REPORT ON EMPLOYEES AND WAGES.

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CHAPTER I.

PLAN, METHODS, AND SCOPE OF THE INQUIRY.

I.

ORIGIN OF SPECIAL WAGE INVESTIGATION.

Necessity for special inquiry.—This report is the result of a special inquiry in regard to the wages of individual employees in a number of selected manufacturing establishments in the United States for the years 1890 and 1900. For several censuses the problem of making a statistical presentation of the wages of workmen has been one of increasing difficulty. The reasons for this have been recognized by census officials, and are nowhere more clearly stated than in the following extract from Part I of the Report on Manufactures of the Twelfth Census:[1]

Associated with the question of employees is the question of wages, and the treatment of this question in a census involves difficulties and uncertainties as serious as those considered under "persons employed." The act providing for taking the Twelfth and subsequent censuses required (section 7) a return of the "number of employees, and the amount of their wages." Drafted in pursuance of this law, the manufacturing schedules contained two inquiries designed to throw light upon wages. These were, first, the gross amount paid to labor in the form of wages; and, second, the number of wage-earners employed. Any distribution of wages dependent upon these factors alone presents two difficulties.

I. On account of the varying number of employees in a manufacturing establishment during a given year, due to change of employment and to seasonal trade conditions, it is becoming more and more difficult to establish a statistical term which will accurately represent the number of wage-earners to be used as a divisor into the total amount of wages paid in order to derive a quotient to serve as a wage average. The average number of persons stated in the schedule as employed by months during the census year is a variable and, to some extent, an arbitrary figure, not properly comparable with the total amount paid in wages during the same periods, which amount is a fixed sum paid, not to the average number of persons employed, but to all persons employed, many of them for a few weeks or days only.

II. After this wage average has been obtained the question arises how far this average can be regarded as a "rate of wages" as understood by the individual wage-earner. The wage-earner judges wages from the character of the work performed, the degree of skill involved, and the continuity of employment, but this average disregards such distinctions. In other words, the figures obtained by the Census Office are essentially a "labor cost," and the problem is to show the extent to which this "labor cost" can be identified with the "rate of wages."

The purpose of wage statistics is to show the welfare of the individual workman. The statistics obtained by the Census Office on the general manufacturing schedule indicate the share which labor received as a whole, without regard to its character, degree of skill involved, or continuity of employment. The existence of these factors, however, renders extremely slight the possibility of deriving from the sum representing wages paid to labor in the mass, a statistical term which can be advantageously applied to the individual workman. Indeed, the further use of the present inadequate term is questionable. Under modern conditions of manufacture operatives are grouped into a great number of classes, and are paid according to the work done and the degree of skill required. Thus, many different grades of wages are paid, at both time and piece rates, varying from the compensation of the skilled and responsible foreman or overseer to that of the common laborer or the child. An average obtained by dividing the number of wage-earners into the total amount of wages paid in any establishment thus becomes misleading. The argument that such an average is serviceable for purposes of comparison from one period to another must presuppose that the proportion of skilled and unskilled labor at the two periods for which the average is returned remains substantially the same.

In brief, the difficulties in the interpretation of the wage statistics of the census are due:

(1) To the lack of information in regard to the precise character of the work performed by each employee, and the consequent inability to distinguish between the skilled and the unskilled laborer. If there has been a change in the proportion of skilled and unskilled labor between two given periods, comparisons based upon the use of figures returned for the total number of employees, regardless of occupation, are seriously impaired.

(2) To the difficulty of determining the exact number of employees among whom a given amount of wages is distributed, and the consequent impossibility of deriving a satisfactory term which will express the earnings of an individual employee.

(3) To the disregard, in the statistics of earnings, of the working time of the individual.

In addition to these fundamental defects it is to be noted that the only kind of statistical wage term derivable from the census data is an average which is necessarily of so crude a character that the census authorities, in the introduction to the Report on Manufactures of the Twelfth Census, very wisely discountenanced its use.

[1] Twelfth Census, Vol. VII, pages cxi and cxii.

II.

THE PRESENT INQUIRY.

With a view to supplementing the returns presented in the Report on Manufactures of the Twelfth Census, in regard to earnings of employees making a more precise classification of wages, the Census Office in September, 1901, determined to undertake a special investigation, the results of which are published in this report.

1. *Scope and principles of the investigation.*—Owing to the limitations of time and the lack of established methods of procedure which could be confidently relied upon, it was determined to limit the scope of the special wage inquiry to a few industries, and to confine the treatment of the data recorded, as far as possible, to a single form. As the method adopted by the Twelfth Census for calculating the number of employees sharing in the total reported earnings differs from that adopted in 1890, so that the data obtained for these two years are not strictly comparable, it was determined to extend the inquiry to 1890 as well as 1900. The principles controlling the investigation are, briefly, as follows:

(1) Restriction of the inquiry to a few stable and normal industries.

(2) Collection of actual *rates* of wages.

(3) Classification of employees by rates of wages, and as far as possible by occupations.

2. *Wages as measured by earnings and by rates.*—There are two statistical measures used in representing the reward of labor, commonly termed wages: First, earnings or the income received in a given period of time, irrespective of the number of hours or days actually worked; second, rates which express the amount paid for work during a given unit of time, as an hour, a day, a week, etc. Each of these measures is of value to the student of economic conditions. The first is the compensation actually received in a given period of time without regard to unemployment, occasioned by illness, strikes, industrial depression, or other causes; the second is the earning power in a given unit of time. If employment were regular and constant, these two methods might be used interchangeably—rates could be calculated from earnings and earnings from rates. Employment is not regular and constant, however, because of interruptions due to either individual or industrial conditions. Of the two measures, at the present stage of economic conditions, earnings are of the more interest; but to ascertain the earnings of individual employees for any period of time greater than a week is almost impossible. The earnings as given in the Report on Manufactures of the Twelfth Census, are for a mass of workmen whose identity can not be preserved from week to week or month to month; as has been seen, the number of employees, among whom the total earnings are divided is an average number, and to that extent the resulting computations are only approximate.

The earnings of even a single week may be misleading, especially where no record of time is kept by the management. The establishment may have shut down for a portion of a day; work in a particular department of a mill may have been slack, although as a whole the establishment was running full time; or there may have been an exceptional amount of illness at one period as compared with another.

The present inquiry, therefore, is concerned primarily with rates, earnings being used only when the data in regard to rates are defective or require further interpretation. Statistics of rates, however, reveal only a part of the picture; the complete situation can be described only when the amount of time worked for at least a year is known, and even this should be supplemented by a knowledge of prices in order to determine the value of the compensation as measured in the commodities purchased. These latter inquiries must be supplementary; there is no way to combine in one inquiry all the elements for a complete presentation of wage statistics.

3. *The schedule of questions.*—In order to carry out the purpose of this inquiry the following special schedule was drafted:

TWELFTH CENSUS OF THE UNITED STATES.

MANUFACTURES.

SPECIAL SCHEDULE—RATES OF WAGES.

Name of establishment .....

Location .....

Industry .....

Goods manufactured .....

Pay roll of .....

OCCUPATION.	Number of persons.	Sex 16 years and over.	Sex under 16 years.	RATE OF EACH.		Per hour, day, week, month, or year.	Hours of labor per day.	Hours of labor per week.	Piece or day work.	If any employee pays helpers, note same and separate.
				Dollars.	Cents.					

4. *Sections of the country covered.*—The work of securing the data called for by this schedule was intrusted to special agents who were instructed to visit certain manufacturing establishments in the respective territories to which they were assigned, care being taken to select essentially manufacturing localities. This restriction, together with lack of sufficient time to make a more thorough canvass, explains the absence of returns from the states classed in the census reports as "Western"; but although the report is to that extent deficient, affording no basis for a comparison of wages between that section and other parts of the country, it is believed that the main results of the investigation are not thereby seriously impaired. Fortunately, returns were secured for a few industries for the Pacific states.

5. *Industries investigated.*—The inquiry was limited to 34 industries, nearly all of a permanent character, which are not violently affected by seasonal influences. They are:

Agricultural implements.	Glass.
Bakeries.	Iron and steel.
Breweries.	Knitting mills.
Brickyards.	Lumber and planing mills.
Candy.	Paper mills.
Car and railroad shops.	Pianos.
Carpet mills.	Potteries.
Chemicals.	Printing.
Cigars.	Rubber.
Clothing.	Shipyards.
Collars and cuffs.	Shoes.
Cotton mills.	Silk mills.
Distilleries.	Slaughtering.
Dyeing and finishing textiles.	Tanneries.
Flour mills.	Tobacco.
Foundries and metal working.	Wagons and carriages.
Furniture.	Woolen mills.

In grouping the returns by industries, the plan of classification adopted by the division of manufactures of the Twelfth Census, in which product is the determining factor, has in the main been followed here. For the purpose of analyzing wages in specific occupations this is not a logical classification, as there is no inherent relation between products and occupations; some classification, however, is necessary in order to cover the most important branches of industry, and the grouping by manufactured products is chosen as the most serviceable method available. Almost the only change made in this report in the regular census industry names is a slight alteration of the wording to make them more definitely descriptive of the establishments from which pay rolls have been secured. Thus, the census classification is "tobacco, cigars, and cigarettes," but since no cigarette factories are covered in the present investigation the industry is called "cigars." "Breweries" is used instead of "liquors, malt;" "tanneries" instead of "leather, tanned, curried, and finished;" and other similar changes in wording are made. But in all cases establishments are referred to classes corresponding to those shown in the general Census Reports, except where differences in product would thereby be shown in too great detail. Thus, in the Report on Manufactures of the Twelfth Census, brass foundries, iron foundries, machine shops, bicycle factories, sewing-machine factories, typewriter factories, etc., were given separate classes; but for the purpose of securing the statistics of wages it is believed that the returns can be safely simplified by combining all these as "foundries and metal working," thus obtaining numbers of employees engaged in the same occupations sufficiently large to justify extended study of the results.

The classification for industries is made by establishments as a whole. It has not been considered feasible to attempt to subdivide establishments into departments, except in the case of a few textile establishments, where the books are so kept that the dyeing and finishing departments can be separated. This classification of establishments is presented in four general groups made up of the 34 separate industries. No attempt has been made to consolidate the statistics in these four groups, but in the discussion and arrangement of the statistics the similarities within some of these general classes have been helpful. The industries comprised in the four general groups are as follows:

(1) Textile mills, which comprise reports from carpet mills, cotton mills, dyeing and finishing establishments, knitting mills, silk mills, and woolen mills.

(2) Factories engaged principally in woodworking include agricultural implement factories, furniture factories, lumber and planing mills, piano factories, and wagon and carriage factories.

(3) Metal-working establishments comprise car and railroad shops, foundries and metal-working establishments, iron and steel mills, and shipyards.

(4) Miscellaneous industries reported include bakeries, breweries, brickyards, candy factories, chemical factories, cigar factories, clothing factories, collar and cuff factories, distilleries, flour mills, glass factories, paper mills, potteries, printing establishments, rubber factories, shoe factories, slaughtering establishments, tanneries, and tobacco factories.

Certain resemblances in materials or products might serve as a basis for grouping some of the industries in the last class; thus, for instance, "bakeries," "candy" factories, "flour mills," and "slaughtering" establishments, all furnish food stuffs; but similarity of product is no reason why they should be grouped in wage statistics. It is not to be expected that two establishments exactly alike as regards labor conditions can be found, but it is believed that within the industries as finally determined, interchange of labor can be accomplished to a considerable extent; that is, each industry represents a group of establishments making similar products by related though diversified processes so that the labor employed in one establishment is comparable with that in another.

The three important steps in wage investigation are collection of data, tabulation, and analysis.

III.

COLLECTION OF DATA.

1. *Pay rolls copied.*—In the collection of data it was decided to rely upon the pay rolls of employers; only in this way is it possible to secure returns from all the constituent elements in a given establishment, for it is manifestly impracticable to visit each separate employee to obtain a personal return; and, moreover, it is clear that the pay roll of the employer states in the most precise form available the actual rate of pay of each employee. This method removes all opportunity for either exaggeration or underestimation and also the possibility of substituting a customary wage for the actual one.

2. *Representative character of returns.*—An important consideration in the collection of data is the amount of material required to justify the construction of tables on which reliable conclusions can be based. This question of representativeness of returns is fundamental to the proper development of wage statistics. As it is impossible to secure from every employee a return of his actual wage, so it is impossible to secure a transcript of the pay roll of every manufacturing establishment in the United States. Fortunately, the problem is not so difficult of solution as it may appear. In any given locality there is a strong tendency toward uniformity of wages in the same occupation; if, therefore, the occupations are carefully designated, the number of returns for a given occupation need not necessarily be inclusive of all employees engaged in the same kind of work. The more precisely the occupation is described, with regard to sex, age, and gradations of skill, the fewer are the numbers needed. It is impossible, however, at the present stage of the development of wage statistics, to lay down any definite formula as to the exact proportions required. In this investigation the Census Office has endeavored to secure a harmony in the proportions of returns for different occupations, and believes that for most of the occupations tabulated the numbers are sufficiently large to justify the uses to which they are put.

3. *Selection of establishments.*—Effort was made, both by the Census Office at the outset and by the agents when actually on the ground, to select establishments which may be regarded in every respect as representative. It was determined to secure returns from establishments having the largest numbers of employees; and to insure the comparability of the statistics no establishment was chosen which had been in existence less than twelve years. Trial lists of addresses were accordingly prepared from the general manufacturing schedules of 1900 on file in the Census Office. In the progress of the work, however, various practical difficulties arose which made it necessary in some instances to procure pay rolls of small establishments, but in every case these are well-established undertakings and may safely be regarded as representative. The number of pay rolls utilized in the compilation of the tables is 720. Classified according to the number of employees, the establishments from which these pay rolls were secured are grouped as follows:

NUMBER OF EMPLOYEES PER ESTABLISHMENT.	Number of establishments.
Total	720
Less than 100	260
100 to 499	336
500 to 999	74
1,000 and over	50

4. *Instructions to special agents.*—The following detailed instructions were given to the special agents to guide them in the prosecution of field work:

(1) The information desired should be secured from representative establishments in the industries and territory assigned.

(2) The pay rolls should, so far as possible, be for a part of the years ended June 1, 1890, and June 1, 1900, respectively. Ascertain whether establishments have been in existence twelve years, and whether they have complete pay rolls for both periods (1890 and 1900); pay rolls for one period only should not be taken.

(3) One weekly, semimonthly, or monthly pay roll in any month during the census year of 1900 and a similar roll for the census year of 1890 will be sufficient. The 1900 roll should always be copied first. Select a full-time pay roll for a week or month during which normal conditions prevailed; if possible, the same week, or month, should be selected for both periods. In calculating a week's time, observe the number of hours worked on Saturday. Avoid *overtime* and seven-day rolls, and also periods of dullness and weeks when from any cause (holidays, etc.) the establishment ran on short time.

(4) Note whether the company pays employees weekly, semimonthly, or monthly.

(5) Note whether there is a division of pay with helpers in a crew or gang, or under a subcontract.

(6) It may happen that in some establishments the occupations of employees are not written on the pay rolls after their names. In such cases the agent should request the bookkeeper, or the foreman of each department, to write in such occupation, especially for the year 1890, opposite each name. Great care should be taken to have occupations and rates correct.

(7) In the same occupation a line should be given for each different rate, viz:

Blacksmith, 1 male, $2.00 per day of 10 hours, 60 hours per week.
Blacksmiths, 3 males, $2.25 per day of 10 hours, 60 hours per week.
Blacksmiths, 4 males, $2.50 per day of 10 hours, 60 hours per week.
Watchman, 1 male, $2.00 per day of 13 hours, 91 hours per week.
Watchmen, 2 males, $1.50 per day of 11 hours, 70 hours per week.

If there are a number of persons of the same occupation and all working at the same rate, they may be entered as follows:

Laborers, 25 males, $1.25 per day of 10 hours, 60 hours per week.
Rag sorters, 12 females, $1.00 per day of 10 hours, 59 hours per week.
Foremen, 3 males, $20.00 per week, 59 hours per week.

In such cases it is not necessary to give a separate line to each employee.

The letter "M" may be used to designate males, and the letter "F" to designate females; these should be placed under the headings "16 years and over," or "Under 16 years," as the case may be.

(8) Day workers: The occupation and rate of wages of every person on the pay roll should be secured. Officials and office force may be omitted, but all foremen should be included. Enter

upon your schedule, in their order on the pay roll, the occupation and rate of wages per hour, day, month, or year of each employee.

(9) Pieceworkers: Pieceworkers are employees who are paid so much per yard, per ton, per cut, per dozen, etc., and not for the time they work. Working in this manner no two employees, even when getting the same piece price, are likely to earn the same amount in the same length of time.

(10) Give a separate line on your schedule to each pieceworker. Do not enter the pieceworkers in the following manner: Lasters, 135 men, $13.15 average earnings per week. Averages are not desired. The actual rate or actual earnings for each employee is what is wanted.

(11) The piece rate or piece price should not be entered under the heading "Rate of each." The amount each pieceworker *earned*, working the six, twelve, or twenty-six days covered by a single pay roll, should be so entered.

(12) As the number of days or hours worked by pieceworkers may not appear on the roll, careful inquiry should be made as to whether the amount earned was the result of one, two, or more days' work, or overtime, and the earnings reported should be compared with those shown on other rolls within the same business year; the facts should then be noted opposite the amount earned.

(13) Secure copies of PIECE RATES OR SCALES when they apply to the industry generally or to a number of establishments. Where such rates or scales are private and are used in one establishment only, they need not be secured.

(14) After the pay rolls for both periods have been copied, special inquiry should be made for the purpose of ascertaining whether any notable changes or improvements have been brought about in the establishments or industry, since 1890, by the use of new inventions and machinery, and the facts noted. For example, the term machinist is used more loosely than formerly, being applied not only to journeymen who have learned a trade and are skilled machinists, but to apprentices and to machine helpers or tenders; when practicable, note the distinction. The term "laborer" is used indiscriminately; when possible, define it more strictly.

(15) You may have copied occupations in which, in 1890, hand methods only were used, supplanted in 1900 by machines. The operator of a machine may have retained on the roll the old name of the occupation, while the occupation itself, having changed radically, is not comparable. Ascertain the facts and report them.

(16) In some establishments the wages paid are supplemented by shares in the profits of the concern. In others the company may have established an insurance feature for the benefit of its employees, or in some other way devised a system for their benefit. Collect all possible information regarding such features from the official in charge and attach it to the schedule.

(17) If the establishment owns and rents houses or tenements to its employees at lower figures than the prevailing rentals in the locality, thus adding to their wages, ascertain and report the facts, together with such other information relating to efforts to improve the condition of employees as may be obtainable.

(18) Ascertain the number of weeks during which the establishment was operated in each year.

5. *Difficulties met by special agents.*—It is gratifying to note that there was a general willingness on the part of employers to furnish pay rolls; objection was a rare exception. The difficulties met by the special agents may be summarized as follows:

(1) Destruction of the pay rolls for one of the two periods: This was due either to fire or to the policy of a company to destroy the pay-roll records after a brief term of years.

(2) Inaccessibility: Sometimes the pay rolls were stored away in attics or cellars, requiring time and labor to make them available. Where the character of the organization had changed, the books of the old concern were often in the hands of some one no longer interested in the operation of the new company. If the old institution had become a part of an industrial combination, with head offices at a distance from the particular plant visited, the superintendent was seldom willing to give the information without authorization by an official of the controlling corporation; frequently in such a case a visit to the head office was necessary.

(3) Imperfect records: Many of the pay rolls were so imperfect that they were worthless for the inquiry. In some of them lump sums were included for contract work without any designation of the number of employees working under the contract; in others the earnings of helpers were consolidated with those of the employees whom they helped. Under these conditions separate wages could not be determined. In establishments where piecework prevailed it was often necessary to ascertain, from small time books kept by the foremen of the various departments, the time actually worked by the individual employee—a task demanding patience and care. Only rarely did the pay rolls separately designate children, even when they were employed, and to determine this point special inquiry generally was necessary; at best the information gathered and returned as to the ages of employees is unsatisfactory, and it is probable that the actual number of employees under 16 years of age is larger than that reported. It was not an infrequent experience for the agents to find by subsequent inquiry that some of the employees returned as 16 years of age and over belonged to the younger age class; only in states where local legislation in regard to school attendance is stringently enforced is the classification of age of employees likely to be of much service.

6. *Lack of uniformity in pay rolls.*—The pay rolls which were finally secured are not uniform or simple in character. The two principal sources of difficulty are, first, the variety of time units for which rates are returned; and second, the fact that in many establishments no permanent record of time is kept, and for some of the employees earnings only are reported. Rates are reported by the hour, day, week, half month, and even by the month or year. Where earnings were returned the time worked in some instances was reported, making it possible to determine the rate; in other cases, however, the time was unknown, and rate tabulations could not be made.

IV.

RECORDING AND COMPUTING THE RETURNS.

In order to facilitate the handling of the returns, a system was adopted in accordance with which the information on each line of a schedule or pay roll was entered upon a small card. On all the cards for an establishment appeared the number by which that

establishment was always designated, and also the location as to state and city. Each card contained in addition, the transcript of a single line of a schedule, showing the occupation of a single employee (or more if all their wage conditions were exactly the same), the sex, the age as being under or over 16 years, the rate of wages per hour, day, or week, the amount of earnings if given, the normal number of hours worked in a day or week, the actual working time if given, and the manner of payment—i. e., by the piece or by the day. Spaces were provided on the card for data subsequently computed from the information returned and also for any remarks pertinent to the individual case. By this method, tabulation for the different presentations was greatly facilitated; for example, by a simple rearrangement of the cards it was possible to draw off the data on the basis of the establishment as a unit, or according to the location of the factory, or the character of the work done, etc.

1. *Rejections.*—Whenever the wages returned for an employee include anything besides the actual compensation for his own personal and unassisted services they have been rejected, unless such actual compensation can be definitely determined. For example, the wages of a teamster furnishing his own horses are excluded, and so also is the lump sum reported as paid to a workman with one or more helpers, unless the proportion received by each is given.

Again, where it is evident that the wages reported as paid to an employee were received for work which was additional to and outside of his regular duties, the return for that employee has been omitted. Thus, in the case of a Sunday watchman reported as receiving $2 a week and working twelve hours, there can be no doubt that this wage of $2 is for work additional to and outside of his regular duties, and to show a man who earns $2 for twelve hours' work as receiving only that amount for a week would be palpably wrong.

The wages of persons whose services were chiefly clerical in their nature are omitted, as are those of all salesmen and superintendents.

Where average earnings are reported, instead of exact earnings or actual rates, such averages are excluded.

2. *Wage groups.*—In classifying the returns into groups, it is desirable to choose a unit of division small enough to bring out the essential facts. If the group has too extensive limits, it may include employees of widely different grades of skill and compensation, making it difficult to discover changes occurring between the two given periods of time. The ideal method would be to arrange a series of gradations so minute that every employee would be assigned to his actual rate; this, however, is impracticable, both on account of the expense and of the difficulty, under the present limitations of statistical art, of grasping the significance of tables so elaborate in detail. Accordingly, the unit adopted for the tables of this report is 50 cents for week rates and 1 cent for hour rates. Never is a difference of more than 50 cents a week, or 1 cent an hour, necessary to change an employee's standing in the wage scale from one group to another, and often a much smaller difference will produce such a change; thus, for example, when the rate is near the upper limit of the wage group, the amount of increase necessary to remove it to the next higher group varies directly with the distance between the actual rate and the upper limit of the group; on the other hand, the nearer such a rate is to the lower limit of the wage group, the smaller the decrease necessary to cause its removal to the group below.

3. *Time units.*—The units of time finally adopted as the most serviceable for the tabulation of rates are the hour and the week. The day unit has many advantages, but little information is supplied by day rates which is not found also in hour and week rates. From the week rate it is possible to determine the maximum amount which a workman can earn per week in normal working hours, and from the hour rate it is possible to discover increases in the rate of wages per unit of exertion which are due to the shortening of the hours of labor per week rather than to an actual increase in the weekly rate of pay. Sometimes, also, the change in the weekly rate is due to a difference in the number of hours worked per week, the rate per hour remaining the same. On account of the variety of the returns great care has been taken in reducing them to a common standard for purposes of presentation and comparison.

It may be remarked that there are several causes which may make the change in the wages of the same persons appear different in the tables of rates per week from those shown by the tables of rates per hour. Briefly stated, these causes are as follows:

(1) The change of normal hours in establishments during the decade.

(2) The combination of returns from establishments with different normal working hours for the various occupations, in which the proportions of the returns of the several establishments change from one period to the other.

(3) The difference in scale between the wage groups in the week and those in the hour tabulations, resulting in a slight change in the distribution of the returns through the groups.

4. *Normal and actual working time.*—Normal time is the number of hours regularly worked under full time. Actual time is the number of hours which a particular employee actually works in earning the amount of money paid him for the period in question. Care has been taken to distinguish between this normal working time for a factory, or a department of a factory, and the actual number of hours worked by each individual employee in that factory or department. In all cases the rates published are based on the normal time. The only use made of the actual time, when reported, is

in the computation of rates from earnings or earnings from rates.

5. *Time and piece workers.*—There are two principal methods of payment for labor—payment for length of time worked, and payment for quantity of work done, or piecework. In the preparation of statistics of wage rates, the wages of time workers are usually returned in practically the form desired for purposes of tabulation, since the basis of payment is a certain amount of money for a certain length of time. For pieceworkers, however, the computation of rates is more difficult; their wages are always reported in the form of the amount paid on the given pay day. Unless the exact time worked in earning this pay is reported, no computation of the wage rate is possible; but when the working time required to earn the pay reported is stated, the computation of a time rate is considered justifiable. For while piecework may be described as a system under which an employee sells to his employer a specified quantity of labor, irrespective of the time occupied in the performance of that labor, and time work as a system under which he sells to his employer the labor which he shall perform within a given period, irrespective of what the quantity of that labor may be, yet in each case both the time worked and the quantity of work done are taken into consideration in fixing the rate of pay. A piece rate always implies a time basis, being adjusted with reference to the time required by the average workman for the performance of a given piece of work; conversely, a time rate always implies a piece basis, for the workman under this system must usually perform a certain minimum of work or lose his place. Thus the two systems of payment, although apparently diverse, are so closely related as to warrant the computation of time rates for pieceworkers when the exact working time of the pieceworker is reported; especially is this true for purposes of comparison.

6. *Necessity for computation of rates.*—Each line of a pay-roll schedule shows the rate per hour, day, week, month, or year, in some cases per two weeks, and in one or two instances per quarter hour, for one or more employees doing the same work and receiving the same wage. As the purpose is to present tables showing rates per hour and per week (or when this is impossible, earnings per week), it is necessary, when one is given, to compute the other, and when neither the week nor hour rate is given to compute both from the data that are given. A considerable number of pay rolls show earnings for the period covered by them—i. e., a week, two weeks, or a month, as the case may be. This is, of course, the rule when returns are made for pieceworkers. In such cases the rates per hour and week can be derived by computation only when the exact number of hours worked is stated or the actual number of days of known length is given. The time worked to earn the amount given is never estimated, no attempt being made to derive rates from earnings unless the number of hours worked to earn the amount stated is definitely known for the individual employee.

7. *Rules for computation of rates.*—The following are the general rules according to which the computation of rates is made:

(1) When the rate given is per hour, the week rate is obtained by multiplying the hour rate by the number of hours regularly worked in a week by the employee.

(2) When the rate given is per day, the hour rate is obtained by dividing the day rate by the number of hours regularly worked in a day, and the week rate is then obtained as in (1). (For exception see section 9, below.)

(3) When the rate given is per week, the hour rate is obtained by dividing the week rate by the number of hours regularly worked in a week.

(4) When the rate given is biweekly, a weekly rate is obtained by dividing the biweekly rate by 2, and the resulting rate per week is then treated as in (3).

(5) When the rate given is per month, unless for an employee regularly working every day, including Sunday, a day rate is obtained by dividing the monthly rate by 26, and the day rate thus obtained is treated as in (2). In cases where a monthly rate is given for an employee regularly working every day in the week, including Sunday, the rate per day is the result of dividing the rate per month by 30 instead of by 26.

(6) When the rate given is per year, it is first reduced to a monthly rate by dividing by 12, and the monthly rate thus obtained is treated as in (5).

