCHER, GEORGE MATTHEW. *A selected critical bibliography of publications in English relating to the world war.* Philadelphia, McKinley Publishing Co., 1918. 36 pp. Price, 25 cents. War supplement to the *History Teacher's Magazine*, March, 1918. War reprint No. 3.

EMPLOYERS' FEDERATION OF NEW SOUTH WALES. *Report of annual meeting, 7th November, 1918.* Sidney, Hunter House, Hunter Street. 1918. 30 pp.

The objects of this federation are stated to be the following: (a) To protect the interests of employers from undue aggression and excessive interference either by the State or Commonwealth Government. (b) To watch legislation affecting employers and to promote measures in their interests. (c) To take whatever action may be considered advisable in the interests of employers and for the welfare of the State and Commonwealth generally. (d) To take such steps as may be necessary or expedient to protect the interests of the Federation. (e) To encourage amicable relations amongst employers and between employers and employees, and to promote the adoption of sound principles of economic production and distribution.

The report includes the President's address; Result of the living wage inquiry; The operation of the Industrial Arbitration, New South Wales, (Amendment) Act, 1918, including Minimum wage for females, Legal and illegal strikes, Lockouts, Preference to unionists, Establishment of a board of trade, Proposed amending commonwealth conciliation and arbitration act, etc.; and concludes with Hints to employers.

FISHER, RIGHT HON. H. A. L. *Educational reform.* Oxford, Clarendon Press, 1918. 101 pp. Price, 1 s. net.

A collection of speeches delivered by Mr. Fisher, president of the Board of Education, in the House of Commons and in various parts of the country, urging the passage of the Education (No. 2) Bill then before Parliament. An appended note contains some of the principal provisions of this bill which became a law August 8, 1918. For a more extended summarization of the bill see MONTHLY LABOR REVIEW, December, 1918 (pp. 42-46).

FLORENCE, PHILIP SARGANT. *Use of factory statistics in the investigation of industrial fatigue. A manual for field research.* Columbia University studies in history, economics, and public laws. Vol. LXXXI, No. 3. New York, 1918. 153 pp.

This volume is noted on pages 230 to 232 of this issue of the MONTHLY LABOR REVIEW.

GOLDBERGER, JOSEPH, WHEELER, G. A., AND SYDENSTRICKER, EDGAR. *A study of the diet of nonpellagrous and of pellagrous households in textile mill communities in South Carolina in 1916.* Chicago, American Medical Association, 1918. 13 pp. Reprinted from the *Journal of the American Medical Association*, September 21, 1918, Vol. 71, pp. 944-949.

A brief review of this report may be found on pages 221 to 223 of this issue of the MONTHLY LABOR REVIEW.

HENDERSON, ARTHUR. *A people's peace.* London. The Labor Party, 1 Victoria Street, S. W. [1917.] 4 pp. Price, 2s. 2d. per 100; £1 per 1000, carriage paid.

Arguments in favor of an international labor and social conference during the prosecution of the war.



HOFFMAN, FREDERICK L. *Failure of German compulsory health insurance—a war revelation.* Newark, N. J., The Prudential Insurance Co. of America, 1918. 21 pp. *Betterment of life insurance service.*

An address delivered at the twelfth annual meeting of the Association of Life Insurance Presidents at New York, December 6, 1918.

KING, W. L. MACKENZIE. *Industry and humanity. A study in the principles underlying industrial reconstruction.* Boston, Houghton, Mifflin Company, 1918. 367 pp.

A review of this volume appears on pages 79 to 81 of the present issue of the MONTHLY LABOR REVIEW.

McMURTRIE, DOUGLAS C. *Returning the disabled soldier to economic independence.* 8 pp. Reprinted from *Rehabilitation of the wounded*, Vol. lxxx, *The Annals of the American Academy of Political and Social Science*, Publication No. 1238. Philadelphia, November, 1918.

— *The meaning of the term "crippled."* New York, William Wood & Company, 1918. 10 pp. Reprinted from the *Medical Record*, November 30, 1918.

MASSACHUSETTS ANTI-TUBERCULOSIS LEAGUE. *Fourth Annual report*, 1918. Boston, 1918. 86 pp.