8. *Exception for iron and steel industry.*—The prevalence of turn or tour duty in the iron and steel industry makes necessary some slight exceptions to the general rules adopted for the computation of wages in other industries. In this industry a turn, tour, trick, or shift is 12 hours long in many establishments, one crew working from noon till midnight and the other from midnight till noon. The night crew in a number of plants works only 5 days a week, and as those who work at night one week work during the day the following week, an employee puts in only 11 days in two weeks. This constant and regular variation in the normal working hours per week for many establishments makes it advisable to compute rates for the operative in this industry on the basis of 2 weeks instead of 1, and this has been done. For such employees as work in turns, 6 days in one week and 5 the next, a day rate is obtained and multiplied by 11, while for those who work 6 days in each week, the day rate is multiplied by 12. Otherwise the rates are computed according to the general rules already given.

9. *Exception for half holiday without loss of pay.*—Pay rolls were submitted by some establishments which paid their employees for 6 full days although the plants closed early on Saturday—at noon in some cases. The rates for this class of establishments are somewhat differently computed; if an hour or day rate is returned,

the week rate is obtained by multiplying the rate given by the number of hours or days, as the case may be, in a week of 6 normal days. The week rate so obtained is then, for a new hour rate, divided by the number of hours normally worked. For example, a machinist may be paid 30 cents an hour for 10 hours a day, 60 hours a week, although the plant where he is employed closes regularly at noon on Saturdays. The number of hours actually worked by this machinist each week will be, then, not 60, but 55. Since he is paid for a full week, he really receives $18 for 55 hours' work, 32.7 cents an hour, although, if he worked anything less than full time he would receive compensation at the rate of 30 cents an hour. He stands in the same position, as far as earnings are concerned, as the machinist who is paid 30 cents an hour, but who must work 60 hours a week; both receive $18 a week, but the first gets, in addition to his money wages, a certain amount of time which is his own. This advantage is usually, if not always, made contingent on the operative working full time, but as rates are always computed on the basis of full normal time, that fact is not here material. Other things being equal, the first, working 55 hours a week, enjoys an advantage over the employee working 60 hours, and to show this advantage the above exception to the ordinary rules of computation is made.

10. *Computation of earnings.*—The pay rolls showing earnings without giving the actual time worked by the wage-earner, although of secondary importance, are deemed too valuable to be disregarded, and the returns of earnings have therefore been presented in separate earnings tables. The only period for which actual earnings can be accurately ascertained is that for which they are reported, namely, the period covered by a single wage payment. In most cases this is a week, but, as in the case of rates, there is some diversity, the period being sometimes a half-month or a month.

For the purposes of this inquiry the week is a more satisfactory period than the month, as well as a more available one. In any large factory there will be a considerable number of men who will be found to have worked full time, whether the period be a week or a month; but of those who may be considered regular employees, more will have been absent some time in a month than in a week, and there will also be more old hands discharged or new ones taken on, or both. Moreover, in a month the number of short-time men will be greater than in a week, and consequently the total number of employees reported will be larger. The aggregate amount of lost time will probably be about the same in one week as in another, apart from any general shut-down in the entire factory, and the period including such a shut-down would not be selected by the special agent. Consequently it is believed that the computation of earnings for a week from reports for a longer period is justified.

For these reasons the week has been adopted as the basis for the tabulation of earnings, and where the earnings reported are for a longer period they are reduced to the week basis. To the objection that such a reduction should not be made, it is answered that the reduction made in the present investigation is justified by two facts: First, the number of returns to which this objection would apply is very small; and second, the special agents in taking these long-time pay rolls usually omitted the employees who worked only a small part of the pay period. These considerations have no effect on the computation of rates, but if the reduction of earnings for a month to earnings for a week were more frequent it would affect unfavorably the value which the earnings statistics might have. The rules according to which the earnings computations are made are as follows:

(1) When earnings are stated for a two-week period, those for one week are obtained by dividing by 2.

(2) When earnings are stated for a month, they are divided by 26, the number of working days in a month, and the resulting quotient is multiplied by 6. In cases where the wage-earners work regularly 7 days a week the divisor used is 30 instead of 26, and the resulting quotient is multiplied by 7 instead of by 6.

(3) When rates are returned with the exact time worked, in addition to the time normally worked, then, after the card is computed for rates, the earnings are obtained by multiplying the rate per hour by the exact number of hours worked in the period covered by the pay roll, and if for a period other than a week they are reduced to a weekly basis.

11. *Computation of percentages.*—In working percentages computations are carried to two places of decimals, and the second allowed to influence the first, which is the last figure shown. In the case of cumulative percentages the accumulation is first made and the resulting percentage shown to one place of decimals.

V.

ANALYSIS OF TABLES.

1. *Comparability of establishments within an industry.*—In the tabulations involving comparison great care has been exercised to use only comparable returns. In making tabulations for the comparison of an industry by selected occupations, only identical establishments for the two periods have been admitted; it would seriously impair the reliability of the tables if the figures for 1900 were raised or lowered by the inclusion in 1900 of establishments not included in 1890. The total number of establishments for the two years might be made to balance by including also establishments with pay rolls for 1890 only, but the fact that erroneous conclusions might follow from such comparisons is obvious from the example following.

MOLDERS IN FOUNDRIES.	1900	1890
I. Establishment making heavy castings	.....	Roll.
II. Establishment making malleable castings	Roll	Roll.
III. Establishment making light castings	Roll	.....

If these three establishments are the only ones showing molders in a given locality, the only one which should contribute returns is establishment II, for conclusions which could safely be drawn from a comparison of wages paid to molders doing the same grade of work in the same establishment would be entirely vitiated if the 1890 figures were subjected to the influence of the higher rates of wages paid to molders of heavy castings, and the 1900 figures to the low rates paid to molders of light castings.

2. *Comparability of occupations within establishments.*—It sometimes happens that this scheme of exclusion has to be carried a step further, and certain figures for establishments with rolls for both periods omitted. A shipyard in New England—a yard where only wooden boats were built in 1890, but both wooden and iron in 1900—may serve as an example. This establishment would be included in the tabulation of "ship carpenters," because it would contribute figures to both years; but it would not be included in the tabulation of "iron-ship builders," because of the absence of 1890 figures for that occupation. So far as the occupation of "iron-ship builders" is concerned the schedule returned by the yard in question is a single roll. In the same manner the return of earnings, time unknown, at one period, and of rates without exact working time at the other, has caused the discarding of returns for both periods.

When a number of designations are returned for what are found to be the same or similar operations it is necessary before determining whether the employees would enter the comparison, to reduce the returns to a uniform occupational terminology. (See page xxii.)

As already shown, pay rolls for a single period are excluded from the occupational comparison, and, as will readily be surmised, these single pay rolls are always for the later period, since concerns which take care to preserve pay rolls as far back as 1890 are almost certain to have records for years as recent as 1900; and the special agents were instructed to copy the roll for 1900 first.

3. *Comparison by occupations and establishments.*—In the tabulation of wage statistics two methods of treatment are possible: One is to assemble the returns for a given occupation—as, for example, "machinists"—from all the establishment pay rolls in an industry, wherever found, without regard to establishment lines, for the purpose of making a classified table of wages for the particular occupation, with appropriate groupings according to the section of country, etc.; the other method is to treat a given establishment in a particular industry as a unit, and classify all the workmen within this unit according to the wages received. Each method has its distinctive merit and deserves consideration. By the occupational comparison it is possible to isolate workmen of given skill and training, and to determine whether the compensation for this given class has changed, irrespective of the changes which may have occurred in the industry at large. By establishment comparison it is possible to locate the changes which have taken place, and determine the relative proportions of skilled and unskilled labor in a given establishment at the two periods; especially can this be done if the occupations within the given establishment also are classified. This throws light on the question whether a change in the average earnings reported by the Census—which are derived by dividing the amount paid to employees by the average number of employees—is to be attributed to a change in the class of labor or to a change in the reward paid to a given kind of labor. Both of these methods have been utilized in this report; and there are consequently two distinct kinds of tables—the occupational comparison and the establishment comparison. For the occupational comparison all the pay rolls are used as far as the returns for any single occupation are comparable, while for the establishment comparison only those establishments are tabulated whose returns are homogeneous, so as to admit of a comparison for the separate establishment regarded as a unit.

VI.

OCCUPATIONAL COMPARISON.

1. *Variety of occupations returned.*—In preparing the returns for occupational tabulation, care has been exercised in the definition and classification of the great number of occupations returned. Not only has the development of machine processes given rise to an ever-increasing number of occupations, but the same occupation is called by different names in different parts of the country. In the development of manufacturing processes machinery has supplanted many previously existing occupations, subdivided others, and created still others. Thus, in the manufacture of cheap and medium grade shoes, the old-fashioned shoemaker has been almost entirely driven out of competition, his place having been taken by a host of different workmen, each performing a single operation on the shoe. For these numerous operatives in various kinds of manufacturing new names have been invented or adapted, so that where formerly there was one occupation there are now hundreds. Many unique occupations were reported, and, as there was no criterion or standard given to the agents in advance, similar occupations were reported under different names, and many variants of the same terms were used in the reports. Thus in most sections of the country "comber," "comb hand," "comb

minder," "comb tender" are synonymous; in certain mills in New England, however, the term "comber" is applied only to the overseer or the one in charge of combing. In New York and the West the workman in a piano factory who puts on hinges, locks, etc., is called a "fly-finisher"; in New England he is termed a "trimmer." An example of two different occupations being called by the same name in the same industry, and even in the same establishment, is found in the use of "calker" to describe the man who drives oakum into the seams of wooden boats and ships, and also the man who calks the metal plates of iron ships. The derivation of the latter use is here easily traced, but when the same term is met in a boiler factory, although its meaning is perfectly clear, in its application it is apparently a new term rather than an old one with an extended meaning.

Such terms as "machine tenders," "laborers," "foremen," "inspectors," etc., not only derive almost all their significance from the industry in which they are reported, but may even apply to a great variety of work within the same industry. In any given industry, however, the machine tenders are usually of about the same grade of skill, the distinctions being generally unimportant.

The study of the terminology reveals many similarities in occupations reported under different designations, and thus it has often been possible to bring within classes suitable for tabulation occupations representing the same grade of labor although sometimes differing considerably in the minutiae of the work performed.

2. *Editing the terms reported.*—The general method adopted in editing the occupational terms was as follows:

(1) The first step was to draw off, for each industry, a complete alphabetical list of all the terms used as occupational designations by the establishments in the industry.

(2) These lists of occupations were taken into the field by special agents; each industry was then studied at first hand in the mills and factories with reference to the occupational designations and the work performed by the employees designated by the different terms.

(3) Glossaries, including descriptions of the processes of manufacture as carried on in the different establishments, were prepared by the special agents. (See pages 1167 to 1204.)

(4) In the list of occupations equivalent terms were consolidated. Doubtful and infrequent occupations which could not be defined or classified after inquiry by the special agents at the factories visited by them were investigated by correspondence with the establishments reporting the doubtful terms.

(5) Tabulation lists were then formulated from the consolidated lists of occupations. The most important occupations were selected for separate presentation, regard being had both to the number of employees returned and to the individuality of the process covered. In addition to these specific occupations, the tabulation list called for a separate presentation of "all other occupations peculiar" to the particular industry and "general occupations not peculiar" to it. The first comprised all occupations which, though peculiar to the industry, were not important enough to be separately presented; the second comprised those employees—such as carpenters, masons, engineers, etc.—who were incidentally reported in the particular industry, but whose work was not characteristic of the specific manufacturing process, being similar to that of employees of the same designation in other industries.

(6) After the returns had been tabulated according to the above-mentioned lists, the sheets were examined for inconsistencies of combination not previously disclosed. It was sometimes found that even in the same industry returns for two separate occupations were made under the same name; these, of course, it was impossible to discover from the alphabetical lists without referring to the wages, but if the tabulation sheet showed groups of individuals at widely separated rates, further investigation was made for differences which might lead to a separation of the occupation into its distinct parts. In this way errors were detected and eliminated.

3. *Lack of homogeneity in some occupations.*—Despite all the care taken to secure homogeneity of the occupations before tabulation, it will be seen from the tables published that these efforts were not wholly successful. Such an occupation as "foremen and overseers" often shows variations in wages from the highest in the industry to about the rate of common laborers. The reason for such variations in this occupation is evident, since a foreman may be the most skilled man in the factory and have general charge, or he may be simply a boss laborer, having authority over a few others, but with little difference in pay. Similar causes have produced the apparent heterogeneity of other occupations. Unless there is, at the outset of the investigation, a refined nomenclature and a set list of the occupations to be canvassed, the defect can not be avoided. It may be said, however, that the number of individuals at the abnormally high or low rate is small; and, furthermore, the method of presenting the statistics (by detailed wage groups) frankly shows all such defects, so that they can readily be seen on examining the tables.

4. *Number of tabulations.*—The number of occupations separately tabulated in the occupational comparison is as follows:

	NUMBER OF OCCUPATIONS.	
	Males.	Females.
Total	318	82
Rates	257	47
Earnings	61	35

Some of these separate occupational tabulations are for substantially the same class of workmen—as, for example, "machinists"; this occupation is separately tabulated in four industries, viz: "Agricultural implements," "car and railroad shops," "foundries and metal working," and "iron and steel." In order, however, to secure as great definiteness and as complete uniformity as possible, these returns are not combined into a single tabulation, but are individually presented.

In the several industries the number of distinct occupations for which separate tabulations are made is as follows:

INDUSTRIES.	NUMBER OF OCCUPATIONS.			
	Rates.		Earnings.	
	Males.	Females.	Males.	Females.
Textile:				
Carpet mills	4	1	2	2
Cotton mills	15	8	10	6
Dyeing and finishing textiles	5			
Knitting mills	3	1	2	5
Woolen mills	12	9	3	5
Woodworking:				
Agricultural implements	12		12	
Furniture	11			
Lumber and planing mills	10			
Wagons and carriages	10		8	
Metal working:				
Car and railroad shops	15			
Foundries and metal working	28	2		
Iron and steel	22			
Shipyards	13			
Miscellaneous:				
Bakeries	6			
Breweries	10	1		
Candy	2	4		
Chemicals	3			
Cigars	4	4	5	4
Clothing	5	5		3
Collars and cuffs	3	1	3	5
Flour mills	6			
Glass	9		3	
Paper mills	5	1		
Potteries	5	3		
Printing	11	2	1	1
Shoes	10	2	8	2
Tanneries	10		4	
Tobacco	8	3		2

For five industries—"brickyards," "distilleries," "pianos," "rubber," and "slaughtering"—the returns are so few, or the occupational terms so obscure or confused, that it is impossible to make tabulations for separate occupations. In these industries, therefore, tabulations are made only for "all occupations" combined. The reason for the exclusion of the returns for the silk industry from the occupational comparison is given on page cvii.

VII.

ESTABLISHMENT COMPARISON.

1. *Difficulties in comparing establishments.*—The purpose of the establishment comparison is to show for the different industries the sort of changes that have taken place between 1890 and 1900 in individual mills and factories, and the relation of these changes to the general course of wages in these industries during the decade. This purpose can not be accomplished unless practically the whole establishment is included and, consequently, when the conditions are not such as to justify comparison of the establishment as a whole, no comparison is made of such portions of the returns as may be comparable. The reasons which might prevent a comparison of wages for an entire establishment are inconvertibility of rates and earnings, incompleteness of the pay roll for either period, or a radical change in the nature of the work.

(1) Inconvertible rates and earnings in same establishment: It may happen that in the 1890 pay roll for an establishment the returns are entirely in the form of earnings, exact time not stated, while in the 1900 pay roll they are all rates, exact time not stated; or the same difference in the form of return may occur for the different departments of a factory for the same year. The presence of both of these forms of returns for wages in any one establishment, whether for different periods or for different departments, precludes any complete comparison for that establishment. As a rule earnings, time unknown, were the returns for pieceworkers, though in some cases day work was thus reported.

(2) Incompleteness of pay roll for either period: There may be included in the pay roll at one period workmen for whom at the other period separate pay-roll records were not available. This may be explained in any one of four different ways: A given kind of work may actually have been done at one period and not at the other; a department may have been added or discontinued; the establishment may have been consolidated with some other for which an 1890 pay roll could not be secured; or the work at one period may have been done for the establishment by contract, thus not affecting the pay roll, while at the other it was done in the factory and the men paid directly by the employer.

(3) Change in the nature of work: A change in the nature of the work of an establishment may be brought about by a change of the conditions which govern the kind of work done. This may be accompanied by an abnormal growth, resulting in a general expansion throughout all the departments, and leading to greater division of labor for the workmen, the old occupational nomenclature, however, being often retained. There may have been introduction or improvement of machinery calling for workmen of much greater skill, or of much less skill, as the case may be. Old processes may have given place to new ones which have little in common with the old, and which may or may not require improvements in machinery. Changes in the nature of the product, either in grade or style or in the kind of goods made, may also have taken place; such changes often affect the nature of the work.

The number of establishments excluded from the establishment comparison simply because of changes in the nature of the work is not very large. As a rule, the comparability of establishments showing marked changes in the nature of the work is affected by other reasons as well, such as the first two mentioned. It is probable that in every industry and in nearly all estab-

lishments some changes have taken place in the nature of the work. It is only when such changes have obviously invalidated a comparison that an establishment is excluded on these grounds.

After a rigid elimination of all establishments for which the returns for one reason or another are incomparable, it has been found possible to make complete comparisons of rates or earnings in 296 establishments. In establishments which employed but few females or persons under 16 years of age, it is thought unnecessary to present special tabulations for these classes; but in all cases of omission the numbers so excluded are stated in notes at the head of the tables that are presented.

2. *Occupations in establishment comparison.*—In tabulating for the establishment comparison, differences in occupational terms as reported by different establishments have been allowed to stand and to carry whatever significance they had. This difference in treatment between the establishment and the occupational comparison accounts for the presence, in the tables for individual establishments, of many designations which in the industry comparison must be looked for under other terms. The terms used in the establishment comparison are those reported by the particular establishments, edited only to secure comparability of the rolls for the two periods. The roll for one period, for instance, was often in considerably greater detail than that for the other, as where a shoe factory reported at one period "bottomers" and at the other, "lasters," "sewers," "sole layers," "levelers," "heelers," "edgers," etc.; these last are combined so as to be comparable with the "bottomers."

In the alphabetical list of occupations presented on pages 1207 to 1228 all the occupational names used in the establishment comparison are shown, with a reference to the designations under which they are tabulated in the occupational comparison.

3. *Establishment tables not comparable with occupational tables.*—It is important to observe that no comparison can be made between the figures of the occupational tabulation and the establishment tabulation as to the general course of wages, either for specified occupations or for an industry as a whole. The establishment tabulation in a given industry may show an increase in wages, while the occupational tabulation for the same industry may show a decrease. The reason for this discrepancy is clear: If the returns of any establishment as a whole are not comparable for the two periods, either because of some radical change or because of differences in the form of return for some of the employees, the entire establishment is excluded from the establishment comparison, while in the occupational comparison those occupations for which the returns are comparable are retained. There are many establishments in which such conditions prevailed.

On the other hand, the establishment comparison includes some returns which are not included in the occupational comparison. For example, a slight change in process of manufacture, the addition or discontinuance of a department, or a change in the class of employees in a given occupation (as from males to females) would cause the exclusion of a portion of the employees from the occupational comparison because of noncomparability. Such a change, unless radical, would not exclude an establishment from the establishment comparison.

It will be seen, therefore, that extended comparisons can not be made between the occupational tabulation and the establishment tabulation. The occupational comparison has a broader numerical basis and more nearly represents the general course of wages in an occupation or industry than the establishment comparison. In the candy industry, for example, only one establishment is sufficiently comparable as a whole to be included in the establishment comparison; this is manifestly insufficient to justify conclusions as to the whole industry. The value of the establishment comparison lies solely in the opportunity afforded to diagnose the character of the general changes which are taking place—changes which are lost sight of in the more general occupational comparison.

VIII.

METHODS OF PRESENTING WAGE STATISTICS.

There are two methods of presenting wage statistics: (1) Computation of an average; (2) classification into groups. Each of these methods finds frequent illustration in the current literature of wage statistics.

1. *The average.*—In many instances the only method possible is that of the average, as when the data returned include only the gross amount paid to a given number of workmen. In such a case if a presentation of the wages of the individual be desired, the only available term is an average obtained by dividing the total paid in wages by the number of employees. Such a statistical expression is often valid and instructive, as when the units in the data accumulated are more or less uniform in character and the range of variation is not excessive. At an earlier period when there was greater equality in social and economic conditions, less division of labor, and less variety in industry, the average was relatively a serviceable statistical term; but with the development of modern economic conditions, characterized by the greatest range between skilled and unskilled labor, by many grades of hand and machine labor, and by a multiplication of occupations, the average has become frequently misleading. The advantage of the average is the ease with which it can be used for formulating a statistical proposition in a single number; it is doubtful, however, whether industrial phenomena so complex as wages can be satisfactorily reduced to a single term. Human labor varies greatly in its form, depending for its effectiveness upon individual skill, intelligence, and energy, as well as upon opportunities

for employment. As a result of these variations, rewards differ greatly. Although the economic force of competition exerts a powerful influence toward uniformity of compensation for a given unit of individual exertion as applied in the manufacture of products requiring the same skill and intelligence, yet differences constantly appear; and, as shown by the tables in this report, these differences are found not only within a well-defined occupation in a single section of the country, but even within the same occupation as reported by a single establishment. Some workmen receive high wages, some medium wages, and some low wages; the result is a composite picture, each element of which possesses an individual interest which should not be lost sight of. The student of social conditions is interested to know to how large a part of the social mass certain characteristics, qualities, or phenomena are applicable; and particularly is this true in the study of the condition of labor and its reward. It is far more important to know that one-half of the laboring class receive wages between $1.25 and $1.75 per day, than to know that the average of the total is $1.50. The average disregards the significance of the parts and aims to give expression to the whole in a single term.

2. *Classification into wage groups.*—Since variations in wages lose much of their meaning when merged into a single term, the treatment of wage statistics should as far as possible be descriptive, and this is statistically accomplished by the method of classifying wages into groups, as was done, for example, for certain industries in the Eleventh Census. It must be admitted that this method is not so simple as that of the average; it is much more difficult to compare two lines at all their points than to select from these lines two single points and compare them. For these reasons the method of analysis used in this report for the purpose of comparing wages in different occupations and at two different periods is not as simple as if the average alone had been used. This, however, should not be regarded as a defect; statistical art has its limitations; especially is this so in problems requiring descriptive treatment, such as wages.

An example of the advantage of the classification of wages into groups over the gross average is seen in the following illustration, drawn from one of the pay rolls reported. In this establishment there were 92 employees in 1890 and 299 in 1900. If a general average be desired for all the employees at each of these periods, the results are an average wage of 19 cents per hour in 1890 and 17 cents per hour in 1900, making a reduction of 20 cents per day of 10 hours.[1]

The real difference between 1890 and 1900 is, however, better disclosed in the following table, which classifies the numbers under several rates of wages and also reduces these numbers to percentages of the respective totals for 1890 and 1900:

All employees.

RATES PER HOUR (CENTS).	1900		1890	
	Number.	Per cent.	Number.	Per cent.
Total	299	100.0	92	100.0
5 to 9	52	17.4	13	14.1
10 to 14	59	19.7	3	3.3
15 to 19	56	18.7	16	17.4
20 to 24	47	15.7	28	30.4
25 to 29	61	20.4	22	23.9
30 to 34	12	4.0	7	7.6
35 to 39	7	2.4	2	2.2
40 and over	5	1.7	1	1.1

From this it will be observed that there is a much larger amount of low-priced labor in 1900 than in 1890. Does this mean a reduction in the wages of a given class of employees, as "machinists," for example? The misleading character of a gross average applied to an industry group, as well as the great superiority of a presentation by wage groups such as those in the above table, is disclosed as soon as an analysis is made of the several classes of occupations which go to make up the total. Take, for example, the "machinists," of whom 52 were returned in 1890 and 74 in 1900. The distribution of "machinists" according to wage groups is shown in the following table:

Machinists.

RATES PER HOUR (CENTS).	1900		1890	
	Number.	Per cent.	Number.	Per cent.
Total	74	100.0	52	100.0
15 to 19	.....	.....	5	9.6
20 to 24	10	13.5	19	36.5
25 to 29	47	63.5	20	38.5
30 to 34	9	12.2	6	11.6
35 to 39	6	8.1	1	1.9
40 and over	2	2.7	1	1.9

Obviously the cause of the apparent reduction of wages for all employees is the employment in 1900 of a relatively larger number of low-priced employees than in 1890, probably due to the introduction of improved machinery, which gives a much larger output per machine, but which demands a considerable amount of unskilled labor to handle, erect, assemble, pack, and ship.

Another illustration may be found in an establishment manufacturing fine glazed kid. In 1890 there were 55 employees, all men, and in 1900, 70, of whom 12 were women. The difference in the wages received by males is shown in the following table:

[1] In computing these averages, the lowest wage in each wage group was taken as the exact wage for each individual in the group.

Males in glazed-kid factory.

RATES PER WEEK (DOLLARS).	1900		1890	
	Number.	Per cent.	Number.	Per cent.
Total	58	100.0	55	100.0
20 and over	2	3.5	1	1.8
15 to 20	2	3.5	3	5.4
12 to 15	6	10.3	14	25.5
10 to 12	6	10.3	15	27.3
9 to 10	3	5.2	4	7.3
8 to 9	17	29.3	5	9.1
7 to 8	14	24.1	3	5.4
6 to 7	4	6.9	4	7.3
5 to 6	1	1.7	4	7.3
4 to 5	3	5.2	2	3.6

It will be observed that there is a marked reduction in the higher-priced labor. This is due to changes which have taken place during the past decade in the manufacture of leather. For example, the reduction in the number of "beamsters"—skilled workmen who remove the superfluous flesh from the hides with a slicking machine—is a result of the introduction of machinery which permits the employment of a greater proportion of unskilled labor. Moreover, the manner of coloring has been changed from table coloring to box coloring; by the former method the color was put on with a brush, whereas now the skins are dipped into a box of coloring liquid. An analysis of the wages of the "beamsters" and the "colormen" does not show any reduction in the wages for the first class.

RATES PER WEEK (DOLLARS).	BEAMSTERS.				COLORMEN.			
	Number.		Per cent.		Number.		Per cent.	
	1900	1890	1900	1890	1900	1890	1900	1890
Total	5	10	100.0	100.0	3	9	100.0	100.0
19.00 to 19.49		1		10.0				
15.00 to 15.49						1		11.1
13.00 to 13.49	4	2	80.0	20.0				
12.50 to 12.99	1		20.0					
12.00 to 12.49		7		70.0		3		33.3
11.00 to 11.49					1	4	33.3	44.5
10.00 to 10.49					1	1	33.3	11.1
9.00 to 9.49					1		33.4	

3. *Cumulative percentage.*—There is one practical defect in classified rates which often impairs their usefulness. This lies in the difficulty of comparing two given sets of returns so as to ascertain what differences may exist or what changes may have taken place; even if the figures in a classified group table be reduced to percentages, the real differences between the two sets of figures are not always easily recognized. For this reason the cumulative percentage has been used in all the detailed tables in this volume. The figures in the cumulative percentage column represent the proportion of the total number of persons in the given table receiving a wage as great as, or greater than, the lowest wage of the given wage group. The following table shows the advantages of this method of presentation, and also the method of interpretation:

RATES PER WEEK (DOLLARS).	ACTUAL NUMBER AT RATE SPECIFIED.		PERCENTAGE IN THE GROUP.		CUMULATIVE PERCENTAGE.		MEDIAN AND QUARTILE GROUPS.	
	1900	1890	1900	1890	1900	1890	1900	1890
Total	759	572	100.0	100.0				
3.50 to 3.99	7	5	0.9	0.9	100.0	100.0		
4.00 to 4.49	10	7	1.3	1.2	99.1	99.1		
4.50 to 4.99	23	15	3.1	2.6	97.8	97.9		
5.00 to 5.49	31	9	4.1	1.6	94.7	95.3		
5.50 to 5.99	12	3	1.6	0.5	90.6	93.7		
6.00 to 6.49	53	40	7.0	7.0	89.0	93.2		
6.50 to 6.99	7	3	0.9	0.5	82.0	86.2		
7.00 to 7.49	22	6	2.9	1.1	81.1	85.7		
7.50 to 7.99	46	37	6.1	6.5	78.2	84.6	Q.	
8.00 to 8.49	5	5	0.6	0.9	72.1	78.1		
8.50 to 8.99	1	2	0.1	0.3	71.5	77.2		
9.00 to 9.49	92	42	12.2	7.3	71.4	76.9		Q.
9.50 to 9.99	22	6	2.9	1.1	59.2	69.6		
10.00 to 10.49	24	30	3.2	5.2	56.3	68.5		
10.50 to 10.99	60	45	7.9	7.9	53.1	63.3	M.	
11.00 to 11.49	25	31	3.3	5.4	45.2	55.4		
11.50 to 11.99	1	5	0.1	0.9	41.9	50.0		M.
12.00 to 12.49	100	61	13.2	10.7	41.8	49.1		
12.50 to 12.99	2	3	0.3	0.5	28.6	38.4		
13.00 to 13.49	3	1	0.4	0.2	28.3	37.9		
13.50 to 13.99	75	62	9.9	10.8	27.9	37.7	Q.	
14.00 to 14.49	7	4	0.9	0.7	18.0	26.9		
14.50 to 14.99	1	1	0.1	0.2	17.1	26.2		
15.00 to 15.49	62	72	8.2	12.6	17.0	26.0		Q.
15.50 to 15.99	13	2	1.7	0.3	8.8	13.4		
16.00 to 16.49	1	1	0.1	0.2	7.1	13.1		
16.50 to 16.99	16	22	2.1	3.8	7.0	12.9		
17.00 to 17.49	2	2	0.3	0.3	4.9	9.1		
17.50 to 17.99	1	1	0.1	0.2	4.6	8.8		
18.00 to 18.49	19	17	2.5	3.0	4.5	8.6		
18.50 to 18.99	1	1	0.1	0.2	2.0	5.6		
19.00 to 19.49	1	1	0.1	0.2	1.9	5.4		
19.50 to 19.99	6	3	0.8	0.5	1.8	5.2		
20.00 to 20.49	4	2	0.5	0.3	1.0	4.7		
20.50 to 20.99		1		0.2	0.5	4.4		
21.00 to 21.49	3	6	0.4	1.1	0.5	4.2		
21.50 to 21.99		2		0.3	0.1	3.1		
22.00 to 22.49		1		0.2	0.1	2.8		
22.50 to 22.99		4		0.7	0.1	2.6		
23.00 to 23.49		4		0.7	0.1	1.9		
23.50 to 23.99		1		0.2	0.1	1.2		
24.00 to 24.49		3		0.5	0.1	1.0		
24.50 to 24.99					0.1	0.5		
25.00 to 25.49	1	3	0.1	0.5	0.1	0.5		

From this table it is possible to determine how large a proportion of the total number of employees is receiving as much as, or more than, a given wage. For example, the columns headed "cumulative percentage" show that in 1900 the proportion of the total number receiving $8 or more per week was 72.1 per cent, while in 1890 it was 78.1 per cent; at $10 the respective proportions were 56.3 and 68.5 per cent; and at $15 they were 17 and 26 per cent. From the columns of cumulative percentages it is evident that wages were higher in 1890 than in 1900, a fact clearly disclosed neither by the numbers nor by the percentages in the respective groups.

4. *Median and quartiles.*—The use of the column of cumulative percentages makes it easy to determine the range of wages for any given proportion of the working force; by this means also it is possible to indicate the wage group of the employee who stands halfway between the lowest-paid and the highest-paid employee in the class under consideration. For example, in the above table, it is seen that when the employees in 1900 are arranged in a sequence according to their rates of pay, beginning with the lowest rate and proceeding upward, the wage of the three hundred and eightieth or middle employee lies between $10.50 and $11.00. The middle term in a series of this character is called the "median." By the use of the median, employees at

exceptional rates, either low or high, are not given an undue weight or importance as they are when the average is used. Frequently, however, the median will not vary greatly from the average; in the foregoing table, for example, the average in 1900 is $10.55, and in 1890, $11.63.[1] This agreement is not always the case; for example, in the table on page 375, for "maltsters" in the Central states, the average is lower in 1900 than in 1890, when it was $18.08;[1] the median, however, is higher in 1900 than in 1890, and gives a truer presentation of the real condition.

Another advantage of the cumulative percentage lies in the facility in showing the wages of the employees who stand at selected points along the whole series of employees, as, for example, at one-quarter and three-quarters up the ascending scale. The terms at these particular points are called "quartiles," and within these two limits would clearly fall the wages of at least one-half of the working force. Thus, on page xxvi, it will be seen that in 1900 the wages of the employee who stands one-quarter of the way up the scale lie in the wage group $7.50 to $7.99; and in 1890, in the group $9.00 to $9.49. The wages of the employee standing three-quarters of the way up the scale lie in the wage group $13.50 to $13.99 in 1900, and in the group $15.00 to $15.49 in 1890. It is evident, then, that the wages of what may be termed the middle half of the employees were between $7.50 and $13.99 in 1900, and between $9.00 and $15.49 in 1890. Such a statement, however, does not preclude the possibility that more than one-half of the employees receive wages between the two limits named; it is entirely possible that 60, 70, or a greater per cent of the working force receive wages within these limits. The method does, however, justify the statement that at least one-half receive the wages stated; there may be more, but there can not be less.

In order to present the results derivable from the detailed tables in a form in which they can readily be compared, summaries have been made showing the median and quartiles for all the tabulations of the occupational comparison. It should be noted, however, that the basis of comparison furnished by the medians and quartiles is not always satisfactory; particularly is this true where the numbers are small or the workmen employed are massed at a few rates widely separated one from another. Accordingly, in the analysis of the tables the significance of the median and quartiles has in every case been tested by reference to the complete cumulative percentages; and from the detailed tables the reader can form an independent judgment regarding the changes which have taken place.

5. *Limitations in the use of the median and quartiles.*—The limitations in the use of the median and quartiles are of so important a character that they deserve special mention. The use of the median for the comparison of two series of wages is subject to the following drawbacks: The wage scale may be so precise that the tables present data in scattered groups rather than in even distribution throughout the series; then since the median can never fall in any group not represented by actual returns, the change of a few individuals may cause a wide shifting of the position of the median. Or, the groups containing relatively large numbers may be at a distance from the median group, while the group containing the median and the groups near to it may represent only a few persons; in that case also the change of a few individuals about the median rates may appear unduly significant. The shifting of a comparatively small number of persons upward or downward across the median point may thus cause the position of the median group to change in a marked degree. On the other hand the shifting through a considerable distance of comparatively large numbers of persons will not affect the position of the median, provided the median point is not crossed. This is illustrated by the following example:

RATES PER WEEK (DOLLARS).	ACTUAL NUMBER.		CUMULATIVE PERCENTAGE.		POSITION OF MEDIAN AND QUARTILES.	
	1900	1890	1900	1890	1900	1890
Total	100	100	.....	.....	.....	.....
5.00 to 5.49	30	6	100	100	Q.	.....
5.50 to 5.99	10	10	70	94	.....	.....
6.00 to 6.49	6	30	60	84	.....	Q.
6.50 to 6.99	2	2	54	54	.....	.....
7.00 to 7.49	2	3	52	52	.....	M.
7.50 to 7.99	2	1	50	49	M.	.....
8.00 to 8.49	29	9	48	48	Q.	.....
8.50 to 8.99	10	10	19	39	.....	.....
9.00 to 9.49	9	29	9	29	.....	Q.

It will be noted that at both periods there was a combined total of four persons in groups $7.00 to $7.49 and $7.50 to $7.99, while the number of persons both above and below these two groups remained the same (48); and that while the median group was $7.00 to $7.49 in 1890, the shifting of one person upward in the scale made $7.50 to $7.99 the median group in 1900. Yet, although the median advanced a 50-cent group, a heavy fall actually took place in the wages of the majority of the persons shown in the table. The median group would not have changed but for the shifting of one person from group $7.00 to $7.49 to group $7.50 to $7.99. If, instead of the shifting of one of the four persons shown at each period in groups $7.00 to $7.49 and $7.50 to $7.99, the numbers in each of these groups had remained the same at both periods, the median group would not have changed. The median is changed only by a transfer of employees from rates above the median group to rates below it, or vice versa.

The foregoing example is an imaginary one and perhaps exaggerated, so constructed as to bring out clearly certain defects in the use of the median group as the

[1] In computing these averages, the lowest wage in each wage group was taken as the exact wage for each individual in the group.

sole basis of comparison. Some actual cases in the establishment comparison where the use of the median group alone would be likely to prove misleading may be seen in Table 1 of each of the following establishments: Nos. 16, 51, 90, 132, 136, 139, 141, and 270.

The above-mentioned defects in the use of the median alone are inherent also in the use of a single quartile, and to some extent in the use of quartiles in pairs. The data at the ends of a scale of wage rates are more likely to be concentrated into isolated groups than those near the center.

6. *Medians with quartiles.*—The presentation, however, of the median group and the quartile groups together, shows the change in wages at three equidistant points on the scale, and will as a rule show concisely what the general course of wages has been. Thus, in the foregoing hypothetical example, while the use of the median group alone would have been misleading, a consideration of the median in connection with the quartiles shows that the slight advance in the median group was due to the peculiar grouping and scarcity of data at that point, and that there was in fact a considerable fall in wages in the establishment during the decade. Data presenting such irregularity of distribution will more often be found where returns for two or more widely distinct occupations, or different grades of skill in the same occupation, are shown in the same table; with such data, the median and one quartile will often be in the same group. Such a combination might be found in the "total" for an industry, and this possibility affords an additional reason for analyzing wage returns into occupations as specific as possible.

7. *Groups in the establishment comparison.*—In the establishment comparison, where, owing to the irregular grouping of the data, the results shown by medians and quartiles are apt to be inconclusive, tables have been prepared showing the number and percentage of employees whose wages fall in each group of $2.50. While no such percentages are published in the tables of the occupational comparison, they can always be derived from a cumulative percentage column by subtraction of the proper cumulative percentages. Thus, on page xxvi, the employees in 1900 whose wages range from $10.00 to $12.49 constitute 56.3 per cent − 28.6 per cent = 27.7 per cent of the total employed; and those whose wages fall in the median group ($10.50 to $10.99) constitute 53.1 − 45.2 = 7.9 per cent.

IX.

THE 1900 TOTAL.

Although instructions were given to the special agents to obtain pay rolls only from establishments for which records could be obtained for both 1890 and 1900, at the close of the inquiry it was found that there were a considerable number of rolls for 1900 with no corresponding record for 1890; in all there are 55 of these rolls, representing 16 different industries. There were two causes which contributed to this result: Occasionally, after copying a 1900 roll an agent found that the corresponding 1890 roll could not be secured, or was defective, although when he began copying he had every reason to believe that the 1890 roll could be obtained in a satisfactory form; in a very few cases the agent, having traveled a considerable distance to reach an establishment, only to learn that the 1890 roll could not be obtained, procured the 1900 roll in order that he might have something to show as a result of his trip.

The greater the number of returns, the more probable is the accuracy of some of the conclusions derived from them. For purposes of comparison with the statistics presented for 1890, however, the figures for 1900 in the comparative tables are believed to be more reliable because of the care taken to secure comparability of the returns. But for comparison with future investigations, and to determine absolute rates for all persons possible in 1900, for some industries a separate tabulation of all the rolls for 1900 has been made which is called the "1900 total" to distinguish it from the "1900 comparison," i. e., the 1900 figures in the comparative tables. This tabulation contains all the records for 1900, irrespective of comparability; it includes, therefore, not only the rejections from the comparison tabulations, which were not included because of occupational noncomparability within establishments, but also the 14,545 persons in the 55 establishments for which 1890 pay rolls could not be secured.

CHAPTER II.

ANALYSIS OF OCCUPATIONAL COMPARISON.

In the following analysis the changes in wages between 1890 and 1900, as shown by the general tables for occupational comparison in the several industries, are summarized and briefly described. For each industry a summary table has been prepared showing for each occupation the number of employees in 1890 and in 1900 with the median and quartiles of the rates per week and per hour, and also of the earnings in a given week, where they have been tabulated. In each case the page, on which appear the detailed statistics from which these items are taken, is also given. This table is followed by textual comment to assist the reader in making a proper comparison of the wages at the two periods. No attempt has been made to discuss or to explain the significance of the rates of wages paid in a given occupation at either period; this would involve a treatment of the whole range of industrial life, far beyond the scope of this inquiry.

The statements in the textual analysis as to change in wages are based on careful examination of the general tables and are not limited, as might at first appear, to an interpretation of the summary tables immediately preceding the analysis for each industry. In general, an increase or decrease in wages in a given occupation will be disclosed by a displacement of the median or quartiles, or both; but the changes may be so slight that the points 25 per cent, 50 per cent, or 75 per cent, up the wage scale, are not carried beyond the limits of the wage groups in which these points were severally located before the changes took place. In that case the summary table indicates no change in the position of the median and quartiles.

Occasionally, the changes in rates mentioned in the textual analysis may appear to contradict the table of median and quartiles. Thus, for example, in "lumber and planing mills" the statement of the median and quartiles for "laborers, mill," Southern states, on page lii, seems to show no change in week rates; in the text, however, mention is made of a slight increase, and reference to the detailed table on page 179 will show the justification of this. In this case the median and both quartiles fall in the group $7.50 to $7.99 at each period, but the proportion of the total number of employees who received less than $7.50 is considerably smaller in 1900 than in 1890; hence the conclusion that there has been a slight increase in wages. The median and quartiles do not tell the whole story and in doubtful cases the detailed tables should be examined.

It will be noticed that only in exceptional cases is any mention made of "all other occupations peculiar" or "general occupations not peculiar." These are always composite tabulations, the presentation of which is necessary to make up the industry totals, but which can not be treated as are the definite occupations and are not susceptible of the same analysis. In "furniture," for example, the tables for "general occupations not peculiar" in the Middle states, illustrate a misleading result of the combination of different occupations. As the tables stand they show a very heavy decrease in rates. Reference to the detailed statistics on page 167 shows that 63 men appear in the wage group $20.50 to $20.99 in 1890, and 10 in the wage group $24.00 to $24.49 in 1900, with none at the other period in either group; these men were "carpenters," employed in the same establishment, and the wages paid this class of workmen actually increased for the decade. Yet because of the decrease in number in this high-paid occupation, a heavy decrease in rates is indicated for the group as a whole.

The statistics for each industry are first presented as rates, and these tables, as previously explained (see page xiv), are the ones on which most reliance can be placed. In some industries, however, statistics of earnings are presented; some of these tables are for persons wholly additional to those whose rates are given, such as the table for "carpet mills" and the supplementary table for "car and railroad shops." Others include all persons for whom earnings are reported, whether or not their actual working time is known.

For a few industries separate tables are given showing for comparison both the rates and the earnings of those persons whose exact working time is reported. Obviously the only cause of the differences between rates and earnings in these tables is the actual departure from normal working time. It is seen that the proportions in the wage groups above the lowest are somewhat greater for the rates than for the earnings. The few very short-time persons, concentrated in the lowest groups of

the earnings are distributed through the rates tabulation. This explains the comparatively large differences at the lowest wage groups. There are evidently some persons who worked overtime, as shown in some tables by slightly higher proportions for earnings in the higher wage groups. On the whole, however, the differences at the respective wage groups are comparatively small. This close parallelism between the rates and earnings of a considerable number of the same people, which is more clearly shown in the detailed tables on pages 1143 to 1163, affords justification for publishing statistics of the earnings of employees when rates can not be obtained. It appears from these tables that when a considerable number of persons are considered, working under normal conditions—the conditions represented by the pay-roll returns—their rates will be somewhat higher than their earnings, but the differences will not be marked. Where, therefore, earnings are higher, or there is a wide difference between earnings and rates for a given section or occupation, obviously some or all of the persons shown in the rates tables are different from those in the earnings tables and represent differences in the grade of work as well as in the rate of pay.

In the use of the summary tables several cautions must be borne in mind. It will sometimes be found that the totals shown in these tables for "all occupations" or "all sections" are not the same as the sum of the constituent items. In the general tables statistics are not separately presented for occupations or sections where very few individuals are reported; in such cases the numbers reported are given in the footnotes. For example, in the general table for "carpet mills" (Table 1, page 2, et seq.) "finishers" are tabulated for the total, but not for any of the sections, although the numbers for the sections are given in a footnote; "foremen and overseers" are presented in detail only for the Middle states, the numbers in the other sections being shown in the footnote, and no total given; "general hands, helpers, and laborers" are presented in detail only for the Middle states and total. The summary tables present only the numbers shown in the body of the general tables, and make no reference to the numbers given in footnotes; hence the totals in a summary table can not always be obtained by adding the items presented in the same table.

Again, the proportions of males and females in a given industry at each period, as stated in the text, can not always be derived from the tables. They are obtained from the records of the pay rolls of the various establishments, tabulated just as received, without deductions for noncomparability of occupations, etc.; furthermore, in industries where both rates and earnings are shown, there are often many persons who appear in both of these tabulations; and again, in industries where rates only are shown, there may be a number of persons for whom earnings only were obtained, the number being too small to justify separate presentation.

In the interpretation of the tabulations for "all occupations" combined, it is to be carefully observed that the same specified occupations do not necessarily appear, or if they do appear they may not be in the same proportions, in the table of earnings as in the rates tabulation. For example, in "cotton mills" in the New England states for males 16 and over, "weavers" form 5 per cent in 1890 and 9 per cent in 1900 of the number for whom rates are tabulated, and 67 per cent in 1890 and 64 per cent in 1900 in the earnings tabulation. Whenever there are radical differences in the component parts, it is necessary to note carefully the composition of the "all occupations." This precaution must also be taken when the specified occupations in all sections combined are analyzed, since the proportions which the sections form of the total may be different.

It is possible for a total to show a decrease in rates when all its constituent items show increases; this happens when the increase in number reported is much greater in sections or occupations in which rates are low than in the higher paid ones. In such cases, although the sections or occupations taken severally show increases in rates, the total for all sections, or "all occupations" combined, shows a decrease, because the section or occupation where rates are very low represents a larger proportion of that total at the later period than at the earlier, and this increase in the proportion of employees at low rates overbalances the advance in rates.

CARPET MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Dyehouse hands	50	28	2	9.00	9.00	9.00- 9.49	9.00- 9.49	8	15.0	15.0	15.0-15.9	15.0-15.9
All other occupations peculiar to carpet mills	35	33	3	7.50	5.00	5.50-10.49	5.00- 9.49	9	12.0	8.0	9.0-16.9	8.0-15.9
All occupations	128	112	5	9.00	9.00	9.00-11.49	5.00-10.49	11	15.0	15.0	15.0-18.9	8.0-17.9
Middle states—												
Dyehouse hands	44	26	2	9.50	11.00	9.00-11.49	10.00-11.49	8	16.0	18.0	15.0-18.9	16.0-18.9
Foremen and overseers	39	46	3	15.50	16.00	12.50-18.49	12.00-20.49	9	26.0	26.0	20.0-30.9	20.0-33.9
General hands, helpers, and laborers	200	182	3	8.50	8.50	7.00- 9.49	6.00- 9.49	9	14.0	14.0	11.0-15.9	10.0-15.9
All other occupations peculiar to carpet mills	332	316	4	8.50	9.00	6.00-12.99	6.00-12.49	10	14.0	15.0	10.0-21.9	10.0-20.9
General occupations not peculiar to carpet mills	81	70	4	13.50	13.50	9.00-14.49	10.00-13.99	10	22.0	22.0	15.0-23.9	15.0-22.9
All occupations	718	651	5	9.00	9.00	7.00-12.49	7.00-12.49	11	15.0	15.0	11.0-20.9	11.0-20.9
All sections—												
Dyehouse hands	94	54	2	9.00	9.00	9.00- 9.99	9.00-11.49	8	15.0	15.0	15.0-16.9	15.0-18.9
Finishers	32	20	2	9.00	8.00	6.00-12.49	7.00- 9.49	8	15.0	13.0	10.0-20.9	11.0-15.9
General hands, helpers, and laborers	212	208	3	8.50	8.50	6.00- 9.49	6.00- 9.49	9	14.0	14.0	11.0-15.9	10.0-15.9
All other occupations peculiar to carpet mills	367	349	4	8.50	9.00	6.00-12.99	6.00-12.49	10	14.0	15.0	10.0-21.9	10.0-20.9
General occupations not peculiar to carpet mills	94	83	4	13.50	13.50	9.00-15.49	10.00-13.99	10	22.0	22.0	15.0-25.9	15.0-22.9
All occupations	846	763	5	9.00	9.00	7.00-12.49	7.00-12.49	11	15.0	15.0	11.0-20.9	11.0-20.9
Females 16 and over:												
New England states—												
All occupations	20	33	6	4.50	4.50	4.50- 4.99	3.50- 5.49	12	7.0	7.0	7.0- 7.9	6.0- 9.9
Middle states—												
Winders	89	95	5	6.00	6.00	5.50- 7.49	4.00- 7.99	11	10.0	10.0	9.0-11.9	6.0-12.9
All other occupations	199	144	6	5.50	5.50	5.00- 6.49	5.00- 6.49	12	9.0	9.0	8.0-10.9	8.0-10.9
All occupations	288	239	6	5.50	5.50	5.00- 6.49	5.00- 6.49	12	9.0	9.0	8.0-10.9	8.0-10.9
All sections—												
All occupations	308	272	6	5.50	5.50	5.00- 6.49	4.50- 6.49	12	9.0	9.0	8.0-10.9	7.0-10.9
Males under 16:												
New England states—												
All occupations	55	41	7	4.50	4.00	4.50- 4.99	4.00- 4.99	13	8.0	6.0	7.0- 8.9	6.0- 7.9
Middle states—												
All occupations	49	85	7	3.00	4.00	3.00- 3.99	2.50- 4.49	13	5.0	6.0	5.0- 6.9	(1)- 6.9
All sections—												
All occupations	104	126	7	4.00	4.00	3.50- 4.99	3.50- 4.49	13	7.0	6.0	6.0- 8.9	5.0- 6.9
Females under 16:												
Middle states—												
All occupations	87	80	7	3.00	3.00	3.00- 3.49	2.50- 3.99	13	5.0	5.0	5.0- 5.9	(1)- 5.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Weavers	123	114	14	15.50	17.00	13.00-17.49	15.50-17.99
Middle states—							
Bobbin boys, carriers, etc.	24	35	14	6.50	5.50	5.50- 7.49	5.00- 6.49
Weavers	530	387	14	10.50	10.00	9.00-12.49	8.00-11.99
All other occupations	204	194	14	10.50	10.50	8.00-11.99	8.00-12.49
All occupations	758	616	14	10.50	10.00	8.50-12.49	7.50-11.99
All sections—							
Weavers	653	501	14	11.00	10.50	9.50-13.99	8.50-13.99
Females 16 and over:							
New England states—							
Winders	38	27	15	6.50	7.00	5.50- 7.49	5.50- 8.99
Middle states—							
Weavers	282	345	15	8.50	9.50	8.00-10.49	8.00-11.49
Winders	123	174	15	6.50	6.00	5.50- 7.99	5.50- 7.49
All other occupations	267	269	15	8.00	7.50	7.50- 9.99	5.50- 9.49
All occupations	672	788	15	8.00	8.00	7.00- 9.99	6.00-10.49
All sections—							
Winders	161	201	15	6.50	6.00	5.50- 7.99	5.50- 7.99

The New England and Middle states are represented in the returns for "carpet mills." The goods manufactured by the factories from which pay rolls were secured are, in the New England states, Brussels and Wilton carpets; and in the Middle states, velvet, Wilton, and ingrain carpets, with plushes, velvets, cotton braid, etc. The normal working time did not change in any of the establishments. The facts regarding increase or decrease in wages are essentially the same when presented by either the week or the hour rates. In the establishments considered, the proportion of males to all employees is about 60 per cent at each period. Unless otherwise stated, the proportions which the various specified occupations form of the respective totals for "all occupations" changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—In "all occupations" combined the rates show a slight increase. The proportion which "dyehouse hands" (an occupation in which wages are somewhat higher than in the other occupations) forms of the total is greater in 1900 than in 1890; this partially accounts for the increase in rates for "all occupations" combined. The rates for "dyehouse hands" considered by themselves, however, show that wages are practically unchanged in this occupation.

Middle states.—The rates for "all occupations" combined show practically no change for the decade. For "general hands, helpers, and laborers" the rates are about the same at each period; while for "dyehouse hands" and "foremen and overseers" there are slight decreases.

Both sections combined.—At each period the returns for the Middle states constitute about 85 per cent of the total rate returns. In the New England states the rates for "all occupations" combined increased slightly, and in the Middle states there was practically no change. There is little difference in the height of such rates between the two sections at each period. The combined returns for both sections indicate practically no change.

For the specified occupations, there is little change in the proportion which each section forms of the combined total. The combined rates for "finishers," for which the returns are few and not presented by sections, show a slight increase; for "general hands, helpers, and laborers," presented only for the Middle states and for both sections combined, there is practically no change for the decade; and for "dyehouse hands" a slight decrease. The rates for "dyehouse hands," which are somewhat higher in the Middle states than in the New England states, show practically no change in the New England states and a slight decrease in the Middle states.

Females 16 and over—New England states.—The returns in the form of rates are few and hardly justify definite conclusions; as they stand, there is little change in the rates for "all occupations" combined.

Middle states.—The rates tabulation for "all occupations" combined shows little change. Rates are also presented for "winders," and show little change for the decade.

Both sections combined.—At each period the returns from the Middle states constitute about 90 per cent of the total. Rates in the Middle states are slightly higher than those in the New England states. For both sections combined, as is the case for each section, little change is shown for the decade.

Males under 16.—Tables of rates are shown only for "all occupations" combined. In the New England states there is a decided increase in the rates paid; in the Middle states apparently a slight decrease; and in both sections combined there is a decided increase. The rates are much higher in the New England states, which form about 32 per cent of the total for both sections in 1890, and 53 per cent in 1900.

Females under 16.—A rates tabulation for "all occupations" combined for the Middle states is all that can be shown; in this there is little change.

EARNINGS.

The earnings shown for this industry are for different persons, and generally for different occupations, from those represented in the tables of rates; their use, therefore, supplements the rates.

Males 16 and over.—In the New England states earnings are shown for "weavers," a decided decrease being indicated. In the Middle states the earnings for "bobbin boys, carriers, etc.," show a slight increase; the returns, however, are few. Earnings for "weavers" show a decided increase. The earnings for "all occupations" combined are all for different persons from those in the tables of rates, and show a decided increase.

Females 16 and over.—In the New England states the few returns for "winders" indicate little change. In the Middle states the "all occupations" table, showing little change, is composed of persons not shown in the table of rates for "all occupations" in this section. The earnings for "weavers" are about the same; for "winders" a slight increase is shown.

GENERAL SUMMARY.

Since part of the returns are in the form of rates and part in the form of earnings, no tabulation for the industry can be made of the whole number of males 16 and over, nor of females 16 and over. The tables presented include practically all returned for the industry and indicate little change in wages for either men or women in the New England or Middle states.