Contains a paper on conservation of man power in industry, by Anna M. Staebler, secretary of the Massachusetts committee on health in industry, in which the following subjects are treated: Hours of Labor, Standards in workrooms, Employment of women, Factory day nurseries, Minors in industry, Prevention of accidents and occupational diseases, Effect of alcoholism on industrial workers, and Industrial nursing.

NATIONAL EDUCATION ASSOCIATION. *A national program for education. A statement issued by the National Education Association commission on the emergency in education and the program for readjustment during and after the war.* Commission series, No. 1. Washington, The National Education Association, 1918. 27 pp. Price, 5 cents.

This pamphlet is reviewed on pages 82 to 85 of this issue of the MONTHLY LABOR REVIEW.

NATIONAL FEDERATION OF SETTLEMENTS. *Eighth conference, at Chicago, May 23d–26th, 1918.* Boston, A. T. Bliss & Co., 1918. 29 pp.

Contains the address of the president, Graham Taylor, on The soul of the settlement and discussions on War and reconstruction, New problems caused by the importation of colored labor into the north, Immigration and nationalization, and related subjects.

NATIONAL INDUSTRIAL CONFERENCE BOARD. *Hours of work as related to output and health of workers. Wool manufacturing.* Research report No. 12, December, 1918. Boston, 1918. 69 pp.

This report is reviewed on pages 153 to 155 of this issue of the MONTHLY LABOR REVIEW.

— *The eight-hour day defined.* Research report No. 11, December, 1918. Boston. 9 pp.

Discusses three senses in which the term "eight-hour day" is used. These are as follows:

1. A straight 8-hour day under which overtime is eliminated or even prohibited, except in extraordinary emergency.

2. An 8-hour shift with three work periods daily of 8 hours each for as many different sets of workers. This arrangement may extend over six or seven days of the week.

3. A basic 8-hour day in which 8 hours is made the basis or measure for service or payment, but under which overtime is permitted. Where a Saturday half holiday prevails, overtime commences at the close of the morning session.

THE NEW MAJORITY. *Published weekly at 166 West Washington Street, Chicago. Vol. 1, No. 1, January 4, 1919. 16 pp.*

This is the first issue of a new weekly paper published by the Chicago Federation of Labor and its affiliated unions in the interests of organized labor and the Labor Party of Cook County, Illinois.

PRISON ASSOCIATION OF NEW YORK. *The treatment of delinquents. Seventy-third annual report of the Prison Association of New York, 135 East Fifteenth Street, New York, 1917. Albany, J. B. Lyon Company, 1918. 198 pp. Illustrated.*

READINGS IN THE ECONOMICS OF WAR. *Ed. by J. Maurice Clark, Walton H. Hamilton, Harold G. Moulton. Chicago, University of Chicago Press, 1918. 676 pp.*

This volume is, as its name implies, a collection of short articles written by men of note along various economic lines. To the general reader it is designed to furnish a clear presentation of the "economic background of war, the economic basis of military efficiency, and the economic problems that will follow in the wake of war." For this purpose it is divided generally as follows: I. Economic background of war; II. War as a business venture; III. The nature of modern war; IV. Resources of the belligerents; V. The problem of industrial mobilization; VI. Obstacles to rapid mobilization in liberal countries; VII. War-time regulation of trade and industry; VIII. Food and fuel; IX. Transportation; X. War finance; XI. Prices and price control; XII. Labor and the war; XIII. The costs of the war; XIV. War's lessons in the principles of national efficiency; XV. Economic factors in an enduring peace; XVI. After-the-war problems.

RED CROSS INSTITUTE FOR CRIPPLED AND DISABLED MEN. *Education and occupations of cripples, juvenile and adult. New York City, Red Cross Institute for Crippled and Disabled Men, Oct. 15, 1918. Series II. Number 3. 227 pp. Illustrated.*

During the period from October, 1915, to October, 1916, a survey of all the cripples in Cleveland, Ohio, was made by Lucy Wright and Amy M. Hamburger under the auspices of the Welfare Federation of Cleveland. The Cleveland survey, which is the first city-wide census of cripples in this country, necessitated a house-to-house canvas and visits to 150,000 families. From these visits 4,186 persons were reported either by themselves or by their families as physically handicapped. The survey, however, did more than merely enumerate the cripples of Cleveland. It endeavored to gain all possible information for improving the condition of the crippled; and, by ascertaining the effect of the cripples' condition upon his attitude toward life and upon his associates, it tried to set forth the proper place of the handicapped in the community. Included in it also are occupation lists by disability, occupation studies, and stories of street operators. A more extended review of this book will appear in a future issue of the MONTHLY LABOR REVIEW.