COTTON MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Back tenders	51	52	16	4.50	3.50	3.50- 5.49	3.00- 4.49	36	8.0	6.0	6.0- 9.9	5.0- 7.9
Beamers and slasher tenders	187	104	16	10.50	9.50	8.50-12.49	9.50-12.49	36	18.0	16.0	14.0-20.9	15.0-20.9
Bobbin boys, banders, and carriers	49	41	17	6.50	4.50	6.00- 7.49	3.50- 5.49	37	11.0	7.0	10.0-12.9	6.0- 9.9
Card hands	90	78	17	7.00	6.00	6.50- 7.49	6.00- 6.49	37	12.0	10.0	11.0-12.9	10.0-10.9
Doffers	29	22	18	6.00	4.50	5.50- 6.49	4.00- 5.99	38	11.0	7.0	9.0-11.9	7.0- 9.9
Drawing-frame tenders	27	23	19	5.50	4.50	4.50- 5.99	4.00- 4.99	39	9.0	7.0	8.0- 9.9	7.0- 8.9
Dyehouse hands	82	50	19	6.50	9.00	6.50- 9.49	8.00- 9.49	39	12.0	15.0	12.0-15.9	14.0-15.9
Foremen and overseers	70	66	20	21.00	20.00	16.50-24.49	16.50-24.49	40	36.0	33.0	27.0-41.9	28.0-40.9
General hands, helpers, and laborers	322	287	21	7.00	6.50	6.00- 7.99	6.00- 7.99	41	12.0	11.0	10.0-13.9	10.0-12.9
Loom fixers	132	108	21	12.00	11.00	11.00-12.99	9.00-12.99	41	21.0	19.0	19.0-22.9	15.0-21.9
Second and section hands	123	98	23	12.00	11.00	10.00-13.49	10.00-12.49	43	20.0	19.0	17.0-22.9	16.0-20.9
Spinners	93	75	24	11.50	9.50	6.50-12.49	8.00-10.49	44	20.0	15.0	11.0-21.9	13.0-16.9
Weavers	186	83	25	9.00	8.50	8.50-10.49	7.50- 9.49	45	16.0	14.0	14.0-17.9	12.0-15.9
All other occupations peculiar to cotton mills	258	224	25	7.50	7.00	6.50- 9.49	6.00- 8.49	45	13.0	12.0	12.0-15.9	10.0-14.9
General occupations not peculiar to cotton mills	423	316	26	10.50	9.50	8.50-12.49	7.50-12.49	46	18.0	15.0	14.0-21.9	12.0-20.9
All occupations	2,182	1,668	27	8.50	8.00	6.50-11.99	6.00-10.99	47	15.0	13.0	12.0-19.9	10.0-17.9
Middle states—												
Card hands	24	19	18	6.00	7.00	4.00- 7.99	5.00- 7.99	37	10.0	12.0	7.0-12.9	8.0-12.9
Dyehouse hands	39	33	19	6.50	7.00	6.50- 6.99	7.00- 7.49	39	10.0	11.0	10.0-10.9	11.0-11.9
Foremen and overseers	24	24	20	20.50	21.00	15.00-24.49	16.00-28.49	40	34.0	35.0	25.0-40.9	26.0-38.9
General hands, helpers, and laborers	53	47	21	7.00	7.00	6.00- 7.99	4.50- 7.99	41	11.0	11.0	10.0-12.9	7.0-12.9
Second and section hands	31	29	23	10.00	10.50	9.50-12.49	9.50-12.49	43	16.0	17.0	16.0-20.9	16.0-20.9
Spinners	88	59	24	12.00	10.50	12.00-12.49	2.00-10.99	44	20.0	17.0	20.0-20.9	(1) -17.9
All other occupations peculiar to cotton mills	88	73	25	6.50	7.00	5.50- 7.99	6.00- 8.49	45	11.0	12.0	9.0-13.9	10.0-14.9
General occupations not peculiar to cotton mills	74	50	26	10.00	9.00	8.00-12.49	7.50-12.49	46	16.0	15.0	13.0-20.9	12.0-20.9
All occupations	580	401	27	7.00	7.50	5.00-10.49	5.50-10.99	47	12.0	12.0	9.0-16.9	9.0-17.9
Southern states—												
Beamers and slasher tenders	63	43	16	6.00	6.50	4.50- 8.49	4.50- 9.49	36	9.0	10.0	6.0-12.9	7.0-13.9
Bobbin boys, banders, and carriers	41	20	17	4.50	4.50	3.50- 4.99	4.00- 5.49	37	6.0	6.0	5.0- 7.9	6.0- 7.9
Card hands	82	64	18	4.50	4.50	3.50- 5.49	4.00- 5.99	38	6.0	7.0	6.0- 8.9	6.0- 9.9
Foremen and overseers	36	35	20	18.00	16.50	12.00-21.49	10.50-24.49	40	27.0	25.0	18.0-31.9	15.0-36.9
General hands, helpers, and laborers	169	85	21	4.50	4.50	3.50- 4.99	4.00- 5.49	41	6.0	6.0	5.0- 6.9	6.0- 8.9
Loom fixers	73	33	22	9.50	10.50	9.00-10.99	9.00-10.99	42	14.0	15.0	13.0-15.9	14.0-15.9
Roving-frame tenders	68	37	22	6.00	4.50	5.00- 6.99	4.00- 5.99	42	9.0	7.0	8.0-10.9	6.0- 8.9
Second and section hands	51	26	23	7.50	9.00	6.00- 9.49	6.00- 9.99	43	11.0	13.0	9.0-13.9	9.0-14.9
Spinners	47	36	24	3.00	3.00	2.00- 3.99	2.00- 5.49	44	5.0	5.0	(1) - 6.9	(1) - 9.9
Weavers	387	208	25	5.50	5.00	4.50- 6.49	4.50- 6.49	45	8.0	8.0	7.0- 9.9	7.0- 9.9
All other occupations peculiar to cotton mills	176	109	26	5.00	4.50	4.00- 6.49	3.50- 7.49	46	7.0	6.0	6.0- 9.9	5.0-10.9
General occupations not peculiar to cotton mills	146	79	27	6.00	6.50	4.50- 7.99	6.00- 9.49	47	9.0	9.0	6.0-11.9	8.0-14.9
All occupations	1,376	811	27	5.00	5.00	4.50- 6.99	4.50- 7.49	47	8.0	8.0	6.0-10.9	6.0-11.9
All sections—												
Back tenders	74	57	16	4.50	3.50	4.00- 5.49	3.00- 4.49	36	8.0	6.0	6.0- 9.9	5.0- 7.9
Beamers and slasher tenders	259	154	17	10.00	9.50	6.50-11.99	7.50-12.49	36	16.0	15.0	11.0-20.9	12.0-20.9
Bobbin boys, banders, and carriers	96	64	17	5.50	4.50	4.50- 6.99	4.00- 5.49	37	9.0	7.0	6.0-11.9	6.0- 9.9
Card hands	196	161	18	6.50	6.00	4.50- 7.49	4.50- 6.49	38	11.0	10.0	7.0-12.9	7.0-10.9
Doffers	75	40	18	5.00	4.00	3.50- 5.99	3.50- 4.99	38	8.0	7.0	6.0- 9.9	6.0- 7.9
Drawing-frame tenders	68	55	19	4.50	4.00	4.00- 5.99	3.50- 4.99	39	8.0	7.0	6.0- 9.9	6.0- 8.9
Dyehouse hands	134	93	19	6.50	8.00	6.50- 8.49	7.00- 9.49	39	12.0	12.0	10.0-14.9	11.0-15.9
Foremen and overseers	130	125	20	18.50	18.00	16.00-24.49	15.00-24.49	40	31.0	30.0	25.0-40.9	25.0-40.9
General hands, helpers, and laborers	544	419	21	6.50	6.50	4.50- 7.49	5.00- 7.99	41	11.0	11.0	6.0-12.9	8.0-12.9
Loom fixers	216	151	22	11.00	10.50	9.50-12.49	9.00-12.49	42	19.0	17.0	14.0-21.9	15.0-20.9
Packers	83	43	22	6.50	5.50	6.00- 8.49	5.00- 6.99	42	11.0	9.0	9.0-14.9	8.0-11.9
Roving-frame tenders	92	53	23	6.50	5.00	5.50- 7.99	4.50- 6.99	43	10.0	8.0	8.0-12.9	6.0-11.9
Second and section hands	205	153	23	10.50	10.50	9.00-12.99	9.00-12.49	43	18.0	18.0	14.0-22.9	15.0-20.9
Spinners	228	170	24	11.50	9.00	4.50-12.49	3.00-10.99	44	20.0	15.0	7.0-20.9	5.0-17.9
Weavers	573	291	25	6.00	6.00	5.00- 8.99	4.50- 7.99	45	9.0	9.0	8.0-15.9	7.0-12.9
All other occupations peculiar to cotton mills	522	406	26	6.50	6.00	5.00- 8.49	4.50- 8.49	46	11.0	10.0	8.0-14.9	8.0-13.9
General occupations not peculiar to cotton mills	643	445	27	9.50	9.00	7.50-12.49	7.50-12.49	47	15.0	15.0	12.0-20.9	11.0-19.9
All occupations	4,138	2,880	27	7.00	7.00	5.00-10.49	5.00- 9.99	47	12.0	11.0	8.0-16.9	8.0-15.9
Females 16 and over:												
New England states—												
Beamers and slasher tenders	296	321	28	5.50	5.00	5.00- 6.49	4.50- 6.49	48	10.0	8.0	8.0-10.9	7.0-10.9
Doffers	101	146	29	5.50	4.00	4.50- 5.99	3.50- 5.49	49	9.0	7.0	8.0- 9.9	6.0- 8.9
Drawers-in	64	61	29	5.50	5.00	4.50- 6.99	4.00- 6.49	49	9.0	8.0	7.0-11.9	7.0-10.9
General hands, helpers, and laborers	36	61	30	5.00	4.00	4.50- 5.49	3.50- 4.49	50	8.0	7.0	8.0- 8.9	6.0- 7.9
Roving-frame tenders	240	245	30	7.00	6.00	6.50- 8.49	5.50- 6.99	50	12.0	10.0	11.0-14.9	9.0-11.9
Spinners	447	399	31	6.00	5.50	5.00- 6.49	4.50- 6.49	51	10.0	9.0	8.0-11.9	7.0-10.9
Weavers	913	1,083	32	7.50	6.50	6.50- 8.99	5.50- 7.99	52	13.0	11.0	11.0-15.9	9.0-12.9
All other occupations	529	285	33	5.00	5.00	4.50- 6.49	4.50- 5.99	53	9.0	8.0	8.0-10.9	7.0- 9.9
All occupations	2,653	2,645	34	6.00	5.50	5.00- 7.99	4.50- 6.99	54	10.0	9.0	9.0-12.9	7.0-11.9
Middle states—												
Beamers and slasher tenders	72	71	28	5.00	5.00	4.00- 5.99	4.00- 6.99	48	8.0	8.0	6.0- 9.9	6.0-11.9
Drawers-in	27	21	29	5.50	5.50	4.50- 6.99	4.50- 6.99	49	9.0	9.0	8.0-11.9	7.0-11.9
Roving-frame tenders	106	110	30	6.50	6.00	5.50- 8.49	5.00- 6.49	50	10.0	10.0	9.0-13.9	8.0-10.9
Spinners	73	63	31	4.00	4.00	3.50- 4.49	3.00- 4.49	51	7.0	6.0	6.0- 7.9	5.0- 6.9
Weavers	228	252	32	6.00	6.00	5.50- 7.49	6.00- 6.99	52	10.0	10.0	9.0-12.9	10.0-11.9
All other occupations	24	91	33	4.50	5.00	4.50- 6.99	4.00- 5.99	53	8.0	8.0	7.0-11.9	7.0- 9.9
All occupations	547	637	34	5.50	5.50	4.50- 6.99	4.50- 6.49	54	9.0	9.0	8.0-11.9	7.0-10.9
Southern states—												
Beamers and slasher tenders	122	53	28	3.50	4.00	3.00- 4.99	3.00- 4.99	48	5.0	6.0	5.0- 7.9	5.0- 7.9
Drawers-in	46	23	29	4.50	5.50	3.50- 5.99	3.50- 6.99	49	7.0	8.0	5.0- 8.9	6.0-10.9
Roving-frame tenders	63	45	31	5.50	4.50	4.50- 6.49	3.50- 6.49	51	8.0	7.0	7.0- 9.9	5.0- 9.9
Spinners	92	67	31	3.00	3.00	3.00- 4.99	2.50- 4.99	51	5.0	5.0	(1) - 6.9	(1) - 7.9
Weavers	439	341	32	4.50	4.00	3.50- 5.49	3.50- 5.49	52	7.0	7.0	6.0- 8.9	6.0- 8.9
All other occupations	88	61	33	4.50	3.50	3.50- 5.49	3.00- 4.49	53	7.0	6.0	6.0- 8.9	(1) - 6.9
All occupations	856	595	34	4.50	4.00	3.50- 5.49	3.50- 5.49	54	7.0	6.0	5.0- 8.9	5.0- 7.9
All sections—												
Beamers and slasher tenders	490	445	28	5.00	5.00	4.00- 6.49	4.00- 6.49	48	8.0	8.0	7.0-10.9	7.0-10.9
Drawers-in	137	105	29	5.00	5.00	4.00- 6.49	4.00- 6.49	49	8.0	8.0	7.0-10.9	7.0-10.9
Drawing-frame tenders	40	62	30	5.00	4.00	4.00- 5.99	3.50- 4.99	50	8.0	7.0	7.0- 9.9	6.0- 8.9
Roving-frame tenders	409	400	31	6.50	6.00	6.00- 8.49	5.00- 6.99	51	11.0	10.0	9.0-13.9	8.0-11.9
Spinners	612	529	31	5.00	5.00	4.00- 6.49	4.00- 5.99	51	9.0	8.0	7.0-10.9	6.0- 9.9
Weavers	1,580	1,676	32	6.50	6.00	5.00- 8.49	5.00- 7.49	52	11.0	10.0	8.0-14.9	8.0-12.9
All other occupations	641	437	33	5.00	5.00	4.50- 6.49	4.50- 5.99	53	9.0	8.0	7.0-10.9	7.0- 9.9
All occupations	4,056	3,877	34	5.50	5.50	4.50- 7.49	4.50- 6.99	54	10.0	9.0	7.0-12.9	7.0-10.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males under 16:												
New England states—												
All occupations	50	80	35	4.00	3.50	3.50- 4.99	3.00- 4.99	55	7.0	5.0	6.0- 8.9	5.0- 7.9
Middle states—												
All occupations	133	84	35	3.00	2.50	3.00- 3.49	2.00- 3.49	55	5.0	(1)	5.0- 5.9	(1) - 5.9
Southern states—												
All occupations	329	228	35	2.00	2.00	(2) - 2.99	(2) - 2.49	55	(1)	(1)	(1)	(1)
All sections—												
All occupations	512	392	35	2.50	2.00	2.00- 3.49	(2) - 3.49	55	(1)	(1)	(1) - 5.9	(1) - 5.9
Females under 16:												
Southern states—												
All occupations	374	231	35	2.00	2.00	(2) - 3.49	(2) - 3.49	55	(1)	(1)	(1)	(1) - 5.9

[1] Less than 5 cents. [2] Less than $2.00.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Beamers and slasher tenders	93	57	56	11.00	10.00	8.50-12.49	9.50-13.49
Spinners	59	59	59	11.50	9.00	10.00-12.49	7.00-10.49
Weavers	607	452	59	9.00	8.50	7.50-10.49	7.50-10.49
All other occupations peculiar to cotton mills	37	19	60	9.00	9.00	9.00-10.49	7.00- 9.49
General occupations not peculiar to cotton mills	58	34	61	13.50	14.00	11.50-15.49	11.00-15.49
All occupations	945	677	61	9.50	9.00	8.00-11.49	8.00-10.99
Middle states—							
Beamers and slasher tenders	20	55	56	11.00	3.50	10.00-11.49	3.00- 8.49
Card hands	54	51	56	6.00	5.00	5.00- 7.49	4.00- 6.49
Doffers	93	84	57	4.50	4.50	4.50- 5.49	3.50- 6.49
Foremen and overseers	37	36	57	15.00	15.00	12.00-19.99	12.00-18.49
General hands, helpers, and laborers	59	67	57	6.00	6.00	6.00- 7.99	6.00- 7.99
Loom fixers	37	37	58	10.50	10.00	9.50-11.49	9.50-10.99
Second and section hands	54	44	58	9.50	9.50	8.50-10.99	9.00-10.99
Spinners	256	298	59	9.50	7.50	6.50-12.49	3.50- 8.99
Weavers	249	160	59	8.00	6.50	6.50- 9.49	5.50- 8.99
All other occupations peculiar to cotton mills	305	217	60	5.50	5.00	4.50- 6.49	4.50- 6.49
General occupations not peculiar to cotton mills	119	115	61	9.50	8.50	7.50-11.49	7.50-10.99
All occupations	1,320	1,176	61	7.00	6.00	5.00- 9.99	4.50- 9.49
Southern states—							
Weavers	430	229	60	4.50	4.00	3.50- 5.99	2.50- 5.49
All occupations	509	276	62	4.50	4.00	3.50- 5.99	2.50- 5.99
All sections—							
Beamers and slasher tenders	131	133	56	10.00	8.00	8.00-12.49	3.00-10.99
Card hands	60	58	56	6.00	5.00	5.00- 7.49	4.00- 6.99
Foremen and overseers	51	51	57	17.00	15.00	13.50-20.49	12.50-18.49
General hands, helpers, and laborers	71	69	57	6.00	6.00	6.00- 7.99	6.00- 7.99
Roving-frame tenders	70	33	58	5.50	5.50	4.50- 7.99	3.00- 7.49
Second and section hands	79	58	58	10.00	9.50	9.00-12.49	9.00-10.99
Spinners	315	357	59	10.00	7.50	6.50-12.49	3.50- 9.49
Weavers	1,286	841	60	7.50	7.50	5.00- 9.99	5.00- 9.49
All other occupations peculiar to cotton mills	356	244	60	5.50	5.00	4.50- 7.49	4.50- 6.99
General occupations not peculiar to cotton mills	177	149	61	10.50	9.50	8.00-13.99	7.50-12.49
All occupations	2,774	2,129	62	7.50	7.00	5.00-10.49	4.50- 9.49
Females 16 and over:							
New England states—							
Beamers and slasher tenders	251	263	62	5.50	5.00	4.50- 6.49	4.00- 6.49
Drawers-in	64	66	63	6.00	5.00	4.50- 7.49	3.50- 6.99
Roving-frame tenders	239	241	64	6.50	6.00	6.00- 8.49	5.00- 6.99
Spinners, frame	85	73	65	4.50	4.50	4.00- 5.49	4.00- 5.49
Weavers	1,277	1,369	65	7.50	6.50	6.50- 9.49	5.50- 7.99
All other occupations	344	230	66	5.00	4.50	4.50- 6.49	4.00- 5.49
All occupations	2,264	2,249	67	6.50	6.00	5.50- 8.49	4.50- 7.49
Middle states—							
Beamers and slasher tenders	245	193	62	5.00	4.00	4.00- 5.99	3.50- 5.49
Drawers-in	25	21	63	5.00	5.00	4.00- 5.99	4.00- 6.49
Roving-frame tenders	295	317	64	6.00	5.00	5.00- 7.49	4.50- 6.49
Spinners, frame	145	232	65	4.50	3.50	3.00- 5.99	3.00- 4.99
Weavers	813	1,040	65	6.00	5.50	5.50- 7.99	5.00- 6.99
All other occupations	178	231	66	4.50	4.00	3.50- 5.49	3.50- 5.49
All occupations	1,746	2,082	67	5.50	5.00	4.50- 6.99	4.00- 6.49
Southern states—							
Beamers and slasher tenders	45	44	63	4.00	3.50	3.50- 4.99	2.00- 4.49
Drawers-in	46	23	63	4.00	4.00	3.00- 4.99	3.50- 5.99
Roving-frame tenders	65	53	64	5.50	4.50	4.50- 6.99	3.50- 5.99
Spinners, frame	32	32	65	5.00	4.00	4.50- 6.99	4.00- 4.99
Weavers	434	384	66	3.50	3.50	3.00- 4.99	2.50- 4.99
All occupations	633	548	67	4.00	4.00	3.00- 5.49	2.50- 4.99
All sections—							
Beamers and slasher tenders	541	500	63	5.00	4.00	4.50- 6.49	3.50- 5.99
Drawers-in	135	110	63	5.00	5.00	4.00- 6.49	3.50- 6.49
Drawing-frame tenders	49	55	64	4.00	4.00	4.00- 4.99	4.00- 4.49
Roving-frame tenders	599	611	64	6.50	5.00	5.00- 7.49	4.50- 6.49
Spinners, frame	262	337	65	4.50	4.00	4.00- 5.99	3.00- 4.99
Weavers	2,524	2,793	66	6.50	6.00	5.00- 8.49	4.50- 7.49
All other occupations	533	473	67	5.00	4.50	4.00- 6.49	3.50- 5.49
All occupations	4,648	4,879	67	6.00	5.00	4.50- 7.99	4.00- 6.99

The New England, Middle, and Southern states are represented in the returns for "cotton mills." In all but one of the establishments in New England the normal working time was reduced from 60 to 58 hours a week; in the establishments in the other sections the normal working time remained unchanged for the decade, being 60 hours in all the establishments in the Middle states and in a part of those in the Southern states, and 66 hours in the remaining establishments in the Southern states. The variations in normal working time cause the showings made by the hour rates to differ somewhat from those made by the week rates. But the differences are in no case so marked as to result in an increase according to one tabulation and a decrease according to the other. The proportion of males to all employees in the establishments considered increased from about 43 per cent in 1890 to 51 per cent in 1900. Unless otherwise stated, the proportions which the various specified occupations form of the total, "all occupations," changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates tabulation for "all occupations" combined shows a decided increase for the decade.

Of the specified occupations, "bobbin boys," "doffers," "second and section hands," and "weavers" show a decided increase; "back tenders," "drawing-frame tenders," "loom fixers," and "spinners," a less marked increase; "beamers and slasher tenders," "foremen and overseers," and "general hands, helpers, and laborers," little change; while "dyehouse hands" show a decided decrease.

Middle states.—The rates for "all occupations" combined show little change. For the specified occupations the returns are few and hardly justify definite conclusions.

Southern states.—The tables of rates for "all occupations" combined show little change for the decade. Of the specified occupations, "roving-frame tenders" show a decided, and "weavers" a slight, increase; "foremen and overseers" and "second and section hands," little change; and "beamers and slasher tenders," "bobbin boys, banders, and carriers," "card hands," "general hands, helpers, and laborers," "loom fixers," and "spinners," slight decreases.

All sections combined.—The proportions which the sections form of the total for "all occupations" combined do not change much; the New England states contribute 58 per cent of the total returns in 1890 and 53 per cent in 1900, the Middle states 14 per cent at each period, and the Southern states 28 per cent in 1890 and 33 per cent in 1900. Rates in the New England states are somewhat higher than in the Middle states and considerably higher than in the Southern states. In the New England states, as has been stated, the rates for "all occupations" combined show a decided increase for the decade, while in the Middle and Southern states there is practically no change. The combined returns for all three sections indicate a very slight increase.

The following specified occupations show decided increases when the rates for all sections combined are considered: "Doffers," which also show a decided increase in New England, the only section separately tabulated; "packers," which are shown only in the total for all sections; "roving-frame tenders," which also show a decided increase in the Southern states, the only section separately tabulated; and "spinners," which are separately tabulated for each section and show a slight increase in the New England states, a decided increase in the Middle states, and a slight decrease in the Southern states. The rates for "spinners" are slightly higher in the Middle states than in New England and very much higher than in the Southern states, and the proportion which the returns from each section form of the total remains practically unchanged.

The following occupations show slight increases for all sections combined: "Back tenders," "drawing-frame tenders," "bobbin boys, banders, and carriers," "card hands," "loom fixers," and "weavers." For "back tenders" and "drawing-frame tenders" the rates in the New England states, the only section separately tabulated, also show slight increases. "Bobbin boys, banders, and carriers" are separately tabulated for the New England and Southern states, the returns from the New England states forming 64 per cent of the total in 1890 and 51 per cent in 1900; and those from the Southern states, 31 and 43 per cent at the respective periods; the rates in the New England states are much the higher and an increase is shown in that section, but a decrease is shown in the Southern states. Returns for "card hands" are shown in all three sections, the proportions which the several sections form of the total changing but little; rates in the New England and Middle states are about the same, and are considerably above those in the Southern states; in the New England states there is a decided increase. Sectional rates for "loom fixers" are shown in the New England and Southern states; New England, which shows the higher rates, forms 71 per cent of the total in 1890 and 61 per cent in 1900; and the Southern states form 22 and 34 per cent at the respective periods. In New England rates increased, but in the Southern states they decreased. For "weavers" the proportions which the two sections separately tabulated form of the total remain practically unchanged; rates are much higher in New England than in the Southern states and show a slight increase in the Southern states and a decided increase in the New England states.

The rates for "beamers and slasher tenders," "foremen and overseers," and "second and section hands" for all sections combined, show little change. In the

case of "beamers and slasher tenders" returns are separately shown for the New England and Southern states, the proportions changing but little; the rates in the New England states, which are much the higher, remain about the same, while those in the Southern states show a slight decrease. In the case of "foremen and overseers" rates in the New England and Middle states are about the same, and are somewhat above those in the Southern states; for each section there is little change in the proportions which the returns form of the total, and little change in the rates. For "second and section hands" rates are separately tabulated for the New England states, for the Middle states, and for the Southern states, the proportions changing but slightly; rates in New England show a decided increase and are somewhat higher than in the Middle states and considerably higher than in the Southern states, sections which show little change.

The rates for "general hands, helpers, and laborers" show little change in the New England states, a slight increase in the Middle states, a slight decrease in the Southern states, and a very slight decrease in all sections combined; rates are about the same in the New England and Middle states and considerably above those in the Southern states. In the New England states the proportion which the returns constitute of the total decreased from 69 per cent in 1890 to 59 per cent in 1900; in the Southern states it increased from 20 per cent to 31 per cent, and in the Middle states it remained practically unchanged.

The rates for "dyehouse hands" show a decided decrease both in the New England and Middle states, and a considerable decrease in all sections combined. There is not much difference in rates between the two sections separately tabulated, and the proportions which the sections form of the total change but little.

Females 16 and over—New England states.—The rates for "all occupations" combined show a decided increase. The proportion which "weavers" form of the total decreased from 41 per cent in 1890 to 34 per cent in 1900; otherwise there was little change in the proportions of the specified occupations. The rates for all the specified occupations—"beamers and slasher tenders," "doffers," "drawers-in," "general hands, helpers, and laborers," "roving-frame tenders," "spinners," and "weavers"—show decided increases.

Middle states.—The rates for "all occupations" combined show practically no change. The proportions which the specified occupations form of the total changed little. Of the specified occupations, "roving-frame tenders" show a decided increase in rates; "drawers-in," "spinners," and "weavers," little change; and "beamers and slasher tenders," a slight decrease.

Southern states.—The rates for "all occupations" combined show a slight increase. The proportions which the specified occupations form of the total changed little. Of the specified occupations, "roving-frame tenders" show a decided increase in rates; "weavers," a slight increase; "beamers and slasher tenders" and "spinners," little change; and "drawers-in," a slight decrease.

All sections combined.—The proportions which the sections form of the total for "all occupations" combined do not change much, the New England states constituting 68 per cent in 1890 and 65 per cent in 1900, the Middle states 17 and 14 per cent, and the Southern states 15 and 21 per cent at the respective periods. Rates in the New England states are slightly higher than in the Middle states and much higher than in the Southern states. As already remarked, the rates in the New England states show a decided increase, in the Middle states practically no change, and in the Southern states a slight increase. The combined returns for the three sections indicate a slight increase.

The rates for "roving-frame tenders," "spinners," and "weavers" for all sections combined show decided increases. In none of these occupations was there any great change in the proportions which the sections form of the total. In each of them rates are highest in the New England and lowest in the Southern states. In the case of "roving-frame tenders" there was a decided increase in rates in each section, as well as in all sections combined; the rates for "spinners" show a decided increase in the New England and Middle states, but practically no change in the Southern states; the rates for "weavers" show a decided increase in the New England states, little change in the Middle states, and a slight increase in the Southern states.

The combined rates for "drawing-frame tenders" show a slight increase; this occupation is not separately presented in any section. In the case of "beamers and [illegible]er tenders" and of "drawers-in," the rates are [illegible]est in the New England states and show a decided [illegible]ase in that section; but as there was considerable decrease in the proportion which the returns from New England formed of the total, and as the rates in the other sections show either slight decreases or but little change, the rates for all sections combined change but little.

Males under 16.—Rates are shown only for "all occupations" combined. In the New England states rates are somewhat higher than in the Middle states and considerably higher than in the Southern states. The returns from the Southern states form 58 per cent of the total in 1890 and 64 per cent in 1900; those from the New England states 20 per cent in 1890 and 10 per cent in 1900. In both the New England and Middle states the rates increased, while in the Southern states and in all sections combined there was little change.

Females under 16.—Rates are shown only for the Southern states where there is a slight decrease.

EARNINGS.

The table of earnings as a rule confirms the inferences drawn from the table of rates. For males the earnings are largely for the Middle states; only a few occupations being separately tabulated for the New England and Southern states. For females, earnings are reported and tabulated for nearly all occupations in each of the three sections.

Males 16 and over.—In the New England states the earnings, as far as tabulated, show an increase, thus agreeing with the general tendency shown by the tables of rates.

In the Middle states four occupations are shown under earnings which do not appear under rates: Two, "beamers and slasher tenders" and "weavers," show increased earnings; the other two, "doffers" and "loom fixers," disclose no change. The returns for "beamers and slasher tenders," however, are but few and are open to suspicion because they probably include, in 1890, some employees who were really spool boys. In two occupational groups, viz, "card hands" and "all other occupations peculiar to cotton mills," earnings and rates as tabulated for this section show contradictory results, earnings indicating an increase and rates a decrease. In each case, however, the tabulation for earnings is more comprehensive than for rates, and should probably be accepted as more representative.

In the Southern states one discrepancy appears: the total for "all occupations" shows an increase in earnings and a decrease in rates. This difference is explained by the fact that in the table of earnings this group is composed almost entirely of "weavers," while in the table of rates it is a combination of a number of specified occupations; that is, the component parts of the so-called "all occupations" groups are different.