RED CROSS INSTITUTE FOR THE BLIND. *The re-education of the Italian war blind, by Dott. Lavinia Mondolfo, directress of the re-education school for the war blind at Milan. Series I, Number 2. Baltimore, October 25, 1918. 18 pp.*

RICHARDS, CHARLES R. *The Gary Public Schools. Industrial Work. General Education Board, 61 Broadway, New York, 1918. 204 pp. Illustrated.*

This survey of the Gary schools covered a period of four weeks in the spring of 1916, and was undertaken by the General Education Board at the request of the Gary school authorities in order to present an unbiased account of the schools in their significant aspects. A critical study was made of the industrial work in the Emerson and Froebel Schools. Tables, showing shop enrollment, time schedules, and diagrams of work are given as well as questions given to children of various grades to determine their understanding of the work. In the concluding chapter the writer gives eight principles which were accepted by the superintendent as embodying the aims of the industrial arts work at Gary. He points out in some detail both the good points and the defects of the system, and in conclusion says that while the organi-

zation of the Gary shops represents the cultural point of view in education, and as such, makes a rich contribution to educational practice, still at present the "conduct of the work is not such as to secure satisfactory educational returns". There is needed for this greater breadth of instruction which will result in better appreciation and understanding from the shop experiences. On the other hand, however, he states that "it should be emphasized that the Gary shop work does not present a system of vocational training. It represents a very liberal set of industrial experiences calculated to broaden, enrich, and stimulate the school life of the pupil. It should be considered and evaluated from that point of view and not as a contribution to vocational training." The appendix gives in detail the products of the several school shops.

RITTENHOUSE, ELMER E. *Is the increasing death rate from the "degenerative" diseases imaginary?* Reprinted from the *Journal of the American Institute of Homeopathy*, November, 1918. 4 pp.

Mortality statistics collected by the Government indicate "an abnormal upward tendency in the death rate in the middle and later life periods, commencing in some comparisons as early as the age period 40-50, and continuing thereafter at an increasing ratio." These same records show an increase in the mortality rate from the so-called "degenerative" or old-age disease. This pamphlet is a refutation of statements appearing in an article in the *Journal of the American Institute of Homeopathy* for March, 1918, by F. L. Hoffman, in which the statement is made that this increase is "more apparent than real" and that the increase is due to changes in the "methods of death classification and analysis." The author considers that deaths from the two diseases cited, dropsy and senility, form too small a percentage of the total deaths to appreciably affect the result, and that tables given by Mr. Hoffman showing an increase in the degenerative disease mortality rate from 1900 to 1915 of only 12.1 per 10,000 living above the age of 10 is not a small matter since it means an annual loss from death of about 100,000 persons. If this ratio increases it becomes an increasingly serious matter and one to be dealt with seriously, since it is a measure of our national vitality.

ROCKEFELLER FOUNDATION. *International Health Board. Fourth annual report, January 1, 1917-December 31, 1917. Publication No. 7. New York, 61 Broadway, January, 1918. 160 pp. Illustrated.*

In two parts. Part I is devoted to control of hookworm disease and contains chapters on the menace of hookworm disease; Infection surveys; Plans of operation; Treatment for hookworm disease; Soil sanitation as a means of control; Hookworm disease in mines; and Local support of the work. The investigation regarding the subject of hookworm disease in mines showed that in Italy the disease has probably prevailed for centuries; that in France investigations begun by the Government in 1904 covered 82 per cent of the 144,133 underground miners, the average per cent of infection being found to be 4.6; that in England the problem was limited to tin mines, of which there are about 50, an infection rate of 66 per cent in an examination of 127 men being disclosed; that in Belgium the intensity of infection ranged from 5 per cent to 92 per cent; that in Netherlands a survey of six mines made in 1914 showed 373 cases, or 25.05 per cent among 1,489 miners, the degree of infection ranging from 15 per cent to 67 per cent; that in Germany, 32,576, or 16.8 per cent, were found infected out of a total working force of 194,127, the average rate of infection among 12,600 men in six of the worst mines being 54.1 per cent, and in one mine it was 84 per cent; that in Hungary, of 61,092 underground miners employed, 8,400 were examined and the percentage of infection was found to be from 85 to 100; that in Austria, where the conditions are unfavorable to the spread of the disease, only 44 cases had been discovered up to September, 1903, based upon the examination of 7,517 miners working in 519 mines, these 44 being located in 19 different mines; that in Spain, where the disease is probably more acute than in any other European country, the infection ranged from 50

per cent to 95 per cent and was heaviest in the lead mines of Linares. The disease is being carried from Europe to the mines of the United States. A survey of the mines of California in 1916 revealed a widespread infection and led to a campaign for its control in this country. (See article on Hookworm disease among the miners of California, in *MONTHLY LABOR REVIEW* for July, 1918, pp. 190-192.) A number of cases of infected miners have been found in mines in Nevada, North Carolina, Kentucky, Tennessee, and West Virginia, although up to the present time no general survey has been made to determine the general effect of the disease. Centers of infection, measures of control, results of control measures, and preliminary work in China are also studied in connection with the infection in mines. Part II considers other activities of the board, including Tuberculosis in France; Malaria control; Eradication of yellow fever; Public health training in Brazil; Hospital ship in the Sulu archipelago; and a Tabular summary and Financial statement.

ROTHBAND, HENRY L. *The Rothband Employment Scheme for Sailors and Soldiers Disabled in the War. Parliament to the rescue. John Heywood, Manchester and London. September, 1918.*

The scheme for the employment of disabled soldiers and sailors is, briefly, to have an appeal made by the King to employers throughout the country asking each firm to enroll on the Royal List as promising to fill at least one position with a disabled soldier or sailor. Such a roll is to be embodied in book form and supplied to local war committees and employment exchanges. The three pamphlets listed set forth the details of the plan, correspondence with Government officials and others in regard to the scheme, objections which have been raised to it, details of inquiries conducted by Mr. Rothband among employees and public men, and an account of the formation of a Parliamentary Committee.

RUSSELL SAGE FOUNDATION. *Library. Food conservation. Bulletin Number 32. New York, 130 East Twenty-second Street, December, 1918, 4 pp.*

A selected bibliography of literature on food conservation, one section of which is devoted to community kitchens.

— — — *Outline studies on the problems of the reconstruction period. Prepared by a special committee. New York, Association Press, 1918. 39 pp.*

A bibliography prepared for study groups along the following general lines: I. Alcoholism; II. Social vice; III. The broken family; IV. The status of woman; V. The home-coming man; VI. Democracy and the war; VII. Industry; VIII. The ending of war; IX. Nationalism and internationalism; X. War finance and the increased burden of living; XI. The new task of organized religion; XII. The new spirit of cooperation and service; XIII. The goal of civilization.

SHEA, TIMOTHY, ACTING PRESIDENT, BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEMEN. *Argument and brief submitted on behalf of locomotive firemen, helpers, hostlers, and hostler helpers. Hearing before Board of Railroad Wages and Working Conditions, Washington, D. C., September 30, 1918. Cleveland, Doyle & Waltz Printing Co., 1918. 109 pp.*

This volume was prepared to voice the protest of the classes of employees represented by Mr. Shea against the standards of wages, etc., fixed by General Order No. 27 of the Director General of Railroads. Tables show the rates fixed by the order and the rates requested, following which is an argument as to the necessity for the wage increase desired on account of the nature and requirements of the employments affected, which are set forth in detail.

Bases for determining a minimum standard living wage are presented, including summary budgets of expenditure and income of a number of railroad employees for the months of June, July, and August, 1918.