In interpreting the tabulations for "all occupations" combined, the precaution referred to on page xxx, in regard to the radical differences of the component parts of two totals, should be carefully borne in mind: For example, in the New England states for males 16 and over, "weavers" form 5 per cent in 1890 and 9 per cent in 1900 of the number for whom rates are tabulated, and 67 per cent in 1890 and 64 per cent in 1900 in the earnings tabulation.

Females 16 and over.—In the New England states the earnings, so far as tabulated, show generally a decided increase—agreeing in this respect with the tables of rates. In the one occupation for which earnings only are presented—"spinners, frame"—a slight increase is indicated.

In the Middle states the earnings for "beamers and slasher tenders" show a slight increase, thus disagreeing with the rates, which show a slight decrease. The numbers tabulated for earnings are considerably larger, and probably should be accepted as more representative. This same observation applies to "weavers," whose rates show little change, while their earnings show a decided increase. The one occupation for which earnings only are presented—"spinners, frame"—shows a decided increase.

In the Southern states most of the returns of earnings for specified occupations agree with the results shown by the rates. The one occupation for which earnings only are presented—"spinners, frame"—shows a decided increase.

GENERAL SUMMARY.

Since part of the returns for this industry are in the form of rates and part in the form of earnings, no tabulation can be made for the whole number of males 16 and over or of females 16 and over. It is evident, however, from the various tabulations in the several sections that wages increased slightly for males and decidedly for females in the New England states, and that there was little change for males and a slight increase for females in the Middle and Southern states.

RATES AND EARNINGS OF SAME EMPLOYEES.

In this industry there are a considerable number of persons whose exact working time was obtained; of such persons who appear in the general tables, there are approximately 650 males 16 and over and 3,000 females 16 and over, in 1890; and 2,150 males 16 and over and 3,500 females 16 and over, in 1900. By a tabulation of the rates and earnings of these identical persons, it is possible to make an interesting comparison indicating how far their earnings in a given week agree with their rates per week. This is illustrated in the following tables:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—2,156 PERSONS.[1]				1890—659 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	0.2	4.0	.....	3.8	0.3	8.7	.....	8.4
2.50 to 4.99	16.1	22.5	.....	6.4	20.2	22.4	.....	2.2
5.00 to 7.49	37.6	30.3	7.3	.....	27.0	21.1	5.9	.....
7.50 to 9.99	21.2	19.0	2.2	.....	30.2	27.8	2.4	.....
10.00 to 12.49	17.5	17.2	0.3	.....	15.6	13.2	2.4	.....
12.50 to 14.99	3.3	3.1	0.2	.....	2.6	2.7	.....	0.1
15.00 to 17.49	2.4	1.9	0.5	.....	1.7	1.7	.....	.....
17.50 to 19.99	0.7	1.1	.....	0.4	1.2	1.1	0.1	.....
20.00 to 22.49	0.3	0.2	0.1	.....	0.5	0.6	.....	0.1
22.50 to 24.99	0.3	0.3	.....	.....	0.4	0.3	0.1	.....
25.00 and over	0.4	0.4	.....	.....	0.3	0.4	.....	0.1

[1] See pages 1145 to 1147 for detailed tables of identicals. Some of the persons who appear in these tables were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

Rates and earnings of identical females 16 and over.

DOLLARS PER WEEK.	1900—3,474 PERSONS.[1]				1890—2,972 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	1.0	5.7	.....	4.7	0.7	5.8	.....	5.1
2.50 to 4.99	26.4	30.8	.....	4.4	27.6	30.7	.....	3.1
5.00 to 7.49	50.9	44.0	6.9	.....	58.9	52.9	6.0	.....
7.50 to 9.99	18.6	16.7	1.9	.....	12.5	10.4	2.1	.....
10.00 to 12.49	3.0	2.8	0.2	.....	0.2	0.2	.....	.....
12.50 to 14.99	0.1	.....	0.1	.....	0.1	.....	0.1	.....

[1] See pages 1145 to 1147 for detailed tables of identicals. Some of the persons who appear in these tables were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

DYEING AND FINISHING TEXTILES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Dyers	55	38	68	6.50	7.00	6.50- 6.99	6.00- 7.99	74	12.0	12.0	12.0-12.9	10.0-13.9
Foremen and overseers	48	42	68	21.00	20.00	15.00-33.99	15.00-30.49	74	36.0	33.0	25.0-56.9	25.0-50.9
Foremen, assistant, and second hands	47	35	69	12.00	11.00	10.00-13.99	9.50-15.49	75	20.0	19.0	16.0-23.9	16.0-25.9
General hands, helpers, and laborers	926	723	69	7.00	6.50	6.00- 7.99	5.00- 7.99	76	12.0	11.0	10.0-13.9	8.0-12.9
Machine operators	344	237	70	7.00	6.50	6.50- 8.49	6.00- 7.99	76	12.0	11.0	11.0-13.9	10.0-13.9
All other occupations peculiar to dyeing and finishing textiles	222	168	71	9.00	8.00	7.50-24.49	7.50-25.99	77	15.0	14.0	13.0-41.9	12.0-43.9
General occupations not peculiar to dyeing and finishing textiles	120	98	71	9.00	10.50	7.50-12.49	8.00-12.49	77	15.0	17.0	13.0-20.9	13.0-20.9
All occupations	1,762	1,341	72	7.00	7.00	6.50- 8.49	6.00- 8.49	78	12.0	12.0	11.0-14.9	10.0-13.9
Middle states—												
Dyers	156	156	68	10.50	11.00	9.00-12.49	9.50-12.49	74	18.0	18.0	15.0-20.9	15.0-20.9
Foremen and overseers	26	26	69	15.00	16.00	12.00-25.49	12.50-25.49	75	25.0	26.0	20.0-41.9	20.0-41.9
General hands, helpers, and laborers	187	80	70	9.00	8.50	7.00- 9.49	6.00- 9.49	76	15.0	14.0	11.0-15.9	10.0-15.9
Machine operators	111	98	70	8.50	9.00	8.50- 9.49	8.00-10.49	77	14.0	15.0	14.0-15.9	13.0-16.9
General occupations not peculiar to dyeing and finishing textiles	70	50	71	12.00	13.00	10.00-14.49	12.00-15.49	78	18.0	20.0	16.0-21.9	16.0-25.9
All occupations	580	436	72	9.00	10.00	8.50-12.49	9.00-12.49	78	15.0	16.0	14.0-18.9	15.0-20.9
All sections—												
Dyers	211	194	68	9.00	11.00	7.50-12.49	9.00-12.49	74	15.0	18.0	13.0-20.9	15.0-20.9
Foremen and overseers	74	68	69	20.00	19.00	12.00-30.49	13.00-26.49	75	34.0	31.0	20.0-50.9	22.0-43.9
Foremen, assistant, and second hands	56	48	69	12.00	11.00	10.00-13.99	9.50-15.49	75	20.0	19.0	16.0-23.9	16.0-25.9
General hands, helpers, and laborers	1,113	803	70	7.00	6.50	6.00- 7.99	5.00- 7.99	76	12.0	11.0	10.0-13.9	8.0-12.9
Machine operators	455	335	70	7.50	7.50	6.50- 8.99	6.00- 9.49	77	13.0	12.0	11.0-14.9	10.0-15.9
All other occupations peculiar to dyeing and finishing textiles	243	181	71	10.00	8.50	7.50-23.49	7.50-25.49	77	16.0	14.0	13.0-39.9	12.0-43.9
General occupations not peculiar to dyeing and finishing textiles	190	148	71	10.00	12.00	8.50-12.49	10.00-13.49	78	16.0	18.0	14.0-20.9	16.0-21.9
All occupations	2,342	1,777	72	7.50	7.50	6.50- 9.49	6.00-10.49	79	13.0	12.0	11.0-15.9	10.0-16.9
Females 16 and over:												
New England states—												
All occupations	252	196	73	5.50	6.00	5.00- 6.99	5.50- 6.49	79	10.0	10.0	9.0-11.9	9.0-10.9
All sections—												
All occupations	264	213	73	5.50	6.00	5.00- 6.99	5.50- 6.49	79	10.0	10.0	9.0-11.9	9.0-10.9
Males under 16:												
New England states—												
All occupations	46	57	73	4.50	3.50	4.00- 4.99	3.50- 3.99	79	8.0	6.0	7.0- 8.9	6.0- 6.9
All sections—												
All occupations	53	63	73	4.50	3.50	4.00- 4.99	3.50- 3.99	79	8.0	6.0	7.0- 8.9	6.0- 6.9

The New England and Middle states are represented in the returns for this industry. In a portion of the establishments in the New England states, comprising about 80 per cent of the employees shown for this section, the normal working time decreased two hours. This does not cause the general conclusions regarding increase or decrease in wages, as indicated by the hour rates, to differ materially from those shown by the tables of rates per week. In the Middle states the normal working time is the same for both periods. The proportion of males employed in the establishments considered is about 90 per cent at each period. Unless otherwise stated, the proportions which the various specified occupations form of the total for "all occupations," change little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The tabulation for "all occupations" combined shows a slight increase for the decade. Of the specified occupations, "general hands, helpers, and laborers" and "machine operators" show decided increases, and "foremen and overseers" and "assistant foremen and second hands," slight increases. There is little change in the rates for "dyers."

Middle states.—When "all occupations" combined are considered, the rates show a slight decrease. This is true also for three specified occupations—"dyers," "foremen and overseers," and "machine operators." There is a slight increase in the rates for "general hands, helpers, and laborers."

Both sections combined.—It is to be noted that at each period the returns from the New England states, which show lower rates than those from the Middle states, form about 75 per cent of the total. In the New England states, as has been stated, rates for "all occupations" increased slightly for the decade, while in the Middle states they decreased. The returns for both sections combined indicate little change, the increase shown for one section apparently counterbalancing the decrease shown for the other. When specified occupations are considered, it should be noted that in some instances the proportions which the sections form of the total for a given occupation differ somewhat at the two periods, and that for some occupations the scale of wages is considerably higher in one section than in the other. "Foremen and overseers" receive higher wages in the New England states, and "dyers," "general hands, helpers, and laborers," and "machine operators" in the Middle states. The statistics for both sections combined indicate a considerable increase in rates for "general hands, helpers, and laborers," a slight decrease for "dyers," and little change either way for "foremen and overseers," "assistant foremen and second hands," and "machine operators."

Females 16 and over.—The number of females 16 and over is small, and most of these are employed in the New England establishments. There is little change in the rates.

Males under 16.—A few males under 16 are returned, most of them being employed in New England establishments. Their rates show an increase for the decade.

KNITTING MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	91	90	81	9.00	9.00	8.00-13.99	8.00-13.99	85	15.0	15.0	13.0-22.9	13.0-22.9
Middle states—												
Dye and wash house hands	23	21	80	7.50	7.50	7.50- 9.49	6.50- 9.49	84	12.0	12.0	12.0-15.9	11.0-15.9
General hands, helpers, and laborers	33	29	80	7.50	6.00	6.50- 8.49	6.00- 7.99	84	12.0	10.0	11.0-13.9	10.0-12.9
Knitters	11	17	80	9.00	6.00	8.00- 9.49	4.50- 5.49	84	15.0	10.0	13.0-15.9	7.0-13.9
All other occupations peculiar to knitting mills	151	45	80	6.50	8.00	6.00- 8.49	4.50-12.99	84	11.0	13.0	10.0-13.9	8.0-21.9
General occupations not peculiar to knitting mills	21	17	81	12.00	9.00	9.00-14.49	8.00-10.99	85	20.0	15.0	15.0-23.9	12.0-17.9
All occupations	239	129	81	7.50	7.50	6.00- 9.49	5.00- 9.49	85	12.0	12.0	10.0-15.9	9.0-15.9
Central states—												
All occupations	128	61	81	9.00	6.00	5.50-12.49	3.50-12.49	85	15.0	10.0	10.0-20.9	6.0-18.9
All sections—												
All occupations	458	280	81	8.00	8.00	6.00-12.49	6.00-11.99	85	13.0	13.0	10.0-18.9	10.0-18.9
Females 16 and over:												
New England states—												
All occupations	46	65	82	5.00	4.50	4.50- 6.49	4.00- 6.99	86	8.0	8.0	8.0-10.9	7.0-11.9
Middle states—												
Sewing-machine operators	47	89	82	3.50	3.50	3.00- 6.49	3.00- 6.49	86	6.0	6.0	5.0-10.9	5.0-10.9
All other occupations	51	94	82	4.00	5.00	3.50- 5.49	4.50- 6.99	86	7.0	8.0	6.0- 9.9	7.0-11.9
All occupations	98	183	83	4.00	4.50	3.00- 6.49	3.50- 6.49	87	7.0	7.0	5.0-10.9	6.0-10.9
Central states—												
All occupations	66	36	83	5.00	5.00	5.00- 6.49	4.50- 6.49	87	9.0	8.0	8.0-10.9	7.0-10.9
All sections—												
All occupations	210	284	83	5.00	4.50	4.00- 6.49	4.00- 6.49	87	8.0	8.0	7.0-10.9	7.0-10.9
Females under 16:												
All sections—												
All occupations	65	57	83	3.00	3.00	3.00- 3.99	2.50- 3.49	87	5.0	5.0	5.0- 6.9	(1) - 5.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
All occupations	114	110	89	10.50	9.00	8.00-14.49	7.50-12.49
Middle states—							
Dye and wash house hands	25	24	88	7.50	7.50	7.50- 9.49	5.50- 9.49
Knitters	21	38	88	9.00	7.50	8.50- 9.49	6.00- 8.49
All other occupations peculiar to knitting mills	303	188	88	7.50	8.50	6.00-11.49	6.00-10.99
General occupations not peculiar to knitting mills	26	19	88	12.00	10.00	9.00-15.49	7.50-12.49
All occupations	375	269	89	8.00	8.00	6.50-11.49	6.00- 9.99
Central states—							
All occupations	72	14	89	8.00	5.50	5.00-10.49	4.00- 9.49
All sections—							
All occupations	561	393	89	8.00	8.00	6.50-12.49	6.50-10.99
Females 16 and over:							
New England states—							
Knitters	58	89	90	7.00	7.00	6.00- 8.99	6.00- 7.99
Loopers	32	62	91	7.50	5.50	6.00- 8.99	4.50- 8.49
Sewers, hand	25	21	91	5.00	6.50	4.50- 6.99	5.00- 7.99
Sewing-machine operators	148	107	92	6.00	6.00	5.00- 7.49	5.00- 7.99
All other occupations	128	132	93	5.50	5.00	4.50- 6.99	4.00- 6.49
All occupations	395	413	94	6.00	5.50	4.50- 7.49	4.50- 7.99
Middle states—							
General hands, helpers, and laborers	52	67	89	6.00	5.00	3.50- 8.49	3.50- 7.99
Knitters	55	47	90	7.50	4.50	7.50- 8.49	3.50- 7.49
Loopers	97	105	91	9.50	8.50	8.00-10.49	7.00- 9.99
Sewers, hand	16	20	92	11.00	10.50	10.00-13.99	10.50-11.99
Sewing-machine operators	428	306	92	7.50	6.50	5.50- 9.49	4.50- 8.49
All other occupations	276	134	93	6.50	4.50	5.00- 7.99	4.00- 6.49
All occupations	924	679	94	7.00	6.00	5.50- 9.49	4.50- 8.99
Central states—							
Knitters	254	114	90	4.50	4.00	3.50- 5.49	3.50- 5.49
Loopers	74	20	91	4.50	4.00	3.00- 5.99	3.50- 5.99
All other occupations	30	16	93	3.50	3.50	3.00- 4.49	3.00- 4.49
All occupations	358	150	94	4.50	4.00	3.50- 5.49	3.50- 5.49
All sections—							
Knitters	367	250	90	5.00	5.00	4.00- 7.49	4.00- 7.49
Loopers	203	187	91	7.00	7.00	4.50- 9.99	5.00- 9.99
Sewers, hand	41	41	92	6.50	8.00	4.50-11.49	6.50-10.99
Sewing-machine operators	576	413	93	7.00	6.00	5.00- 8.99	4.50- 8.49
All other occupations	434	282	93	6.00	4.50	4.50- 7.49	4.00- 6.49
All occupations	1,677	1,242	94	6.00	5.50	4.50- 8.49	4.00- 7.99
Females under 16:							
New England states—							
All occupations	25	33	95	3.50	3.00	3.50- 4.99	(1) - 3.49
Middle states—							
All occupations	62	9	95	3.00	2.50	3.00- 3.49	2.50- 2.99
Central states—							
All occupations	188	44	95	2.00	2.00	(1) - 2.99	2.00- 2.99
All sections—							
All occupations	275	86	95	2.50	2.50	2.00- 3.49	2.00- 3.49

[1] Less than $2.00.

The New England, Middle, and Central states are represented in the returns for this industry. In one establishment in New England there was a decrease in the normal working time from 59 to 58 hours. In all the other establishments except one, the hours at both periods are 60 per week; in the one exception the hours are 52. The facts regarding decrease or increase of wages shown by hour rates differ somewhat from those shown by week rates, but the difference is one of degree only, being in no case so marked as to result in a decrease according to one tabulation and an increase according to the other. The proportion of males 16 and over employed in the establishments considered is 26 per cent for 1890 and 27 per cent for 1900. Unless otherwise stated, the proportions which the various specified occupations form of the total of the respective "all occupations" tabulations changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates for "all occupations" combined show practically no change for the decade. No specific occupations are tabulated.

Middle states.—The rates for "all occupations" combined show little change; the proportion of "knitters" decreased; otherwise there was little change in the proportions of the various occupations. For the specified occupations the returns are too few to justify definite conclusions.

Central states.—The rates for "all occupations" combined show a decided increase for the decade. No specific occupations are tabulated.

All sections combined.—The rates for "all occupations" combined show little change. The proportions which the New England returns form of the total decreased, and the proportions for the other two sections increased. The rates for the New England states are

slightly higher than those for the other sections. As previously stated, the Central states show a decided increase in rates, and the other two sections, little change.

Females 16 and over.—The returns in the form of rates are very few, and no specific occupations are shown except in the Middle states, where "sewing-machine operators" are separately tabulated. The rates tabulated under "all occupations" combined show little change in the New England states, a slight decrease in the Middle states, a slight increase in the Central states, and little change in all sections combined.

Females under 16.—Rates are not shown for the sections; the few returns tabulated for all sections combined under the head of "all occupations" indicate a slight increase in rates.

EARNINGS.

The earnings for males 16 and over are presented in detail for the Middle states only, and as a rule confirm the inferences drawn from the tables of rates in that section. As already stated, there are few returns in the form of rates for females 16 and over; the earnings comprise the bulk of their returns and are presented in considerable detail.

Males 16 and over.—In the New England states the returns of earnings are slightly more numerous than those of rates. The only tabulation is for "all occupations" combined, in which the earnings show a slight increase while the rates show practically no change.

In the Middle states the returns of earnings for specified occupations are few, though more numerous than those of rates. This inclusion of an additional number of persons explains the fact that earnings are higher than rates in the tabulation of such classes as "all other occupations peculiar to knitting mills" and "all occupations." The total for the section shows a decided increase.

In the Central states the returns of earnings for "all occupations" combined are of little value on account of the variations in numbers. As far as they go they confirm the inference drawn from the tables of rates.

In interpreting the tabulations for "all occupations" combined, the precaution referred to on page xxx should be carefully borne in mind.

Females 16 and over.—In the New England states the earnings tabulated under "all occupations" combined show a slight increase, and are somewhat higher than the few rates tabulated under this head. Of the specified occupations, for which earnings only are presented, "knitters" and "loopers" show slight increases, "sewing-machine operators," little change, and "hand sewers," a slight decrease; but the returns for "hand sewers" are so few as hardly to justify separate presentation.

In the Middle states, as in the New England states, the earnings tabulated are more numerous and more representative than the rates. For "all occupations" combined, earnings show a slight increase, and for "sewing-machine operators" a decided increase. In both of the foregoing cases the earnings are much higher than the rates, showing that rates were obtained for the low-paid work only—the higher paid piecework being usually reported as earnings, without the exact time of working. Of the specific occupations for which earnings only are presented, "knitters" show a decided increase; "general hands, helpers, and laborers" and "loopers," a slight increase; and "hand sewers," little change; the returns for this last occupation are few.

In the Central states the earnings for "all occupations" combined, like the rates, show a slight increase. Of the two specific occupations, for which earnings only are presented, "knitters" show a slight increase, and "loopers" little change. The disparity in number in the case of "loopers," however, makes that tabulation of little value.

Females under 16.—Earnings for "all occupations" combined are shown by sections, a slight increase being indicated for the New England states, and little change for the Middle and Central states; the discrepancy in numbers, however, renders these tabulations of little value. For all sections combined the earnings show little change, while, as already pointed out, the few rates tabulated indicate a slight increase. The Central states increased from 51 per cent to 68 per cent of the total, and the Middle states from 10 per cent to 22 per cent. The earnings shown for the New England states are much higher than those for the Central states, the returns for the Middle states being intermediate.

GENERAL SUMMARY.

Since part of the returns are in the form of rates and part in the form of earnings, no tabulation of the whole number of males 16 and over, or of females 16 and over, can be made. It is evident, however, from the various tabulations in the several sections, that wages changed little for males 16 and over and increased slightly for females 16 and over in the New England states; that there was little change in the wages either of males or females 16 and over in the Middle states; and that there was a slight increase in the wages both of males and females 16 and over in the Central states.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a number of persons for whom both rates and earnings were obtained (that is, the exact time worked was stated) and who therefore enter the general tables both of rates and earnings. The following is a

summary of the tables for such identical persons shown in detail on pages 1147 and 1148:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—369 PERSONS.[1]				1890—240 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	.....	.....	.....	.....	4.2	.....	4.2
2.50 to 4.99	5.7	8.2	.....	2.5	18.3	17.9	0.4	.....
5.00 to 7.49	22.0	23.3	.....	1.3	15.4	16.7	.....	1.3
7.50 to 9.99	43.6	39.6	4.0	.....	33.7	29.2	4.5	.....
10.00 to 12.49	11.9	11.9	.....	.....	11.7	11.7	.....	.....
12.50 to 14.99	4.3	4.9	.....	0.6	4.2	3.7	0.5	.....
15.00 to 17.49	7.6	7.6	.....	.....	5.0	5.4	.....	0.4
17.50 to 19.99	2.4	1.9	0.5	.....	6.7	5.4	1.3	.....
20.00 to 22.49	1.4	1.3	0.1	.....	2.5	3.7	.....	1.2
22.50 to 24.99	0.6	0.8	.....	0.2	2.5	2.1	0.4	.....
25.00 and over	0.5	0.5	.....	.....	.....	.....	.....	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

Rates and earnings of identical females 16 and over.

DOLLARS PER WEEK.	1900—219 PERSONS.[1]				1890—296 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	2.3	5.0	.....	2.7	0.3	6.7	.....	6.4
2.50 to 4.99	38.4	39.3	.....	0.9	54.4	50.0	4.4	.....
5.00 to 7.49	36.5	36.1	0.4	.....	29.4	28.7	0.7	.....
7.50 to 9.99	20.5	17.8	2.7	.....	11.8	10.5	1.3	.....
10.00 to 12.49	1.4	1.4	.....	.....	2.7	2.4	0.3	.....
12.50 to 14.99	0.9	0.4	0.5	.....	0.7	1.0	.....	0.3
15.00 to 17.49	.....	.....	.....	.....	0.7	0.7	.....	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