TEAD, ORDWAY. *Instincts in industry. A study of working-class psychology. Boston, Houghton Mifflin Company, 1918. 222 pp.*

The author thinks there is reason to believe that "an examination of human behavior in industry will disclose vital relationships between those maladjustments which we

call 'labor problems,' and the functioning of that complex of inherent tendencies and acquired characteristics which is human nature." The book is addressed to "all who have contacts with the workers—who must deal with them, speak for them, or of them," in the belief that "there is justification for the hope that scientific knowledge of human nature can give us a sound basis for concrete attack upon industrial maladjustment; can offer practical suggestions as to ways of squaring industrial practices with known facts about human nature; and can afford an approximately sound basis for prophesying the course which events will take under given circumstances. It is to point out what this justification is and to suggest the hopes about industrial life to which it gives rise that this study is devoted."

Chapters deal with: What are the instincts; The parental instinct; The sex instinct; The instinct of workmanship, contrivance, or constructiveness; The instinct of possession, ownership, property, or acquisitiveness; The instinct of self-assertion, self-display, mastery, domination, emulation, or "give-a-lead"; The instinct of submissiveness or self-abasement; The instinct of the herd; The instinct of pugnacity; The play impulse; The instinct of curiosity, trial, and error, or thought; Conclusion.

TEAD, ORDWAY. *The people's part in peace. An inquiry into the basis for a sound internationalism.* New York. Henry Holt and Company, 1918. 156 pp.

This book is reviewed on pages 81 and 82 of the present issue of the MONTHLY LABOR REVIEW.

TRADES AND LABOR CONGRESS OF CANADA. *Réport of the proceedings of the thirty-third annual convention held at the City of Ottawa, Ont., September 17th to 22nd, 1917.* Ottawa, 1917. 205 pp.

— *Report of the proceedings of the thirty-fourth annual convention held at the City of Quebec, Que., September 16th to 21st, 1918.* Ottawa, 1918. 180 pp.

A report of this convention appears in the MONTHLY LABOR REVIEW for December, 1918 (pp. 354 to 357).

TRAVERS-BORGSTROM, ARTHUR. *Mutualism: A synthesis. Private impression.* Montreux (Switzerland), A. Leyras. October, 1918. 76 pp.

The term "mutualism" is used to denote a new formula of synthetic production based upon the decentralization and integration of labor. It is not used in the narrower modern sense of mutuality or cooperation but to denote a "certain immaterial, supererogatory leaven of sentiment, of fellowship, which raises it beyond our ordinary forms of self-interested association." The author declares that he has no great faith in the stability of the league of nations or in the peacefulness of the new democracies, and that it is essential that each State or combination of States should be as far as possible "self-sufficing and independent of the humors of other nations." In the mutualization of land and labor he advocates no half-hearted measures but "the more expeditious way of beginning from the beginning and trying to build up a totally new system of land-tenure and integrated, combined industrial and agricultural labor, based upon the bedrock of nationality and patriotism." He believes that with the aid of the resources of science in agriculture the goal of a limited land mutualization carried out under scientific governmental supervision on a scale large enough and over a long enough period really to test its feasibility is well worth trying, and that the way to combat internationalism is to give the "hearth and homeless proletarian" a bit of the soil. The author does not advocate the theory of absolute ownership necessarily, but a suitable system of tenure of model farms, and he believes that in a "back-to-the-land" movement will be found a cure for the restless mercantilism of the times. "Mutualism," he says, "does not fall into the socialist error of doing away with private property and individual initiative. On the contrary, under the mutualistic system private property in its modified, pro-social shape will still form the basis of the social structure, and individual initiative, far from being discouraged, will, if anything, be increased \* \* \* by the integration of labor



and the extension to the working classes of the privilege of individual and hereditary possession of a portion of Mother Earth, a privilege at present denied to the great majority."

The author has instituted three prizes at the University of Berne for essays on "The nationalization of credit," these essays to be "a critical study of the organization of credit in a given country, and proposals for its nationalization."