WOOLEN MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Bobbin hands, doffers, and filling and roving carriers	125	67	96	5.00	4.50	4.50- 7.49	4.50- 5.99	114	8.0	7.0	7.0-12.9	7.0- 9.9
Card tenders	91	96	96	6.00	6.00	5.00- 6.99	4.50- 6.99	114	11.0	10.0	8.0-12.9	8.0-11.9
Dresser tenders and beamers	62	96	97	8.00	12.00	5.50-11.99	10.00-12.49	115	14.0	20.0	9.0-20.9	17.0-20.9
Dyehouse hands	176	198	97	7.50	7.00	7.50- 7.99	7.00- 7.99	115	13.0	12.0	12.0-13.9	12.0-12.9
General hands, helpers, and laborers	420	274	98	7.00	6.50	6.00- 7.99	6.00- 7.99	116	12.0	11.0	11.0-13.9	10.0-12.9
Loom fixers	171	124	98	13.50	12.50	13.50-14.49	12.00-12.99	116	24.0	21.0	23.0-24.9	20.0-21.9
Overseers and foremen	106	94	99	19.50	19.50	15.00-27.49	13.50-24.49	117	32.0	32.0	25.0-45.9	22.0-40.9
Second hands and assistant foremen	115	96	99	12.00	12.00	10.00-14.99	9.00-14.49	117	20.0	20.0	17.0-25.9	15.0-23.9
Spinners	90	63	100	9.50	7.50	8.50-11.49	5.00- 9.99	118	16.0	12.0	14.0-19.9	9.0-10.9
Weavers	640	373	101	9.00	7.50	7.50-10.99	6.50- 9.49	119	15.0	13.0	13.0-18.9	11.0-15.9
Wool sorters	92	71	101	12.50	11.00	12.00-12.99	11.00-11.99	119	21.0	18.0	20.0-22.9	18.0-19.9
All other occupations peculiar to woolen mills	1,145	862	102	7.50	7.00	6.50- 8.99	6.00- 8.49	120	12.0	11.0	11.0-14.9	10.0-13.9
General occupations not peculiar to woolen mills	300	232	103	11.00	10.50	9.00-13.99	9.00-12.49	121	18.0	16.0	15.0-21.9	14.0-20.9
All occupations	3,556	2,664	103	8.00	7.50	6.50-11.49	6.00-10.99	121	13.0	12.0	12.0-18.9	10.0-17.9
Middle states—												
Card tenders	40	51	96	4.50	5.00	4.00- 7.49	4.00- 7.49	114	8.0	8.0	7.0-11.9	6.0-11.9
Dyehouse hands	50	76	97	7.50	7.00	7.00- 9.49	7.00- 7.49	115	13.0	12.0	12.0-15.9	12.0-12.9
General hands, helpers, and laborers	110	59	98	7.00	7.00	5.00- 9.49	3.50- 9.49	116	12.0	12.0	8.0-15.9	6.0-15.9
Overseers and foremen	58	55	99	18.00	18.00	15.00-21.49	15.00-20.49	117	30.0	30.0	25.0-35.9	25.0-33.9
Second hands and assistant foremen	33	36	100	11.00	10.00	9.00-15.49	8.00-14.49	118	18.0	16.0	15.0-25.9	13.0-23.9
Spinners	27	31	100	6.00	5.00	4.00- 6.99	3.50- 6.49	118	10.0	8.0	6.0-11.9	6.0-10.9
Wool sorters	24	25	101	15.00	16.00	15.00-15.49	14.00-16.99	119	25.0	26.0	25.0-25.9	23.0-28.9
All other occupations peculiar to woolen mills	217	190	102	6.50	6.50	5.00- 9.49	6.00- 9.49	120	11.0	11.0	9.0-15.9	10.0-15.9
General occupations not peculiar to woolen mills	94	75	103	13.50	12.00	10.50-15.49	9.00-15.49	121	21.0	20.0	16.0-25.9	15.0-25.9
All occupations	702	633	103	9.00	7.50	6.00-12.49	6.00-12.49	121	14.0	12.0	10.0-20.9	10.0-20.9
Southern states—												
All occupations	125	93	104	6.50	6.50	5.00- 8.49	5.00- 7.99	122	11.0	10.0	9.0-13.9	8.0-12.9
Central states—												
All occupations	94	117	104	8.00	8.50	7.50-12.49	7.50-10.99	122	16.0	16.0	12.0-22.9	12.0-22.9
Pacific states—												
All other occupations peculiar to woolen mills	24	21	102	10.00	9.00	6.50-13.49	9.00-14.49	120	15.0	15.0	11.0-20.9	15.0-22.9
All occupations	131	78	104	11.50	11.50	8.00-12.99	9.00-15.99	122	18.0	18.0	13.0-20.9	15.0-25.9
All sections—												
Bobbin hands, doffers, and filling and roving carriers	150	88	96	5.00	4.50	4.50- 6.49	4.50- 5.49	114	8.0	7.0	7.0-11.9	7.0- 8.9
Card tenders	161	168	96	6.00	5.50	4.50- 6.99	4.00- 6.99	114	10.0	9.0	8.0-11.9	7.0-11.9
Dresser tenders and beamers	89	110	97	10.50	12.00	6.50-12.49	9.50-13.49	115	17.0	20.0	11.0-20.9	16.0-21.9
Dyehouse hands	258	303	97	7.50	7.00	7.50- 7.99	7.00- 7.99	115	13.0	12.0	12.0-13.9	12.0-12.9
General hands, helpers, and laborers	579	366	98	7.00	6.50	6.00- 8.49	5.00- 7.99	116	12.0	11.0	10.0-13.9	9.0-12.9
Loom fixers	187	139	98	13.50	12.50	13.50-14.49	12.00-12.99	116	24.0	21.0	23.0-24.9	20.0-21.9
Overseers and foremen	208	193	99	18.00	18.00	15.00-24.99	15.00-21.49	117	30.0	30.0	25.0-40.9	22.0-37.9
Picker hands	33	26	99	7.00	6.50	6.50- 7.99	6.50- 7.99	117	12.0	11.0	11.0-12.9	11.0-12.9
Second hands and assistant foremen	158	144	100	12.00	11.00	9.50-14.99	9.00-13.99	118	20.0	18.0	16.0-25.9	15.0-23.9
Spinners	142	111	100	8.50	5.50	5.50-10.99	4.50- 8.99	118	15.0	9.0	9.0-18.9	7.0-14.9
Weavers	660	395	101	9.00	7.50	7.50-10.99	6.50- 9.49	119	15.0	13.0	13.0-18.9	11.0-15.9
Wool sorters	146	98	101	12.50	11.00	12.00-12.99	11.00-12.99	119	21.0	19.0	20.0-22.9	18.0-21.9
All other occupations peculiar to woolen mills	1,412	1,106	102	7.50	7.00	6.50- 8.99	6.00- 8.49	120	12.0	11.0	11.0-14.9	10.0-14.9
General occupations not peculiar to woolen mills	425	338	103	11.50	10.50	9.50-13.99	9.00-13.99	121	18.0	17.0	15.0-22.9	14.0-21.9
All occupations	4,608	3,585	104	8.00	7.50	6.50-11.49	6.00-10.99	122	13.0	12.0	11.0-19.9	10.0-18.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
New England states—												
Bobbin hands, doffers, and filling and roving carriers.	103	74	105	4.00	3.00	3.50-4.49	3.00-3.49	123	7.0	5.0	6.0- 7.9	5.0- 5.9
Drawers-in	57	45	106	8.00	7.00	7.00-9.49	6.00-8.49	124	13.0	11.0	12.0-15.9	10.0-14.9
Drawing-frame tenders	245	222	106	6.50	6.00	6.00-6.99	5.00-6.99	124	11.0	10.0	10.0-11.9	9.0-11.9
Dresser tenders and beamers	182	85	107	6.50	6.00	5.50-8.49	5.00-6.99	125	11.0	10.0	9.0-14.9	9.0-11.9
General hands, helpers, and laborers	39	54	107	5.50	5.00	4.50-5.99	4.00-6.49	125	9.0	9.0	8.0-10.9	7.0-10.9
Spinners	312	313	108	6.00	5.50	6.00-6.99	4.50-6.49	126	10.0	9.0	10.0-11.9	7.0-10.9
Weavers	1,203	1,297	109	8.50	7.50	7.00-9.99	6.50-8.99	126	14.0	12.0	12.0-17.9	11.0-14.9
All other occupations	844	487	109	6.00	5.00	5.50-7.49	5.00-6.49	127	11.0	9.0	9.0-12.9	8.0-10.9
All occupations	3,008	2,589	110	6.50	6.50	6.00-8.99	5.00-7.99	128	11.0	10.0	10.0-14.9	9.0-13.9
Middle states—												
Bobbin hands, doffers, and filling and roving carriers.	34	20	105	4.00	4.00	4.00-4.49	4.00-4.49	123	6.0	6.0	6.0- 6.9	6.0- 6.9
Comb tenders	60	49	105	5.00	5.00	5.00-5.99	4.00-5.99	123	8.0	8.0	8.0- 9.9	6.0- 9.9
Drawing-frame tenders	146	131	106	5.00	5.00	5.00-5.99	4.50-5.49	124	8.0	8.0	8.0- 9.9	7.0- 8.9
Dresser tenders and beamers	42	27	107	5.00	5.00	4.50-5.49	5.00-5.99	125	8.0	8.0	7.0- 8.9	8.0- 9.9
Spinners	127	140	108	4.50	4.00	4.00-5.49	4.00-4.99	126	7.0	6.0	6.0- 8.9	6.0- 7.9
All other occupations	734	512	109	5.00	5.00	4.00-5.99	4.50-5.99	127	8.0	8.0	7.0- 9.9	7.0- 9.9
All occupations	1,169	903	111	5.00	5.00	4.00-5.99	4.00-5.99	128	8.0	8.0	7.0- 9.9	7.0- 9.9
Southern states—												
All other occupations	28	30	109	3.50	3.50	3.00-3.99	3.00-3.99	127	6.0	6.0	(1)- 6.9	5.0- 6.9
All occupations	35	39	111	3.50	3.50	3.00-3.99	3.00-4.49	129	6.0	6.0	(1)- 6.9	5.0- 6.9
Central states—												
All other occupations	52	26	110	3.50	4.50	3.50-5.49	4.50-5.99	127	6.0	9.0	5.0-11.9	9.0-12.9
All occupations	76	55	111	4.50	4.50	3.50-5.99	4.50-8.49	129	9.0	9.0	6.0-12.9	8.0-16.9
Pacific states—												
All other occupations	25	25	110	5.50	5.00	4.50-6.49	5.00-6.49	128	9.0	8.0	7.0-10.9	8.0-10.9
All occupations	55	53	111	5.00	5.00	4.50-6.49	5.00-6.49	129	8.0	8.0	7.0-10.9	8.0-10.9
All sections—												
Bobbin hands, doffers, and filling and roving carriers.	137	94	105	4.00	3.00	3.50-4.49	3.00-4.49	123	7.0	5.0	6.0- 7.9	5.0- 6.9
Card tenders	41	37	105	4.50	4.50	4.00-5.49	4.00-5.49	123	7.0	7.0	7.0- 9.9	7.0- 8.9
Comb tenders	75	59	105	5.50	5.00	5.00-6.49	5.00-5.49	123	9.0	8.0	8.0-10.9	8.0- 8.9
Drawers-in	66	53	106	8.00	7.00	6.50-9.49	6.00-8.49	124	13.0	11.0	11.0-15.9	10.0-14.9
Drawing-frame tenders	391	353	106	6.00	5.50	5.50-6.99	5.00-6.49	124	10.0	9.0	9.0-11.9	8.0-10.9
Dresser tenders and beamers	232	121	107	6.00	5.50	5.00-7.99	5.00-6.99	125	10.0	9.0	8.0-13.9	8.0-11.9
General hands, helpers, and laborers	52	63	107	5.50	5.00	4.50-5.99	4.00-6.49	125	9.0	9.0	8.0- 9.9	7.0-10.9
Spinners	442	458	108	6.00	4.50	5.00-6.99	4.00-5.99	126	10.0	8.0	8.0-11.9	7.0- 9.9
Weavers	1,224	1,321	109	8.50	7.50	7.00-9.99	6.50-8.99	127	14.0	12.0	12.0-17.9	11.0-14.9
All other occupations	1,683	1,080	110	5.50	5.00	4.50-6.99	4.50-6.49	128	9.0	8.0	8.0-11.9	7.0-10.9
All occupations	4,343	3,639	111	6.00	6.00	5.00-7.99	5.00-7.99	129	10.0	10.0	8.0-13.9	8.0-12.9
Males under 16:												
New England states—												
All occupations	248	172	112	3.50	3.00	3.50-4.49	3.00-4.49	130	6.0	5.0	5.0- 7.9	5.0- 6.9
Middle states—												
All occupations	112	86	112	3.50	3.50	3.00-4.49	2.50-4.99	130	5.0	5.0	5.0- 6.9	(1)- 7.9
Southern states—												
All occupations	26	21	112	2.50	2.50	2.00-2.99	(2)-2.99	130	(1)	(1)	(1)	(1)
All sections—												
All occupations	402	296	112	3.50	3.00	3.00-4.49	2.50-4.49	130	5.0	5.0	5.0- 7.9	(1)- 6.9
Females under 16:												
New England states—												
All occupations	115	139	113	4.00	3.00	3.50-4.49	3.00-3.99	131	7.0	5.0	6.0- 7.9	5.0- 6.9
Middle states—												
All occupations	252	245	113	3.50	3.00	3.00-4.49	2.50-4.49	131	5.0	5.0	5.0- 6.9	(1)- 6.9
Central states—												
All occupations	38	88	113	2.00	2.50	2.00-3.49	2.00-3.49	131	(1)	(1)	(1)- 5.9	(1)- 5.9
All sections—												
All occupations	402	475	113	3.50	3.00	3.00-4.49	2.50-3.99	131	5.0	5.0	5.0- 7.9	(1)- 6.9

[1] Less than 5 cents.

[2] Less than $2.00.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Mule spinners	85	60	132	10.00	8.50	7.50-11.99	6.50- 9.99
Weavers	810	461	132	8.00	7.50	6.50-10.49	6.00- 8.99
Wool sorters	105	85	132	12.50	11.00	12.00-12.99	7.50-11.49
Middle states—							
Weavers	128	102	132	11.00	8.50	10.00-12.49	7.50- 9.99
Wool sorters	24	18	133	15.00	16.50	15.00-15.49	15.50-16.99
Southern states—							
Weavers	20	23	132	5.50	7.50	4.50- 6.99	5.00- 8.99
All sections—							
Weavers	978	609	132	8.50	7.50	7.00-10.99	6.00- 9.49
Wool sorters	135	118	133	12.50	11.00	12.00-14.49	10.00-13.99

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Females 16 and over:							
New England states—							
Drawers-in	55	41	133	7.00	6.50	5.50- 8.99	5.00- 7.99
Drawing-frame tenders	142	136	133	6.00	6.00	5.00- 6.49	5.00- 6.99
Dresser tenders and beamers	173	76	134	6.00	5.50	4.50- 7.99	4.00- 6.99
Spinners	138	167	134	5.00	4.50	4.50- 6.49	4.00- 5.99
Weavers	1,555	1,585	134	8.00	7.00	6.50- 9.99	6.00- 8.49
All other occupations	466	295	135	6.00	5.00	5.00- 7.99	4.50- 6.49
Middle states—							
Drawing-frame tenders	21	36	133	4.00	4.00	4.00- 4.49	4.00- 4.99
Weavers	58	113	135	11.00	7.00	9.50-12.49	6.00- 8.99
All other occupations	163	152	135	4.00	4.00	4.00- 6.99	3.00- 4.49
Southern states—							
Weavers	59	64	135	5.50	5.00	4.50- 7.49	4.50- 6.49
Pacific states—							
Weavers	45	35	135	5.50	7.50	4.00- 7.99	6.50- 9.49
All sections—							
Drawing-frame tenders	163	172	133	6.00	5.50	4.50- 6.49	4.50- 6.99
Dresser tenders and beamers	183	84	134	6.00	5.50	4.00- 7.99	4.00- 6.99
Weavers	1,725	1,809	135	8.00	7.00	6.50- 9.99	5.50- 8.49

The New England, Middle, Southern, Central, and Pacific states are represented in the returns for this industry. In certain establishments in the New England states, including 55 per cent of the employees in this section at each period, the normal working time decreased from 60 to 58 hours. In all the other establishments the normal working time remained unchanged, and was 60 hours in every establishment except one in the Southern states where it was 66, one in the Central states where it was 48, and two in the Pacific states where it was 63 and 65, respectively. The facts regarding decrease or increase in rates differ somewhat when shown by tables for week and hour rates, but these differences are in no case so marked as to constitute a difference in the character of the changes shown. The proportion of males to all employees in the establishments considered was 47 per cent in 1890 and 50 per cent in 1900. Unless specially noted, the proportions of the various specified occupations to the total for "all occupations" combined changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates for "all occupations" combined show a slight increase for the decade. Of the specified occupations, "bobbin hands, doffers, and filling and roving carriers," "dyehouse hands," "general hands, helpers, and laborers," "loom fixers," "spinners," "weavers," and "wool sorters" show decided increases; "card tenders," "overseers and foremen," and "second hands and assistant foremen" show slight increases; and "dresser tenders and beamers," a decided decrease.

Middle states.—The rates for "all occupations" combined show a very slight increase. Of the specified occupations, "dyehouse hands," "general hands, helpers, and laborers," and "spinners" show slight increases; "card tenders," "overseers and foremen," "second hands and assistant foremen," and "wool sorters" show little change. The returns for "spinners," "second hands," and "wool sorters" are too few to justify any inference as to change.

Southern states, Central states, and Pacific states.—Because of the small number of returns for these sections, rates are presented only for "all occupations" combined. In the Southern and Central states they indicate but little change, and in the Pacific states a slight decrease.

All sections combined.—The proportions which the sections form of the total for "all occupations" combined do not change much. The returns from New England form 74 per cent in 1890 and 77 per cent in 1900, and from the Middle states 18 per cent in 1890 and 15 per cent in 1900. Rates are highest in the Pacific and lowest in the Southern states; in the New England, Middle, and Central states they are about the same. As has been stated, the rates for "all occupations" combined show a slight increase in the New England and Middle states, little change in the Southern and Central states, and a slight decrease in the Pacific states. The returns for all these sections combined indicate a slight increase.

The following specified occupations show decided increases in the rates for all sections combined: "Bobbin hands, doffers, and filling and roving carriers," "dyehouse hands," "general hands, helpers, and laborers," "loom fixers," "spinners," and "weavers." For each of these occupations the changes for the totals correspond in the main to those shown for New England, which contributes by far the larger part of the returns, and, for "bobbin hands, doffers, filling and roving carriers," "loom fixers," and "weavers," is the only section separately tabulated. In the case of "dyehouse hands," "general hands, helpers, and laborers," and

"spinners" returns for the Middle states are also separately tabulated and, as already pointed out, show a slight increase; but the returns from New England, where the increase is marked, preponderate, constituting for "dyehouse hands" 65 per cent of the total in 1890 and 68 per cent in 1900; for "general hands, helpers, and laborers" about 75 per cent at each period; and for "spinners" 57 per cent in 1890 and 63 per cent in 1900. Rates for "spinners" are a little higher in the New England than in the Middle states, but for each of the other two occupations they are about the same in both sections.

The following occupations show slight increases in the rates for all sections combined: "Card tenders," "overseers and foremen," "second hands and assistant foremen," and "wool sorters." For each of these classes sectional rates are shown in the New England and Middle states. As a rule the returns for the New England states form by far the larger part of the total for each occupation, constituting for "card tenders" about 57 per cent of the total at each period; for "overseers and foremen," about 50 per cent; for "second hands and assistant foremen," 67 per cent in 1890 and 73 per cent in 1900; for "wool sorters," 72 per cent in 1890 and 63 per cent in 1900. For all these occupations, except "wool sorters," rates are higher in the New England than in the Middle states; for "wool sorters" rates are higher in the Middle than in the New England states. In each of these occupations the rates show an increase in the New England states and little change in the Middle states.

The few returns for "picker hands"—the one specified occupation not presented in sectional tabulations—show little change in rates for all sections combined.

The rates for "dresser tenders and beamers" show a decided decrease for all sections combined and also for the New England states, the only section separately presented.

Females 16 and over—New England states.—The rates for "all occupations" combined show a decided increase for the decade. The proportion of "weavers" decreased from 50 per cent in 1890 to 40 per cent in 1900; otherwise there is little change in the proportions which the specified occupations form of the totals. The following specified occupations—comprising all but one of those presented—show decided increases: "Bobbin hands, doffers, and filling and roving carriers," "drawers-in," "drawing-frame tenders," "dresser tenders and beamers," "spinners," and "weavers." The one remaining occupation—"general hands, helpers, and laborers"—shows little change.

Middle states.—The rates for "all occupations" combined indicate practically no change. Of the specified occupations, "spinners" show a decided increase and "comb tenders" and "drawing-frame tenders" slight increases; "bobbin hands, doffers, and filling and roving carriers," little change; and "dresser tenders and beamers," a slight decrease. The returns for the last two occupations are few.

Southern states, Central states, and Pacific states.—On account of the small number of returns no specific occupations are shown for these sections, and the tables for "all occupations" combined do not justify definite conclusions.

All sections combined.—As in the New England states, the proportion which "weavers" form of "all occupations" decreased somewhat; there was little change in the proportions of the other specified occupations. In the "all occupations" tabulation the returns from the New England states form 71 per cent of the total in 1890 and 69 per cent in 1900; from the Middle states 25 per cent in 1890 and 27 per cent in 1900. The rates for the New England states are highest, and those for the Southern states lowest, there being little difference for the other three sections. The decided increase in the New England states, the lack of material change in the Middle, Southern, and Pacific states, and the slight decrease in the Central states results in a slight increase for all sections combined.

The following specified occupations show decided increases in the rates of all sections combined: "Bobbin hands, doffers, and filling and roving carriers," "comb tenders," "drawers-in," "drawing-frame tenders," "spinners," and "weavers." In the case of "bobbin hands, doffers, and filling and roving carriers" sectional rates are shown in the New England and Middle states, the returns from New England forming 79 per cent of the total in 1890 and 75 per cent in 1900. Rates in both sections are about the same. In the New England states, as already remarked, there is a decided increase in rates, and in the Middle states, little change. Rates for "comb tenders" show a slight increase in the Middle states, the only section separately presented; the returns from the other sections change this slight increase into a decided one for all sections combined. For "drawing-frame tenders" the returns from New England constitute 63 per cent of the total at each period and, as already pointed out, the rates in that section show a decided increase; in the Middle states, the only other section separately tabulated, rates are lower and the increase is slight. For "spinners" also the returns from New England form the larger part of the

total—68 per cent in 1890 and 71 per cent in 1900—and the rates are lower in the Middle states than in the New England states, but show a decided increase in both sections.

"Card tenders" and "dresser tenders and beamers" show slight increases when the combined rates of each are considered; rates for "card tenders" are not tabulated by sections, as they are too few. "Dresser tenders and beamers" are separately tabulated for the New England and Middle states. The returns for the New England states, forming 70 per cent of the total in 1890 and 78 per cent in 1900, show the higher rates and they also show a decided increase, while the rates for the Middle states show a slight decrease.

For "general hands, helpers, and laborers" the combined rates show little change; this is also true for the New England states, the only section for which this occupation is separately presented.

Males under 16.—Tables of rates are shown only for "all occupations" combined. The rates for the Southern states are lowest, and between the New England and Middle states there is little difference. In the New England states there is a decided increase, in the Middle states a slight increase, and in the Southern states little change. The total of all sections shows a slight increase.

Females under 16.—Tables of rates are shown only for "all occupations" combined. The rates for the Central states are the lowest, and between the New England and Middle states there is little difference. In the New England and Middle states there are slight increases and in the Central states little change. The total shows a slight increase.

EARNINGS.

The table of earnings, as a rule, confirms the inferences drawn from the tables of rates. No earnings for "all occupations" combined are presented—and for several of the specified occupations for which earnings are shown rates are not presented.

Males 16 and over.—In the New England states the earnings of "weavers" and "wool sorters" (the two occupations for which rates also are shown) agree with the rates in showing decided increases; "mule spinners," for which earnings only are shown, also indicate a decided increase.

In the Middle states the earnings for "wool sorters" indicate a slight decrease; but the returns, like those for rates, are so few as to be of little value. "Weavers," for which earnings only are presented, show a decided increase.

In the Southern states the earnings for the "weavers" presented indicate a decrease; the returns, however, are few.

Females 16 and over.—In the New England states earnings are shown for all the specified occupations for which rates are presented. In only one case—"drawing-frame tenders"—does the change in wages during the decade differ from that indicated by the rates, earnings indicating a slight decrease and rates a decided increase. The explanation lies in the fact that many of the persons who appear in the one tabulation do not enter the other; as the table of rates includes a much larger number of employees, it may be accepted as the more representative.

In the Middle states the few earnings presented for "drawing-frame tenders" show little change, while the rates for this same occupation indicate a slight increase. The rate returns are undoubtedly more representative of the actual conditions. For "weavers," an occupation for which no rates are shown, the earnings show a decided increase. The group of "all other occupations" shows a decided increase in earnings and a slight decrease in rates. As this group is a composite one, made up of various occupations, and as the component parts differ widely in the two tabulations, there is little or no basis for a comparison.

GENERAL SUMMARY.

Since for part of the employees reported only earnings can be obtained and for a part only rates, no single tabulation for the entire industry can be made. It is evident, however, from the various tabulations in the several sections that wages increased slightly for men and decidedly for women in the New England states, and that there was little change for either men or women in the Middle states. The returns for the other sections are too few in number to justify general conclusions.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a number of persons whose exact working time was reported and for whom, consequently, both rates and earnings were obtainable. Therefore these enter the general tables both of rates and of earnings. The following is a summary of the tables for such identical persons shown in detail on pages 1149 to 1152:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—2,269 PERSONS.[1]				1890—1,680 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	3.7	.....	3.7	0.1	4.6	.....	4.5
2.50 to 4.99	9.3	11.9	.....	2.6	13.3	17.9	.....	4.6
5.00 to 7.49	29.2	26.7	2.5	.....	34.9	33.7	1.2	.....
7.50 to 9.99	26.9	26.5	0.4	.....	22.9	20.8	2.1	.....
10.00 to 12.49	17.6	14.5	3.1	.....	15.8	10.4	5.4	.....
12.50 to 14.99	10.7	9.6	1.1	.....	7.2	7.0	0.2	.....
15.00 to 17.49	3.9	4.2	.....	0.3	2.9	3.1	.....	0.2
17.50 to 19.99	1.1	1.2	.....	0.1	1.3	0.9	0.4	.....
20.00 to 22.49	0.3	0.4	.....	0.1	0.7	0.5	0.2	.....
22.50 to 24.99	0.3	0.5	.....	0.2	0.5	0.6	.....	0.1
25.00 and over	0.7	0.8	.....	0.1	0.4	0.5	.....	0.1

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

Rates and earnings of identical females 16 and over.

DOLLARS PER WEEK.	1900—2,466 PERSONS.[1]				1890—2,292 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	0.2	4.0	.....	3.8	0.3	4.0	.....	3.7
2.50 to 4.99	11.3	16.8	.....	5.5	17.5	25.1	.....	7.6
5.00 to 7.49	41.2	39.4	1.8	.....	44.6	41.5	3.1	.....
7.50 to 9.99	33.8	30.0	3.8	.....	31.6	27.4	4.2	.....
10.00 to 12.49	12.0	9.3	2.7	.....	4.1	1.5	2.6	.....
12.50 to 14.99	1.2	0.4	0.8	.....	1.1	0.5	0.6	.....
15.00 to 17.49	0.2	0.1	0.1	.....	0.6	.....	0.6	.....
17.50 to 19.99	0.1	.....	0.1	.....	0.1	.....	0.1	.....
20.00 and over	.....	.....	.....	.....	0.1	.....	0.1	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

In addition to the statistics for "all occupations," on which the above tables are based, the detailed tables on pages 1150 to 1152, show separately the rates and earnings of identical persons in the occupation of "weavers."

AGRICULTURAL IMPLEMENTS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	60	88	143	9.50	9.00	7.50-12.49	7.50-12.49	151	16.0	15.0	12.0-20.9	12.0-20.9
Middle states—												
Assemblers	177	33	136	10.00	14.50	9.00-11.99	13.50-17.49	144	17.0	24.0	15.0-19.9	22.0-28.9
Carpenters and hand woodworkers	108	69	137	11.00	9.00	10.50-12.49	6.50-11.49	145	18.0	15.0	17.0-20.9	11.0-18.9
Foremen	42	28	138	18.00	20.50	15.00-21.49	18.00-23.49	146	30.0	34.0	25.0-35.9	30.0-38.9
General hands, helpers, and laborers	697	274	138	8.50	7.50	7.50- 9.99	7.00- 9.49	146	14.0	12.0	12.0-15.9	11.0-15.9
Machine operators, metal	44	23	139	11.50	10.50	9.00-12.99	4.00-12.99	147	19.0	17.0	15.0-21.9	7.0-21.9
Machinists	126	68	140	13.00	13.50	11.50-14.49	11.00-15.49	148	22.0	22.0	19.0-23.9	18.0-25.9
Molders	191	71	141	12.00	14.50	11.00-14.99	12.00-16.99	149	20.0	24.0	18.0-24.9	20.0-27.9
Painters	48	43	141	10.50	8.00	9.50-12.49	7.00-11.49	149	17.0	14.0	16.0-20.9	11.0-19.9
All other occupations peculiar to agricultural implements	131	60	142	10.50	10.50	7.50-12.99	7.50-12.49	150	17.0	18.0	12.0-21.9	12.0-20.9
General occupations not peculiar to agricultural implements	42	27	142	10.50	9.50	9.00-12.49	8.00-11.99	150	15.0	15.0	13.0-19.9	13.0-16.9
All occupations	1,621	707	143	10.00	9.00	8.00-12.49	7.50-13.49	151	16.0	15.0	13.0-20.9	12.0-22.9
Central states—												
Assemblers	289	124	136	12.50	11.50	10.50-14.49	10.50-13.99	144	21.0	19.0	17.0-23.9	17.0-22.9
Bench hands	458	79	136	13.50	12.00	11.00-14.99	8.50-13.99	144	22.0	20.0	19.0-24.9	15.0-22.9
Blacksmiths	139	72	137	13.50	13.50	12.00-14.99	12.00-15.49	145	22.0	20.0	20.0-25.9	20.0-25.9
Carpenters and hand woodworkers	198	101	137	13.00	12.00	11.50-13.99	10.50-13.49	145	22.0	20.0	20.0-22.9	17.0-22.9
Foremen	244	105	138	15.00	18.00	13.00-18.49	15.00-21.49	146	26.0	29.0	21.0-30.9	25.0-33.9
General hands, helpers, and laborers	4,717	1,321	138	9.00	8.00	9.00-10.49	7.00- 9.99	147	15.0	14.0	15.0-16.9	12.0-15.9
Machine operators, metal	642	263	139	12.00	10.50	9.00-13.99	9.00-12.49	147	20.0	17.0	15.0-22.9	14.0-20.9
Machine operators, wood	157	105	140	10.00	9.50	8.00-12.49	8.00-12.49	148	17.0	15.0	14.0-20.9	13.0-20.9
Machine operators, not specified	496	139	140	10.50	10.50	8.00-13.99	8.00-13.49	148	17.0	17.0	13.0-22.9	13.0-22.9
Machinists	370	197	140	15.00	14.00	13.50-15.99	12.00-15.99	148	25.0	22.0	22.0-26.9	20.0-25.9
Molders	993	254	141	12.00	15.00	10.00-14.99	12.00-18.99	149	20.0	25.0	17.0-23.9	20.0-31.9
Painters	245	126	141	11.50	11.50	9.50-14.49	9.00-14.99	149	20.0	19.0	16.0-24.9	15.0-24.9
All other occupations peculiar to agricultural implements	850	215	142	10.50	10.50	8.00-12.99	8.00-13.99	150	17.0	17.0	13.0-21.9	12.0-22.9
General occupations not peculiar to agricultural implements	204	80	142	11.50	10.50	9.50-13.99	9.00-12.49	150	17.0	17.0	16.0-20.9	15.0-20.9
All occupations	10,002	3,181	143	10.00	10.00	9.00-13.49	8.00-13.49	151	17.0	16.0	15.0-21.9	13.0-21.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.												
Pacific states—												
Carpenters and hand woodworkers	41	26	137	16.00	15.00	15.00-18.49	12.00-18.49	145	27.0	25.0	25.0-30.9	20.0-30.9
General hands, helpers, and laborers	137	39	139	12.00	12.00	9.00-12.49	10.50-12.49	147	20.0	20.0	15.0-20.9	20.0-20.9
All occupations	279	117	143	12.00	12.00	10.00-15.49	12.00-18.49	151	20.0	20.0	15.0-25.9	20.0-30.9
All sections—												
Assemblers	470	168	136	12.00	12.00	10.00-13.99	10.50-15.49	144	20.0	20.0	17.0-22.9	17.0-25.9
Blacksmiths	166	97	137	13.50	13.50	12.00-15.49	12.00-15.49	145	22.0	22.0	20.0-25.9	20.0-25.9
Carpenters and hand woodworkers	360	216	137	12.50	11.50	11.00-13.99	9.00-12.99	145	21.0	19.0	18.0-22.9	15.0-21.9
Foremen	290	137	138	16.00	18.00	13.50-18.49	15.00-21.49	146	27.0	30.0	22.0-30.9	25.0-35.9
General hands, helpers, and laborers	5,568	1,667	139	9.00	8.00	9.00-10.49	7.00- 9.99	147	15.0	14.0	15.0-16.9	12.0-15.9
Machine operators, metal	690	288	139	12.00	10.50	9.00-13.99	9.00-12.49	147	20.0	17.0	15.0-22.9	14.0-20.9
Machinists	516	272	140	14.50	14.00	13.50-15.99	12.00-16.49	148	24.0	22.0	22.0-26.9	20.0-25.9
Molders	1,189	332	141	12.00	15.00	10.50-14.99	12.00-17.99	149	20.0	25.0	17.0-23.9	20.0-29.9
Painters	302	185	141	11.00	10.50	9.50-14.49	9.00-13.49	149	19.0	17.0	16.0-23.9	15.0-21.9
All other occupations peculiar to agricultural implements	1,034	290	142	10.50	10.50	7.50-12.99	7.50-13.49	150	17.0	17.0	13.0-20.9	12.0-22.9
General occupations not peculiar to agricultural implements	264	116	142	11.00	10.50	9.50-13.99	9.00-12.49	150	17.0	16.0	15.0-20.9	15.0-20.9
All occupations	11,962	4,093	143	10.00	10.00	9.00-12.99	8.00-13.49	151	17.0	16.0	15.0-21.9	13.0-21.9
Males under 16:												
Central states—												
All occupations	278	41	143	4.50	3.00	3.50- 5.99	3.00- 3.49	151	7.0	5.0	6.0- 9.9	5.0- 5.9

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
Middle states—							
Assemblers	177	33	154	10.00	14.00	9.00-11.99	13.00-16.99
Carpenters and hand woodworkers	108	69	155	11.00	9.00	10.00-12.49	6.50-11.99
Foremen	42	28	156	18.50	20.50	15.00-21.49	18.00-23.99
General hands, helpers, and laborers	698	277	156	8.00	7.50	7.50- 9.99	6.00- 8.99
Machine operators, metal	44	26	157	11.00	11.50	9.00-12.49	4.00-15.99
Machinists	126	65	158	13.50	12.50	11.50-15.99	10.00-15.49
Molders	191	71	159	12.00	14.00	11.00-14.49	11.00-16.99
Painters	48	43	159	10.00	7.50	9.00-12.99	5.50-10.99
All other occupations peculiar to agricultural implements	130	57	160	9.50	9.50	7.00-12.49	7.50-12.49
General occupations not peculiar to agricultural implements	42	27	160	11.00	9.50	9.00-12.49	8.00-11.99
All occupations	1,621	707	161	9.50	9.00	8.00-12.49	7.00-12.99
Central states—							
Assemblers	312	112	154	12.50	14.00	10.50-14.49	11.50-16.99
Bench hands	452	78	154	12.50	11.00	10.00-14.49	7.00-13.49
Blacksmiths	76	45	155	13.00	13.50	11.00-14.49	12.00-16.99
Carpenters and hand woodworkers	123	91	155	11.50	11.00	9.00-13.99	9.00-13.49
Foremen	117	53	156	16.50	18.00	13.50-18.99	15.00-21.49
General hands, helpers, and laborers	2,325	1,040	157	9.50	9.00	7.50-11.99	6.00-10.99
Machine operators, metal	666	196	157	11.50	10.00	9.00-14.49	8.00-12.99
Machine operators, wood	160	98	158	11.50	11.00	8.50-13.49	9.00-13.99
Machine operators, not specified	851	254	158	9.50	11.00	7.00-13.49	8.00-13.99
Machinists	823	401	158	12.00	13.50	9.50-14.49	10.50-15.99
Molders	988	275	159	11.00	13.00	7.50-13.99	10.50-18.99
Painters	321	129	159	12.50	13.00	9.00-14.99	10.50-16.99
All other occupations peculiar to agricultural implements	639	185	160	9.50	10.00	6.50-12.49	6.50-13.99
General occupations not peculiar to agricultural implements	152	51	161	12.00	12.50	10.50-13.99	9.00-13.99
All occupations	8,005	3,008	161	10.50	10.50	8.00-13.49	8.00-13.99
All sections—							
Assemblers	489	145	154	11.50	14.00	9.00-13.99	12.00-16.99
Blacksmiths	91	56	155	13.00	13.50	11.00-14.49	12.00-18.49
Carpenters and hand woodworkers	231	160	155	11.00	10.00	9.50-13.49	8.00-12.49
Foremen	159	81	156	16.50	18.50	13.50-19.99	16.00-22.99
General hands, helpers, and laborers	3,023	1,317	157	9.00	8.50	7.50-11.49	6.00-10.49
Machine operators, metal	710	222	157	11.50	10.00	9.00-14.49	8.00-12.99
Machinists	949	466	158	12.00	13.50	10.00-14.99	10.50-15.99
Molders	1,186	350	159	11.50	13.50	8.50-13.99	10.50-17.99
Painters	369	172	159	12.00	11.50	9.00-14.99	9.00-16.99
All other occupations peculiar to agricultural implements	769	242	160	9.50	10.00	6.50-12.49	6.50-13.99
General occupations not peculiar to agricultural implements	194	78	161	12.00	11.50	10.50-13.99	8.00-13.49
All occupations	9,633	3,719	161	10.50	10.50	8.00-13.49	7.50-13.99

The New England, Middle, Central, and Pacific states are represented in the returns for this industry. The normal working time was 60 hours per week, except in a few establishments in which it varied in different departments. In all but three establishments the normal working time remained unchanged for the decade. In two establishments in the Central states, including 7 per cent of the employees in that section in 1890 and 3 per cent in 1900, the normal working time decreased from 60 hours in 1890 to 54 and 53 hours, respectively, in 1900; in one establishment in the Pacific states it increased from 54 to 60 hours. The changes for the decade as shown by week and hour rates differ somewhat, but the difference is one of degree only, being in no case so marked as to affect the direction of the change shown. The proportion of males to all employees in the establishments considered was 96 per cent at each period; the returns for females are too few to justify presentation. Unless specially noted the proportions of the various specified occupations to the total for "all occupations" changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—There are few returns for this section, and only the "all occupations" combined tabulation is shown; it indicates little change.

Middle states.—The tables of rates for "all occupations" combined show little change for the decade. Of the specified occupations, "carpenters and hand woodworkers," "general hands, helpers, and laborers," and "painters" show decided increases; "machinists," a slight decrease; and "assemblers" and "molders," decided decreases. But the large disparity in the numbers for "assemblers" impairs the value of this tabulation. The returns for "machine operators, metal," and "foremen" are too few to justify any inference as to change.

Central states.—The rates for "all occupations" combined show a slight increase. Of the specified occupations, "bench hands," "carpenters and hand woodworkers," "general hands, helpers, and laborers," and "machine operators, metal," show decided increases; "assemblers," "machine operators, wood," and "machinists," slight increases; "blacksmiths," "machine operators, not specified," and "painters," little change; and "foremen" and "molders," decided decreases.

Pacific states.—The rates for "all occupations" combined show a slight decrease. The returns for the two specified occupations presented, "carpenters and hand woodworkers" and "general hands, helpers, and laborers," are too few to justify any inference as to change.

All sections combined.—The proportion which the Middle states forms of the total for "all occupations" combined is 17 per cent in 1890 and 14 per cent in 1900; that of the Central states 78 per cent in 1890 and 84 per cent in 1900; the other sections form only very small proportions. Rates are highest in the Pacific and lowest in the New England states, there being little difference between those of the Middle and Central states. As has been stated, in the New England and Middle states there was little change, in the Central states a slight increase, and in the Pacific states a slight decrease. The combined returns for all these sections indicate little change.

The following specified occupations show substantial increases when the rates for all sections combined are considered: "Carpenters and hand woodworkers," "general hands, helpers, and laborers," and "machine operators, metal." For each occupation the returns from the Central states form the largest part of the total; for "carpenters and hand woodworkers," 47 per cent in 1890 and 55 per cent in 1900; for "general hands, helpers, and laborers," 79 per cent in 1890 and 85 per cent in 1900; and for "machine operators, metal," 91 per cent in 1890 and 93 per cent in 1900. For the first two occupations rates are highest in the Pacific and lowest in the Middle states, being intermediate in the Central states. The rates for "machine operators, metal," are about the same in the Middle and Central states—the only sections separately tabulated. In the main, the totals for each of these occupations agree with the sectional returns.

"Machinists" and "painters" show slight increases when the rates for all sections combined are considered. The returns from the Central states form the largest proportion of the combined totals, constituting in the case of "machinists" 72 per cent at each period, and in the case of "painters" 68 per cent in 1890 and 81 per cent in 1900. In both these occupations the rates are higher in the Central than in the Middle states. For "machinists" the slight decrease shown in the Middle states is more than counterbalanced in the total for all sections combined.

The rates for "blacksmiths" show little change in all sections combined. This is also true in the New England states, the only section separately presented.

The combined rates for "assemblers" show a slight decrease. In this occupation the Central states form 74 per cent of the total in 1890 and 61 per cent in 1900; the Middle states 20 per cent in 1890 and 38 per cent in 1900. The rates in the Middle states are higher in 1890, and lower in 1900, than those in the Central states. The slight increase in the Central states is more than offset in the combined total. The nature of the returns for the Middle states has already been commented upon.

The combined rates for "foremen" and for "molders" show decided decreases. The proportion which the Central states form of the combined total for each occupation is 77 per cent in 1890 and 84 per cent in 1900. Rates for "foremen" are slightly higher in the Middle states than in the Central states; for "molders" they are about the same in both sections.

Males under 16.—The only rates presented are those for "all occupations" combined for the Central states. The returns at the two periods show a great disparity in numbers; the comparison, as it stands, indicates a decided increase in rates.

EARNINGS.

The table of earnings, as a rule, confirms the inferences drawn from the tables of rates, although often the degree of change may differ. In the following analysis generally only those exceptional cases in which there appears to be a marked inconsistency between the two tabulations are discussed. Earnings are tabulated in complete detail for the Middle states, Central states, and all sections combined, but not for the New England or Pacific states.

Males 16 and over.—In the Middle states the earnings for "machinists" show a slight increase; the rates indicate a slight decrease. As practically the same men enter into both tabulations the difference is probably due to overtime work in 1900.

In the Central states the earnings for "all occupations" combined show little change, while the rates indicate a slight increase. The proportions which the various specified occupations form of the total differ somewhat in the two tabulations, and there are a number of persons who are included in one of the tables but not in the other; this last explanation also applies in a large measure to the differences between some of the tables of rates and of earnings for the specified occupations. The earnings for "assemblers" and for "blacksmiths" show decided decreases, while the rates, presenting a larger number of returns, show a slight increase in the case of "assemblers" and little change in the case of "blacksmiths." "Machine operators, not specified," and "machinists" both show heavy decreases in earnings; these tables present a much larger number of returns than do the rate tables, which show little change for "machine operators, not specified," and a slight increase for "machinists." Similar conditions prevail for "painters," though the differences are not so great.

In the consideration of tabulations for all sections combined it should be remembered that the proportions which the sections form of the total may be different in the tables of rates and of earnings.

GENERAL SUMMARY.

Since for a part of the employees reported only earnings can be obtained, and for a part only rates, it is not possible to make a single tabulation for the entire industry. It is evident, however, from the various tabulations in the several sections that wages of males 16 and over changed little in the New England and Middle states, probably increased very slightly in the Central states, and decreased slightly in the Pacific states.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a large number of persons for whom both rates and earnings were obtainable, since the exact time worked was stated; they therefore enter into the general tables both of rates and earnings. The following is a summary of the tables for such identical persons, shown in detail on pages 1153 and 1154:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—10,194 PERSONS.[1]				1890—2,665 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	3.1	.....	3.1	0.1	4.3	.....	4.2
2.50 to 4.99	1.7	5.5	.....	3.8	5.5	8.3	.....	2.8
5.00 to 7.49	7.0	10.5	.....	3.5	12.1	14.5	.....	2.4
7.50 to 9.99	26.6	24.4	2.2	.....	26.0	22.9	3.1	.....
10.00 to 12.49	29.2	26.4	2.8	.....	22.8	19.3	3.5	.....
12.50 to 14.99	22.5	17.6	4.9	.....	15.0	14.3	0.7	.....
15.00 to 17.49	10.0	9.4	0.6	.....	9.9	8.0	1.9	.....
17.50 to 19.99	2.0	2.2	.....	0.2	3.9	4.1	.....	0.2
20.00 to 22.49	0.4	0.5	.....	0.1	2.4	1.8	0.6	.....
22.50 to 24.99	0.3	0.2	0.1	.....	1.2	1.2	.....	.....
25.00 and over	0.3	0.2	0.1	.....	1.1	1.3	.....	0.2

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

FURNITURE.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Cabinetmakers	202	194	162	13.50	13.50	12.00-17.49	12.00-17.49	170	23.0	23.0	20.0-34.9	20.0-32.9
Carvers, hand	45	53	163	15.00	14.00	13.50-17.99	12.00-17.49	171	27.0	24.0	24.0-40.9	20.0-29.9
Finishers	189	159	164	9.50	10.00	8.00-12.49	9.00-12.49	172	16.0	16.0	14.0-20.9	15.0-22.9
Foremen	21	22	164	16.00	19.00	11.50-20.49	16.50-20.99	172	27.0	33.0	20.0-36.9	27.0-37.9
General hands, helpers, and laborers	254	163	165	5.50	6.00	4.00- 7.99	4.00- 7.99	173	9.0	10.0	6.0-12.9	6.0-12.9
Machine hands, wood	180	191	166	10.00	10.50	9.00-12.49	9.00-12.49	174	17.0	17.0	15.0-20.9	15.0-20.9
General occupations not peculiar to furniture	47	94	167	12.00	20.50	10.00-20.49	13.50-20.99	175	20.0	38.0	15.0-35.9	22.0-38.9
All occupations	979	929	168	9.50	11.00	7.00-13.99	8.50-15.49	176	16.0	18.0	12.0-22.9	14.0-25.9
Southern states—												
Cabinetmakers	29	18	162	6.00	7.50	6.00- 7.99	5.00- 7.99	170	10.0	12.0	10.0-12.9	9.0-12.9
All occupations	75	53	168	6.00	6.00	4.50- 7.99	5.00- 8.49	176	10.0	10.0	7.0-12.9	8.0-14.9
Central states—												
Cabinetmakers	481	367	162	12.00	12.50	10.00-12.49	10.50-14.49	170	20.0	21.0	16.0-22.9	17.0-23.9
Carvers, hand	126	88	163	16.50	18.00	15.00-17.99	15.00-19.99	171	27.0	30.0	25.0-30.9	25.0-33.9
Finishers	459	459	165	8.50	8.50	7.50-10.49	7.00-10.49	173	15.0	14.0	12.0-16.9	12.0-17.9
Fitters	44	22	163	12.00	12.00	12.00-12.49	11.00-12.49	171	22.0	20.0	20.0-22.9	18.0-20.9
Foremen	92	49	164	16.50	16.50	15.00-20.49	14.00-21.49	172	27.0	27.0	25.0-35.9	23.0-35.9
General hands, helpers, and laborers	458	304	165	7.00	7.50	5.00- 7.99	5.50- 7.99	173	11.0	12.0	8.0-12.9	10.0-13.9
Gluers	58	19	166	9.00	9.00	7.50-10.49	7.50-12.49	174	15.0	15.0	13.0-17.9	12.0-20.9
Machine hands, wood	533	488	166	10.50	10.00	8.00-12.49	7.00-12.49	174	17.0	16.0	13.0-22.9	12.0-20.9
Packers	102	60	167	7.00	9.00	5.00- 8.99	6.00-10.49	175	13.0	15.0	8.0-15.9	10.0-17.9
Polishers	97	36	167	9.00	10.00	8.00- 9.49	9.00-11.49	175	15.0	16.0	13.0-15.9	15.0-18.9
General occupations not peculiar to furniture	138	72	168	11.50	11.00	9.00-14.49	9.00-15.49	176	17.0	17.0	15.0-22.9	15.0-21.9
All occupations	2,641	1,954	169	9.00	9.00	7.50-12.49	7.50-12.49	177	15.0	15.0	12.0-21.9	12.0-20.9
All sections—												
Apprentices	31	32	162	5.00	5.50	4.50- 7.99	3.50- 7.49	170	9.0	10.0	7.0-13.9	6.0-12.9
Cabinetmakers	712	579	162	12.00	13.00	10.00-13.99	10.50-15.49	170	21.0	21.0	16.0-23.9	18.0-25.9
Carvers, hand	173	93	163	16.50	15.00	14.50-17.99	12.00-19.99	171	27.0	27.0	25.0-30.9	20.0-33.9
Finishers	657	623	165	9.00	9.00	7.50-10.99	7.50-10.99	173	15.0	15.0	12.0-18.9	12.0-17.9
Fitters	50	29	163	12.00	12.00	12.00-12.49	10.50-12.49	171	22.0	20.0	20.0-22.9	17.0-20.9
Foremen	117	75	164	16.50	17.50	13.50-20.49	14.00-21.49	172	27.0	30.0	24.0-35.9	23.0-35.9
General hands, helpers, and laborers	729	480	165	6.00	7.00	4.50- 7.99	5.00- 7.99	173	10.0	12.0	7.0-12.9	8.0-13.9
Machine hands, wood	723	686	166	10.00	10.00	8.00-12.49	7.50-12.49	174	17.0	16.0	14.0-21.9	12.0-20.9
Packers	109	66	167	7.00	9.00	5.00- 8.99	6.00-10.49	175	13.0	15.0	8.0-15.9	10.0-17.9
All other occupations peculiar to furniture	50	47	167	10.50	10.00	9.00-12.99	8.50-13.49	175	17.0	17.0	15.0-21.9	15.0-22.9
General occupations not peculiar to furniture	187	168	168	12.00	15.00	9.50-14.99	10.00-20.99	176	18.0	24.0	15.0-24.9	16.0-38.9
All occupations	3,695	2,936	169	9.00	10.00	7.50-12.49	7.50-13.49	177	15.0	16.0	12.0-22.9	12.0-21.9
Males under 16:												
Middle states—												
All occupations	61	24	169	2.50	2.50	2.50- 3.99	2.50- 3.99	177	5.0	5.0	5.0- 6.9	(1) - 6.9
Central states—												
All occupations	53	77	169	3.00	(2)	2.50- 3.99	(2) - 3.49	177	5.0	(1)	(1) - 6.9	(1) - 5.9
All sections—												
All occupations	123	106	169	2.50	2.00	2.50- 3.99	(2) - 3.49	177	5.0	(1)	(1) - 6.9	(1) - 5.9

[1] Less than 5 cents.

[2] Less than $2.00.

The Middle, Southern, and Central states are represented in the returns for this industry. In a part of the establishments in the Middle states, including about 40 per cent of the employees of that section in 1890 and 25 per cent in 1900, there was a decrease of from 4 to 6 hours a week in the normal working time, and for part of one establishment in the Central states there was a similar decrease. In all the other establishments for which returns are shown, the normal working time remained unchanged for the decade, being 60 hours in all establishments but two, where it was 59 hours. The changes shown by hour rates differ somewhat from those shown by week rates, but the difference is one of degree only, being in no case so marked as to affect the direction of the changes shown. The proportion of males to all employees in the establishments considered was 98 per cent in 1890 and 99 per cent in 1900. The returns for females are too few to justify presentation. Unless specially noted, the proportions of the various specified occupations to the total, "all occupations" combined, changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—The rates for "all occupations" combined show a decided decrease. Of the specified occupations, "carvers, hand" show a decided increase; "cabinetmakers" and "machine hands, wood," little change; "finishers," a slight, and "general hands, helpers, and laborers," a heavy decrease. The returns for "foremen" are too few to justify any inference as to change.

Southern states.—The few returns shown in the table for "all occupations" combined indicate little change. The rates for "cabinetmakers" are too few to justify definite conclusions.

Central states.—The rates for "all occupations" combined show little change for the decade. Of the specified occupations, "machine hands, wood," show a slight increase; "finishers" and "foremen," little change; "carvers, hand," "general hands, helpers, and laborers," and "packers," slight decreases; and "cabinetmakers" and "polishers," decided decreases. The returns for "fitters" and "gluers" are too few to justify any inference.

All sections combined.—The proportion which the Middle states form of the total for "all occupations" combined is 32 per cent in 1890 and 27 per cent in 1900; that of the Central states 67 per cent in 1890 and 72 per cent in 1900. Rates are somewhat higher in the Middle than in the Central states. As has been stated, in the Middle states there is a decided decrease, and in the Southern and Central states little change. The result is that the combined returns for all sections indicate a slight decrease.

The following specified occupations show slight increases in the rates for all sections combined: "Apprentices," "carvers, hand," and "machine hands, wood." "Apprentices" are not shown by sections. In the case of "carvers, hand," the proportions which the returns for the several sections form of the total changed considerably, the proportion for the Middle states decreasing from 57 per cent in 1890 to 26 per cent in 1900, and that for the Central states increasing from 41 per cent in 1890 to 73 per cent in 1900. The rates are somewhat higher in the Central than in the Middle states. As a result of these changes in proportion and differences in rates, the total for all sections combined apparently shows a slight increase, the slight decrease in the Central states being more than offset by the decided increase in the Middle states. For "machine hands, wood," the Central states form 71 per cent of the total in 1890 and 74 per cent in 1900; the Middle states, 28 per cent in 1890 and 25 per cent in 1900. Rates are about the same in both sections.

The combined rates for "finishers" show little change. In this occupation the returns from the Middle states form 25 per cent of the total in 1890 and 29 per cent in 1900, the Central states 74 per cent in 1890 and 70 per cent in 1900; rates are a little higher in the Middle than in the Central states.

The following occupations show slight decreases when all sections combined are considered: "Foremen," "general hands, helpers, and laborers," and "packers." In the case of "foremen" the Middle states form 29 per cent of the total in 1890 and 18 per cent in 1900, the Central states 65 per cent in 1890 and 79 per cent in 1900. The proportions which the sections form of the total for "general hands, helpers, and laborers" are the same at each period, the returns from the Middle states constituting 34 per cent and those from the Central states 63 per cent; the rates for this occupation are somewhat higher in the Central than in the Middle states. A separate tabulation for "packers" is shown only in the Central states.

The combined rates for "cabinetmakers" show a decided decrease. The Middle states form 34 per cent of the total in 1890 and 28 per cent in 1900, the Central states 65 per cent in 1890 and 68 per cent in 1900; rates are somewhat higher in the Middle than in the Central states.

Males under 16.—Tables of rates are shown only for "all occupations" combined. The returns by sections are too few to justify definite conclusions; for all sections combined a slight increase is indicated.

LUMBER AND PLANING MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Laborers, mill	63	31	179	7.50	7.50	6.50- 9.49	7.50- 9.49	187	12.0	12.0	11.0-15.9	12.0-15.9
Machine tenders	44	16	181	10.50	10.50	8.00-13.49	9.00-12.49	189	17.0	17.0	15.0-22.9	15.0-20.9
Mill carpenters	39	24	182	9.00	10.00	8.00- 9.99	9.00-10.99	190	15.0	16.0	14.0-16.9	15.0-17.9
All occupations	176	96	184	9.00	9.00	7.50-10.99	7.50-10.99	192	15.0	15.0	12.0-18.9	12.0-17.9
Southern states—												
Laborers, mill	192	76	179	7.50	7.50	7.50- 7.99	7.50- 7.99	187	12.0	12.0	12.0-12.9	11.0-12.9
Machine tenders	28	24	181	9.00	8.00	7.50-10.99	6.50- 9.49	189	15.0	13.0	12.0-17.9	11.0-15.9
All occupations	311	188	185	7.50	7.50	7.50- 8.49	6.00- 9.49	193	12.0	12.0	11.0-12.9	10.0-15.9
Central states—												
Filers	23	24	178	16.50	16.50	11.00-18.49	15.00-21.49	186	27.0	27.0	19.0-30.9	25.0-31.9
Foremen	33	37	178	15.00	16.50	11.50-18.49	12.00-18.49	186	22.0	26.0	17.0-27.0	20.0-30.9
Laborers, mill	186	200	179	9.00	9.00	9.00- 9.99	9.00- 9.99	187	15.0	14.0	13.0-15.9	13.0-15.9
Laborers, yard	603	833	180	8.00	8.00	8.00- 9.49	8.00- 9.49	188	14.0	13.0	13.0-14.9	13.0-13.9
Machine tenders	81	69	181	9.00	9.50	9.00- 9.99	9.00-10.99	189	15.0	16.0	15.0-16.9	15.0-18.9
Sorters	24	25	183	9.50	9.50	9.00-10.49	9.50-10.49	191	16.0	16.0	15.0-17.9	16.0-17.0
All other occupations peculiar to lumber and planing mills	29	32	183	13.50	12.00	12.00-13.99	10.50-13.99	191	21.0	20.0	18.0-22.9	18.0-22.9
General occupations not peculiar to lumber and planing mills	72	69	184	11.50	12.00	10.50-13.99	10.50-15.49	192	17.0	17.0	14.0-22.9	13.0-22.9
All occupations	1,085	1,328	185	9.00	9.00	8.00- 9.99	8.00- 9.49	193	14.0	13.0	14.0-15.9	13.0-15.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.												
Pacific states—												
Foremen	38	27	178	23.00	23.00	16.50-25.49	20.50-28.99	186	37.0	41.0	26.0-44.9	32.0-42.9
Laborers, camp	94	79	179	11.50	12.50	8.00-12.99	10.00-13.99	187	16.0	17.0	13.0-17.9	14.0-19.9
Laborers, mill	377	172	180	10.50	10.00	9.00-12.49	7.50-11.99	188	17.0	17.0	16.0-20.9	12.0-19.9
Laborers, yard	88	70	180	10.00	10.00	9.00-10.99	10.00-10.49	188	17.0	15.0	13.0-19.9	14.0-18.9
Machine tenders	76	53	181	14.00	12.50	10.00-15.49	11.50-15.49	189	26.0	22.0	17.0-27.9	16.0-27.9
Mill carpenters	68	56	182	14.50	15.00	14.50-14.99	15.00-16.99	190	27.0	27.0	27.0-27.9	27.0-30.9
All other occupations peculiar to lumber and planing mills	41	40	183	12.50	13.50	11.50-16.49	10.00-16.49	191	21.0	20.0	17.0-27.9	15.0-25.9
General occupations not peculiar to lumber and planing mills	86	70	184	12.50	13.50	11.50-16.49	12.00-16.49	192	22.0	23.0	17.0-30.9	17.0-27.9
All occupations	920	615	185	11.50	12.00	10.00-14.49	10.00-15.49	193	19.0	19.0	16.0-25.9	15.0-25.9
All sections—												
Filers	37	35	178	16.50	17.00	12.00-23.49	15.00-21.49	186	27.0	27.0	20.0-36.9	25.0-31.9
Foremen	86	79	178	16.50	18.00	13.50-23.49	12.50-23.49	186	27.0	28.0	22.0-38.9	20.0-38.9
Laborers, camp	112	101	179	10.00	10.00	8.00-12.99	8.00-13.99	187	16.0	16.0	11.0-17.9	11.0-19.9
Laborers, mill	818	479	180	9.00	9.00	7.50-10.99	7.50-10.49	188	15.0	13.0	12.0-17.9	12.0-16.9
Laborers, yard	711	914	180	8.00	8.00	8.00- 9.49	8.00- 9.49	188	14.0	13.0	13.0-14.9	13.0-14.9
Machine tenders	229	162	181	9.50	10.50	9.00-13.99	9.00-12.49	189	16.0	16.0	15.0-22.9	14.0-22.9
Mill carpenters	128	113	182	14.50	15.00	9.50-14.99	10.50-15.49	190	27.0	25.0	16.0-27.9	17.0-27.9
Sawyers	33	33	182	18.00	16.50	12.00-20.99	12.00-21.49	190	30.0	27.0	20.0-34.9	20.0-31.9
Sorters	40	43	183	9.50	10.00	9.00-10.49	9.50-11.99	191	16.0	16.0	15.0-17.9	15.0-17.9
Teamsters	37	31	183	8.50	8.00	8.50-10.99	7.50- 9.49	191	14.0	14.0	13.0-19.9	11.0-15.9
All other occupations peculiar to lumber and planing mills	74	77	183	12.50	12.50	10.50-15.49	10.50-15 49	191	21.0	20.0	17.0-25.9	16.0-23.9
General occupations not peculiar to lumber and planing mills	187	160	184	12.00	12.50	10.50-15.49	10.50-15.49	192	19.0	20.0	15.0-25.9	15.0-25.9
All occupations	2,492	2,227	185	9.00	9.00	8.00-12.49	8.00-11.99	193	15.0	14.0	13.0-19.9	13.0-18.9
Males under 16:												
Central states—												
All occupations	25	58	185	4.50	3.50	3.50- 4.99	3.00- 4.99	193	7.0	6.0	6.0- 7.9	5.0- 7.9
All sections—												
All occupations	54	80	185	4.50	4.00	3.00- 4.99	3.00- 4.99	193	6.0	7.0	5.0- 7.9	5.0- 8.9

The Middle, Southern, Central, and Pacific states are represented in the returns for this industry. In addition to persons employed in "lumber and planing mills" the returns for some men in camps are included, most of these being in the Pacific states. For one-fourth of the establishments considered there was a decrease of about 6 hours per week in the normal working time; in the remaining three-fourths the normal time remained unchanged, but differed widely in different establishments, ranging from 54 to 72 hours per week. Nearly half of the establishments worked 60 hours. As a result of the differences in working time the facts regarding decrease or increase of wages shown by hour rates differ considerably from those shown by week rates, but these differences have in only one case (hereafter specially noted) been so marked as to alter the direction of the change shown. No females were reported. Unless specially noted, the proportions of the various specified occupations to the total, "all occupations," changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—The tabulation of rates for "all occupations" combined shows little change for the decade. This is also true for "laborers, mill." The returns for "machine tenders" and "mill carpenters" in 1890 are too few to justify any inference as to change.