VERBAND SCHWEIZERISCHER ARBEITSÄMTER. *Dreizehnter Geschäftsbericht für das Jahr 1917. Zürich, 1918. 41 pp.*

This is the annual report of the Federation of Swiss Employment Offices for the year 1917. The federation comprises five cantonal and eleven municipal employment offices. During 1917 the employment offices affiliated with the federation procured employment for 69,963 persons and received a subsidy of 62,375.50 francs (\$12,038.47) from the Federal Government. Of the applicants placed 17,881 were skilled workers, 26,822 unskilled workers, 5,089 agricultural workers, 3,617 migratory workers in various occupations, 16,018 female workers (industrial and domestic), and 536 apprentices. The total number of applicants was 97,308 (70,964 male and 26,344 female) and that of vacancies 105,644 (75,283 for male and 30,361 for female workers). For every 100 vacant situations for male workers there were 94.2 applicants, and for female workers, 86.7. For both sexes combined the proportion was 92.1.

During the year under review the development of public employment offices was seriously affected by the consequences of the war, particularly by the steadily increasing difficulties in providing a sufficient supply of raw materials, the effects of import and export prohibitions, restrictions of transit traffic, extraordinary market fluctuations, numerous drafts for and discharges from the army, etc. The greatest demand for labor was in iron and steel, metal working, machinery, woodworking, and clothing industries, the building trades, and agriculture. In the building trades there was a great shortage of masons and excavation workers which retarded building operations considerably. The silk and embroidery industries suffered from lack of raw materials during the second half of the year. In the absence of tourist traffic, conditions in the hotel industry improved only slightly.

VOCATIONAL EDUCATION ASSOCIATION OF THE MIDDLE WEST. *Second annual convention. March 30, 31, and April 1, 1916. Hotel La Salle, Chicago. [Chicago]. 1916. 146 pp.*

Contains papers on The Gary system; The relation of the Gary system to vocational education; Changing ideals in education; Views of organized labor; Department store education; The economic importance of vocational education in agriculture; Vocational guidance and preparation for specialized industry; The commercial value of an education; What schools might learn from the employment agency; Human values; and other subjects relating to vocational education.

— *Third annual convention. January 18, 19, and 20, 1917. Auditorium Hotel Chicago. [Chicago] (n. p.). 1917. 192 pp.*

Among the papers included in this report are: The significance of the Smith-Hughes bill; Is vocational education a menace to democracy?; The double problem of vocational education for women; Work for women; To what extent can the schools provide agricultural education?; Women in industry; The outlook for vocational education legislation in Illinois; and How can vocational efficiency be obtained in the public schools?

— *Bulletin No. 4. Vocational education in the light of the world war by John Dewey. Read at the convention of the Vocational Education Association of the Middle West, Chicago, January 25, 1918. Chicago, 1225 Sedgwick Street, January, 1918. 10 pp.*

— *Bulletin No. 5. Making American industry safe for democracy by Ruth Mary Weeks. Read at the convention of the Vocational Education Association of the Middle West, Chicago, January 25, 1918. Chicago, 1225 Sedgwick Street, October 1918. 8 pp.*

WOLF, ROBERT B. *The creative workman. An address delivered before the Technical Association of the Pulp and Paper Industry at the spring meeting held at Dayton, Ohio, May 16, 1918. 13 pp. 6 charts. New York, 1918. Published by the Association, 117 East Twenty-fourth Street.*

— *Nonfinancial incentives. A paper presented at the annual meeting of the American Society of Mechanical Engineers, December 3 to 6, 1918. 18 pp. 3 charts. New York, 1918. Published by the Society, 29 West Thirty-ninth Street.*

These two papers by the manager of the Spanish River Pulp & Paper Mills (Ltd.) of Sault Ste. Marie, Ontario, Canada, both deal with the same subject, viz., what incentives, other than financial ones, to offer to a worker in modern mechanical industries with their high degree of division of labor to enable him to be interested in his work, to improve his output, and incidentally to prevent industrial discontent. The answer which the author gives, supported by concrete illustrations from the experience of the company with which he is associated, is in furnishing the worker with some means of measuring his own progress in his work. The unique feature of the work here described is that it gives an account of methods of measuring quality of work rather than quantity of output and that it does this by awakening the worker's interest in what he is doing rather than arousing his cupidity by bribing him with higher wages.

The scheme herein described is not one to secure good workmanship with low pay; all these experiments have been worked out in strongly unionized plants with a revision of the wage scales made by trade agreement every year.

The merits of the plan are that it does enable the worker to share in the joys of the work by seeing that his individual efforts are contributing to human welfare and that he is able to measure his own progress in this direction.

YATES, L. K. *The Woman's Part. A Record of Munitions Work. Hodder and Stoughton, London, New York, Toronto, 1918. 64 pp. Illustrated. Price, 1s. 3d. net.*

This pamphlet takes up the advent of women in engineering trades; the training of the munition worker; descriptions of the women at work; provisions for comfort and safety, such as welfare supervision, protective clothing, rest rooms and first aid, and women police; measures taken for outside welfare, such as recreation, motherhood, and the factory nursery; the growth of the industrial canteen; and housing, covering the questions of billeting and temporary and permanent accommodations.

YOUNG MEN'S CHRISTIAN ASSOCIATION OF NORTH AMERICA. *Commission on ungrasped and undeveloped opportunities among industrial workers. Report [to] conference of the associations of employed officers, Springfield, Massachusetts, June 7th to 11th, 1918. 1918. 18 pp.*

Summarizes the work of the Association in its relation to various industrial groups and questions under the heads of: The industrial field; The Association in the industrial field; The Association's relation to employers and employees; The objective of the Association in relation to industrial workers; Six types of industrial work; Some groups requiring special attention—Racial, Occupational, and Miscellaneous; The Association in relation to trades-unions; In relation to employer's organizations; Association buildings—their design and larger use; Cooperation with other agencies; Securing and training secretaries for industrial fields; Volunteer leadership; Recommendations of the commission; Conclusion; National war work council's industrial problem; Summary of activities.



## SERIES OF BULLETINS PUBLISHED BY THE BUREAU OF LABOR STATISTICS.

[The publication of the annual and special reports and of the bimonthly bulletin was discontinued in July, 1912, and since that time a bulletin has been published at irregular intervals. Each number contains matter devoted to one of a series of general subjects. These bulletins are numbered consecutively beginning with No. 101, and up to No. 236 they also carry consecutive numbers under each series. Beginning with No. 237 the serial numbering has been discontinued. A list of the series is given below. Under each is grouped all the bulletins which contain material relating to the subject matter of that series. A list of the reports and bulletins of the bureau issued prior to July 1, 1912, will be furnished on application.]

### Wholesale Prices.

- Bul. 114. Wholesale prices, 1890 to 1912.
- Bul. 149. Wholesale prices, 1890 to 1913.
- Bul. 173. Index numbers of wholesale prices in the United States and foreign countries.
- Bul. 181. Wholesale prices, 1890 to 1914.
- Bul. 200. Wholesale prices, 1890 to 1915.
- Bul. 226. Wholesale prices, 1890 to 1916.

### Retail Prices and Cost of Living.

- Bul. 105. Retail prices, 1890 to 1911: Part I.  
Retail prices, 1890 to 1911: Part II—General tables.
- Bul. 106. Retail prices, 1890 to June, 1912: Part I.  
Retail prices, 1890 to June, 1912: Part II—General tables.
- Bul. 108. Retail prices, 1890 to August, 1912.
- Bul. 110. Retail prices, 1890 to October, 1912.
- Bul. 113. Retail prices, 1890 to December, 1912.
- Bul. 115. Retail prices, 1890 to February, 1913.
- Bul. 121. Sugar prices, from refiner to consumer.
- Bul. 125. Retail prices, 1890 to April, 1913.
- Bul. 130. Wheat and flour prices, from farmer to consumer.
- Bul. 132. Retail prices, 1890 to June, 1913.
- Bul. 136. Retail prices, 1890 to August, 1913.
- Bul. 138. Retail prices, 1890 to October, 1913.
- Bul. 140. Retail prices, 1890 to December, 1913.
- Bul. 156. Retail prices, 1907 to December, 1914.
- Bul. 164. Butter prices, from producer to consumer.
- Bul. 170. Foreign food prices as affected by the war.
- Bul. 184. Retail prices, 1907 to June, 1915.
- Bul. 197. Retail prices, 1907 to December, 1915.
- Bul. 228. Retail prices, 1907 to December, 1916.

### Wages and Hours of Labor.

- Bul. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia.
- Bul. 118. Ten-hour maximum working day for women and young persons.
- Bul. 119. Working hours of women in the pea canneries of Wisconsin.
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