Southern states.—The tables of rates for "all occupations" combined show little change; "laborers, mill," show a slight increase; and the returns for "machine tenders" are few.

Central states.—The rates for "all occupations" combined show a slight increase. Of the specified occupations, "laborers, mill," and "laborers, yard," show slight increases, "machine tenders," a slight, and "foremen," a decided decrease. The returns for "filers" and "sorters" are too few to justify any inferences.

Pacific states.—The rates for "all occupations" combined show a slight decrease. The proportion of "laborers, mill," increased from 28 per cent in 1890 to 41 per cent in 1900; otherwise there was little change in the proportions which the specified occupations form of the total at the two periods. Of the specified occupations, "laborers, mill," show a decided increase; "machine tenders," little change; "laborers, camp," and "mill carpenters," a slight, and "foremen," a decided decrease. The week rates for "laborers, yard," show a decided decrease, while the hour rates show little change.

All sections combined.—The proportion of "laborers, mill," in the "all occupations" tabulation increased, and that of "laborers, yard," decreased somewhat for the decade; otherwise there is little change in the proportions which the specified occupations form of the total at each period. The proportions which the two sections furnishing the largest number of returns, form of the total are: Central states 60 per cent in 1890 and

44 per cent in 1900, Pacific states 28 per cent in 1890 and 37 per cent in 1900. Rates are highest in the Pacific states and lowest in the Southern states; between the Middle and Central states there is practically no difference. As has been stated, in the Middle and Southern states little change is shown, in the Central states a slight increase, and in the Pacific states a slight decrease. The combined returns of all the sections indicate a slight increase.

The combined rates for "laborers, mill," show a slight increase. In this occupation there is considerable change in the proportions which the sections form of the total, the Southern states forming 16 per cent in 1890 and 23 per cent in 1900, the Central states 42 per cent and 23 per cent, and the Pacific states 36 per cent and 46 per cent at the respective periods. Rates are highest in the Pacific states, in the Central states they are intermediate, and in the Middle and Southern states they are about the same, but lower than in the other sections.

The rates for "foremen," "laborers, yard," and "machine tenders" for all sections combined show little change. The returns for "foremen" in the Central states form 47 per cent of the total in 1890 and 38 per cent in 1900; in the Pacific states 34 per cent in 1890 and 44 per cent in 1900. Rates are much higher in the Pacific than in the Central states. As a result of these differences in rates and changes in proportion, the combined returns show little change, though each of the sections shows a decided decrease. The returns for "laborers, yard," in the Central states form 91 per cent of the total in 1890 and 85 per cent in 1900; in the Pacific states 8 per cent in 1890 and 12 per cent in 1900; those for "machine tenders" in the Central states 43 per cent in 1890 and 35 per cent in 1900; and in the Pacific states 33 per cent at each period. In both of these occupations the rates in the Pacific states are higher than those in the Central states. The slight decrease shown by "machine tenders" in the Central states disappears in the tabulation of all sections combined.

The rates for "laborers, camp," and "mill carpenters" show a slight decrease for all sections combined; separate statistics for "laborers, camp," are shown only in the Pacific states. As previously stated, but few returns are presented for "mill carpenters" in the Middle states; the rates for those shown in that section are lower than those in the Pacific states.

In addition to the foregoing, there are four specified occupations—"filers," "teamsters," "sawyers," and "sorters"—for which the returns are too few to warrant separate study of the different sections. These occupations are especially characteristic of this industry (the "teamsters" being camp teamsters) and should be mentioned. The rates for "teamsters" in all sections combined show a decided, and for "sawyers," a slight increase; for "filers" and "sorters," little change.

Males under 16.—Rates are shown only for "all occupations" combined. The returns are few and indicate little change.

PIANOS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
All occupations	472	402	194	13.00	12.00	9.50–16.49	8.00–15.49	195	22.0	20.0	15.0–25.9	13.0–25.9
Central states—												
All occupations	1,174	423	194	10.50	8.50	6.50–13.99	4.00–12.49	195	17.0	14.0	11.0–23.9	6.0–20.9
All sections—												
All occupations	1,646	825	194	11.00	10.00	7.50–14.49	5.50–14.49	195	19.0	16.0	13.0–24.9	9.0–23.9
Males under 16:												
All sections—												
All occupations	22	21	194	2.50	2.50	2.50– 3.49	2.50– 3.49	195	5.0	(1)	(1) – 5.9	(1) – 5.9

[1] Less than 5 cents.

The Middle and Central states are represented in the returns for this industry. Different grades of instruments are made, those in the Middle states being, as a rule, higher priced than those in the Central states. The normal working time of most of the establishments remained unchanged for the decade. Corresponding occupations in the various establishments are ordinarily called by the same name, but the grade of skill and also the amount of wages paid differ greatly according to the product. In addition to this there was considerable change in many of the establishments; in some, piano parts were bought ready-made at one period and manufactured on the premises at the other. Since such differences preclude any reliable presentation by occupations, tabulations are presented only for "all occupations" combined. For the industry the rates show a slight increase in the Middle states, a decided increase in the Central states, and a slight increase in both sections combined.

The returns for males under 16 are too few to require consideration.

WAGONS AND CARRIAGES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	48	37	201	11.50	14.50	10.00-14.99	11.50-16.49	208	20.0	25.0	17.0-25.9	20.0-27.9
Middle states—												
Carriage and wagon blacksmiths	104	66	196	15.00	16.00	13.00-18.49	13.50-18.49	202	25.0	27.0	22.0-31.9	24.0-31.9
Carriage and wagon painters	195	153	196	13.50	13.50	12.00-17.99	12.00-16.49	203	24.0	24.0	22.0-31.9	20.0-27.9
Finishers	50	49	197	10.00	9.50	9.00-10.49	9.00-10.49	204	16.0	16.0	16.0-18.9	15.0-17.9
Foremen	26	24	198	21.00	25.00	18.00-25.49	20.00-35.49	204	38.0	44.0	32.0-46.9	35.0-64.9
General hands, helpers, and laborers	94	83	198	10.00	10.00	9.00-12.49	6.00-11.49	205	18.0	18.0	15.0-22.9	11.0-20.9
Trimmers	71	56	199	13.50	13.00	12.00-15.49	10.00-15.49	206	25.0	24.0	20.0-27.9	18.0-26.9
Woodworkers, hand	109	91	199	15.00	16.00	13.00-17.49	13.00-19.49	207	27.0	27.0	22.0-30.9	22.0-34.9
All occupations	700	576	201	13.50	13.00	11.00-16.49	10.00-16.49	208	23.0	22.0	20.0-29.9	18.0-29.9
Central states—												
Apprentices	43	27	196	4.50	5.00	3.50- 6.49	4.00- 6.49	202	7.0	8.0	6.0-10.9	6.0-10.9
Carriage and wagon blacksmiths	129	172	196	10.50	9.50	8.00-12.49	8.00-12.49	202	18.0	17.0	15.0-22.9	15.0-20.9
Carriage and wagon painters	154	227	197	10.00	9.00	8.00-12.49	6.50-12.49	203	17.0	15.0	13.0-20.9	12.0-20.9
Finishers	93	160	197	8.00	6.50	6.50- 9.49	6.50- 7.99	204	14.0	12.0	12.0-16.9	12.0-13.9
Foremen	43	38	198	18.00	18.00	12.50-21.49	13.50-21.49	205	30.0	30.0	21.0-35.9	22.0-35.9
General hands, helpers, and laborers	348	276	198	7.00	6.50	6.50- 8.49	4.00- 7.99	205	12.0	12.0	11.0-13.9	8.0-13.9
Machine hands, metal	22	66	199	7.50	7.50	5.50- 8.49	6.50- 9.99	206	13.0	13.0	10.0-15.9	12.0-17.9
Machine hands, wood	143	129	199	8.00	9.00	7.50- 9.99	7.50-10.99	206	15.0	15.0	13.0-16.9	13.0-17.9
Trimmers	61	26	199	12.00	12.50	7.50-15.49	10.50-25.49	206	20.0	21.0	12.0-25.9	17.0-41.9
Woodworkers, hand	96	99	200	9.50	9.00	8.00-11.99	7.50-12.49	207	16.0	16.0	15.0-20.9	12.0-20.9
All other occupations peculiar to wagons and carriages	41	33	200	8.00	8.50	7.00-10.49	7.00-10.99	207	16.0	16.0	13.0-17.9	15.0-18.9
General occupations not peculiar to wagons and carriages	82	104	200	9.50	8.00	8.00-12.49	6.50-12.49	208	15.0	15.0	13.0-20.9	12.0-20.9
All occupations	1,255	1,357	201	8.50	8.00	7.00-10.99	6.50-10.99	209	15.0	15.0	12.0-17.9	12.0-17.9
Pacific states—												
Carriage and wagon painters	25	20	197	12.00	15.00	10.00-13.99	12.00-17.49	203	20.0	25.0	16.0-22.9	20.0-28.9
All occupations	90	86	201	12.00	15.00	9.00-16.49	11.00-18.49	209	20.0	25.0	15.0-26.9	18.0-30.9
All sections—												
Apprentices	65	59	196	4.50	5.00	3.50- 6.49	3.50- 6.49	202	7.0	8.0	6.0-10.9	5.0-10.9
Carriage and wagon blacksmiths	253	264	196	12.00	12.00	10.00-15.49	9.00-16.49	203	22.0	20.0	17.0-26.9	16.0-25.9
Carriage and wagon painters	390	404	197	12.00	11.00	10.00-15.49	9.00-13.99	203	22.0	20.0	16.0-25.9	15.0-24.9
Finishers	156	219	197	9.00	7.50	7.00-10.49	6.50- 9.49	204	15.0	12.0	13.0-17.9	12.0-15.9
Foremen	75	67	198	18.00	20.00	15.00-22.99	15.00-24.49	205	33.0	35.0	25.0-38.9	25.0-41.9
General hands, helpers, and laborers	447	365	198	7.50	7.00	6.50- 9.49	4.50- 9.49	205	12.0	12.0	11.0-15.9	8.0-16.9
Trimmers	136	86	199	13.00	13.00	10.50-15.49	10.00-16.49	206	24.0	24.0	18.0-25.9	17.0-27.9
Woodworkers, hand	232	221	200	12.50	13.00	10.00-16.49	9.50-16.99	207	22.0	22.0	16.0-29.9	16.0-27.9
All other occupations peculiar to wagons and carriages	65	55	200	9.50	10.50	8.00-13.99	8.00-13.49	207	17.0	18.0	15.0-22.9	16.0-24.9
General occupations not peculiar to wagons and carriages	107	119	200	10.50	9.50	9.00-12.99	7.00-12.49	208	16.0	15.0	13.0-21.9	12.0-20.9
All occupations	2,093	2,056	201	10.00	9.50	7.50-13.99	7.00-12.49	209	17.0	16.0	13.0-23.9	12.0-22.9
Males under 16:												
All sections—												
All occupations	47	42	201	4.00	3.00	3.00- 4.49	3.00- 3.99	209	6.0	5.0	5.0- 7.9	5.0- 6.9

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
Middle states—							
Carriage and wagon blacksmiths	165	157	210	13.50	13.50	12.00-16.99	10.50-17.49
Carriage and wagon painters	198	183	210	12.50	12.50	11.00-16.49	11.00-15.49
Finishers	90	79	211	10.00	9.00	9.00-10.99	9.00- 9.99
Foremen	21	20	211	24.00	30.00	21.00-30.49	25.00-38.49
General hands, helpers, and laborers	142	126	211	9.00	9.00	6.00-11.49	7.50-10.49
Trimmers	89	90	212	14.00	13.50	11.00-15.49	11.00-15.49
Woodworkers, hand	188	163	212	15.00	15.00	12.50-18.49	12.00-18.49
All other occupations peculiar to wagons and carriages	25	26	213	8.00	11.50	6.00-20.49	5.00-15.49
General occupations not peculiar to wagons and carriages	61	43	213	12.00	11.00	9.50-14.49	10.00-13.99
All occupations	982	890	213	12.50	12.00	10.50-15.99	10.00-15.49
Central states—							
Carriage and wagon blacksmiths	95	77	210	14.50	15.00	10.50-16.99	12.00-17.99
Carriage and wagon painters	81	95	210	12.00	13.50	9.50-15.49	11.50-18.49
Finishers	27	21	211	9.00	9.00	5.00-10.99	8.00- 9.99
Trimmers	65	44	212	14.00	13.50	11.50-19.49	10.00-17.49
Woodworkers, hand	48	53	212	12.50	12.00	10.50-14.99	10.50-14.49
All occupations	350	330	213	13.00	12.50	10.00-16.99	10.50-15.99
All sections—							
Carriage and wagon blacksmiths	260	234	210	14.00	14.00	12.00-16.99	11.50-17.49
Carriage and wagon painters	279	278	210	12.00	13.00	11.00-15.99	11.50-16.49
Finishers	117	100	211	9.50	9.00	9.00-10.99	9.00- 9.99
Machine hands, wood	21	20	211	13.50	11.50	13.00-16.49	9.00-13.49
Trimmers	154	134	212	14.00	13.50	11.50-17.99	10.50-15.49
Woodworkers, hand	236	216	212	15.00	14.00	12.00-17.49	12.00-18.49
All other occupations peculiar to wagons and carriages	36	43	213	12.00	9.00	6.00-20.49	4.50-15.49
All occupations	1,332	1,220	213	12.50	12.00	10.50-16.49	10.00-15.49

The New England, Middle, Central, and Pacific states are represented in the returns for "wagons and carriages." The normal working time remained unchanged for the decade in all establishments but three; in one of these three it decreased 2 hours, in another 6 hours, and in the third it increased 6 hours. The normal time for about two-thirds of the establishments was 60 hours per week at each period; the range for the other third was from 48 to 60 hours. As regards the changes in rates, the week and hour tabulations show somewhat different results, but these differences are in no case so marked as to make a decided difference in the kind of change shown. Returns for females form about 1 per cent of the total, and are too few to justify presentation. Unless specially noted, the proportion of the various specified occupations to the total for "all occupations" combined changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The few returns for this section are tabulated only for "all occupations" combined and show a slight decrease in rates.

Middle states.—The tables of rates for "all occupations" combined show a slight increase for the decade. Of the specified occupations, "carriage and wagon painters," "finishers," "general hands, helpers, and laborers," and "trimmers" show slight increases; and "carriage and wagon blacksmiths" and "woodworkers, hand," slight decreases. The returns for "foremen" are too few to justify definite conclusions.

Central states.—The rates for "all occupations" combined show practically no change. Of the specified occupations, "finishers" and "general hands, helpers, and laborers" show decided increases, "carriage and wagon blacksmiths," "carriage and wagon painters," and "woodworkers, hand," slight increases; "machine hands, wood," show little change; and "foremen" show a slight decrease. The returns for "apprentices," "machine hands, metal," and "trimmers" are too few at one of the periods to warrant definite conclusions as to change.

Pacific states.—The rates for "all occupations" combined show a slight decrease. The separate tabulation for "carriage and wagon painters" includes only a few returns.

All sections combined.—The proportions which the two sections furnishing the largest number of returns form of the total for "all occupations" are as follows: Middle states, 28 per cent in 1890 and 33 per cent in 1900; Central states, 66 per cent in 1890 and 60 per cent in 1900. The other sections form only a very small part. Rates are much higher in the Middle than in the Central states, and the few returns from the other sections show rates higher than the Middle states in 1890 and lower in 1900. As has been stated, in the New England states there was a slight decrease; in the Middle states a slight increase; in the Central states practically no change; and in the Pacific states a slight decrease. The returns for all sections combined indicate a slight increase.

The following specified occupations show decided increases in rates when all sections combined are considered: "Carriage and wagon painters," "finishers," and "general hands, helpers, and laborers." In each of these occupations the rates for the Middle states are much higher than those for the Central states. In the case of "carriage and wagon painters," the returns from the Middle states form 38 per cent of the total in 1890 and 50 per cent in 1900; those from the Central states, 56 per cent in 1890 and 40 per cent in 1900. As a result of the differences in rates and changes in proportion, the rates for all sections combined show a decided increase, although each of the above sections taken separately shows only a slight increase. For "finishers," the Middle states form 22 per cent of the total in 1890 and 32 per cent in 1900; the Central states, 73 per cent in 1890 and 60 per cent in 1900. Of the total for "general hands, helpers, and laborers," the Middle states form 23 per cent in 1890 and 21 per cent in 1900; the Central states, 76 per cent in 1890 and 78 per cent in 1900. For each of these two occupations the rates show a slight increase in the Middle states and a decided increase in the Central states.

The combined rates for "carriage and wagon blacksmiths" show a slight increase. The Middle states form 25 per cent of the total in 1890 and 41 per cent in 1900; the Central states, 65 per cent in 1890 and 51 per cent in 1900. Rates are much higher in the Middle states than in the Central states, and show a slight decrease in the former section and a slight increase in the latter. As a result of these differences in rates and changes in proportions for the several sections, the rates for all sections combined show slight increases.

The rates for "apprentices," "trimmers," and "woodworkers, hand," show little change for all sections combined. As has been stated, the returns for "apprentices" in the Central states, the only section separately tabulated, are very few at one period. In the other two occupations the rates in the Middle states are higher than those in the Central states. For "trimmers" the Middle states form 65 per cent of the total in 1890 and 52 per cent in 1900; the Central states, 30 per cent in 1890 and 45 per cent in 1900; and the slight increase in rates in the Middle states is practically offset by the returns from the other sections. Of the total for "woodworkers, hand," the Middle states form 41 per cent in

1890 and 47 per cent in 1900; the Central states, 45 per cent in 1890 and 41 per cent in 1900; the Middle states show a slight decrease and the Central states a slight increase.

The combined rates for "foremen" show a slight decrease; about 35 per cent of the returns at each period are from the Middle states and 57 per cent from the Central states; the few rates shown for the Middle states are higher than those for the Central states.

Males under 16.—Rates are shown only for "all occupations" in all sections combined. The few returns indicate a decided increase for the decade.

EARNINGS.

The tabulation of earnings in some instances confirms, and in others contradicts, the inferences drawn from the tables of rates. For nearly every occupation for the Middle states there are more returns in the form of earnings than of rates; in the Central states, on the other hand, the returns of rates are much more numerous than those of earnings.

Males 16 and over.—In the Middle states the results of the earnings tabulations agree with those of the rates except for "carriage and wagon blacksmiths," which show little change in earnings, and a slight decrease in rates; and for "woodworkers, hand," which show a slight increase in earnings and a slight decrease in rates; these differences are due chiefly to the fact that certain persons entering one tabulation do not appear in the other.

In the Central states the earnings for "carriage and wagon blacksmiths" and "carriage and wagon painters" show decided decreases, the rates slight increases. The earnings are higher than the rates, indicating that most of the low-paid men appear only under rates.

In comparing the tabulations of rates and of earnings for "all occupations" combined, it should be borne in mind that persons and occupations appearing in one tabulation may not appear in the other. It should likewise be noted that the proportions which the sections form of the total for all sections combined may differ in the two tabulations.

GENERAL SUMMARY.

Since for a part of the employees reported earnings only can be obtained, and for a part rates only, no single tabulation for the entire industry is made. It is evident, however, from the various tabulations in the several sections that wages increased slightly for men in the Middle states, and changed little in the Central states. So far as the few returns for the New England and Pacific states can be relied upon, they indicate slight decreases.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a large number of persons for whom both rates and earnings were obtained, since the exact time worked was stated, and who, therefore, enter into the general tables both of rates and of earnings. The following is a summary of the tables for such identical persons, shown in detail on page 1155:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—1,130 PERSONS.[1]				1890—525 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	0.2	.....	0.2	.....	.....	.....	.....
2.50 to 4.99	1.9	3.2	.....	1.3	3.9	3.9	.....	.....
5.00 to 7.49	5.8	5.8	.....	.....	3.4	4.2	.....	0.8
7.50 to 9.99	13.3	15.2	.....	1.9	11.4	12.7	.....	1.3
10.00 to 12.49	32.2	30.4	1.8	.....	27.2	26.5	0.7	.....
12.50 to 14.99	14.2	14.9	.....	0.7	17.7	16.7	1.0	.....
15.00 to 17.49	17.6	16.7	0.9	.....	15.6	16.2	.....	0.6
17.50 to 19.99	6.1	5.5	0.6	.....	8.0	7.0	1.0	.....
20.00 to 22.49	3.7	3.8	.....	0.1	4.4	4.2	0.2	.....
22.50 to 24.99	2.0	1.7	0.3	.....	2.3	2.5	.....	0.2
25.00 and over	3.2	2.6	0.6	.....	6.1	6.1	.....	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

CAR AND RAILROAD SHOPS.[1]

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Apprentices	33	57	214	4.00	4.00	3.00- 5.49	3.00- 4.49	226	7.0	6.0	5.0- 9.9	5.0- 7.9
Blacksmiths	44	48	215	14.00	13.50	12.50-16.99	12.50-16.99	227	25.0	24.0	23.0-30.9	22.0-29.9
Cabinetmakers	34	54	216	11.50	12.00	11.50-13.99	11.00-13.49	228	22.0	20.0	22.0-24.9	18.0-21.9
Car builders and repairers	232	184	216	9.00	12.00	7.50-11.99	11.00-13.49	228	17.0	20.0	14.0-20.9	18.0-21.9
Carpenters	127	262	217	16.00	13.50	14.50-16.99	12.50-15.49	230	26.0	23.0	24.0-27.9	20.0-25.9
Foremen	56	40	219	19.50	20.00	17.00-23.49	19.00-22.49	231	34.0	35.0	29.0-40.9	33.0-38.9
General hands, helpers, and laborers	941	531	219	7.00	7.00	7.00- 8.49	7.00- 8.49	231	13.0	13.0	11.0-14.9	11.0-14.9
Machine operators, wood	72	67	220	13.00	12.00	11.00-14.49	9.00-13.99	232	21.0	20.0	18.0-23.9	15.0-22.9
Machinists	61	29	221	12.50	12.50	11.50-12.99	11.00-13.49	233	23.0	22.0	22.0-24.9	20.0-24.9
Painters	35	37	222	11.50	11.00	11.50-12.99	10.50-11.99	234	22.0	20.0	22.0-24.9	17.0-22.9
General occupations not peculiar to car and railroad shops	103	68	224	10.50	10.50	10.00-11.99	10.00-13.49	236	19.0	19.0	13.0-22.9	14.0-22.9
All occupations	1,961	1,448	225	8.00	11.00	7.00-11.99	7.50-13.49	237	14.0	18.0	13.0-21.9	13.0-22.9
Southern states—												
Apprentices	28	45	214	7.00	5.50	5.00- 8.99	4.50- 5.99	226	12.0	10.0	9.0-15.9	8.0-10.9
Blacksmiths	20	22	215	13.00	13.00	13.00-13.99	12.00-13.99	227	22.0	22.0	22.0-23.9	21.0-23.9
Car builders and repairers	135	44	217	9.00	7.00	7.00-10.49	7.00- 7.49	229	16.0	12.0	12.0-17.9	12.0-12.9
Carpenters	47	106	218	11.50	11.50	11.50-13.49	10.00-11.99	230	20.0	20.0	20.0-22.9	17.0-20.9
General hands, helpers, and laborers	205	194	219	5.50	5.50	5.50- 7.49	5.50- 7.49	231	10.0	10.0	10.0-12.9	10.0-12.9
Machinists	68	52	221	13.50	13.50	12.50-13.99	11.50-13.99	233	23.0	23.0	22.0-23.9	20.0-23.9
All other occupations peculiar to car and railroad shops	23	22	223	8.50	8.50	7.00-10.49	7.00-10.49	235	15.0	15.0	12.0-17.9	12.0-17.9
General occupations not peculiar to car and railroad shops	29	23	224	10.00	10.50	8.50-10.99	8.00-10.99	236	17.0	18.0	14.0-18.9	14.0-18.9
All occupations	619	557	225	8.50	7.00	6.00-11.99	5.50-11.99	237	15.0	12.0	11.0-20.9	10.0-20.9
Central states—												
Apprentices	118	109	214	6.00	6.00	4.50- 6.49	4.50- 8.49	226	10.0	10.0	8.0-10.9	8.0-14.9
Blacksmiths	222	256	215	16.00	16.00	13.50-19.49	12.00-23.49	227	27.0	27.0	22.0-32.9	20.0-39.9
Boiler-makers	104	46	215	15.00	13.50	13.50-16.99	12.00-16.99	227	25.0	22.0	22.0-28.9	20.0-28.9
Cabinetmakers	316	270	216	15.50	14.50	14.00-16.49	12.50-16.99	228	26.0	24.0	24.0-27.9	21.0-27.9
Car builders and repairers	841	537	217	12.50	13.00	9.50-15.99	9.00-16.99	229	21.0	22.0	16.0-26.9	15.0-27.9
Carpenters	650	293	218	12.00	12.00	11.00-13.99	11.00-13.99	230	20.0	20.0	19.0-22.9	19.0-22.9
Finishers, inside	266	197	218	15.00	16.50	13.50-17.49	15.00-18.49	231	25.0	28.0	22.0-28.9	25.0-30.9
Foremen	70	60	219	20.50	20.50	15.50-23.49	17.00-23.49	231	34.0	34.0	26.0-38.9	28.0-38.9
General hands, helpers, and laborers	3,150	863	220	9.00	9.00	8.00- 9.99	8.00-10.49	232	15.0	15.0	14.0-16.9	14.0-17.9
Machine operators, wood	128	52	220	14.00	11.00	12.50-15.99	9.00-18.49	232	24.0	19.0	21.0-26.9	15.0-30.9
Machine tenders, metal	350	185	221	14.00	14.00	11.00-16.99	13.00-18.49	233	24.0	24.0	19.0-27.9	22.0-30.9
Machinists	582	195	221	15.50	14.00	14.00-16.49	13.00-15.99	233	26.0	24.0	24.0-27.9	22.0-26.9
Painters	386	395	222	14.00	15.00	12.50-15.49	13.50-16.99	234	24.0	25.0	21.0-25.9	22.0-27.9
Tinsmiths	141	105	222	14.50	13.50	13.50-15.49	12.00-16.49	234	24.0	22.0	23.0-25.9	20.0-26.9
Upholsterers	138	79	223	15.00	17.00	13.00-16.99	14.50-18.49	235	25.0	28.0	22.0-27.9	24.0-30.9
All other occupations peculiar to car and railroad shops	448	223	223	15.00	16.50	12.00-16.99	12.50-20.49	235	25.0	27.0	20.0-27.9	21.0-33.9
General occupations not peculiar to car and railroad shops	347	148	224	12.00	10.50	9.50-15.49	9.50-12.99	236	20.0	17.0	16.0-25.9	14.0-20.9
All occupations	8,257	4,013	225	12.00	13.50	9.00-15.49	9.50-16.99	237	20.0	22.0	15.0-25.9	16.0-27.9
Pacific states—												
Car builders and repairers	91	35	217	18.00	18.00	18.00-18.49	18.00-18.49	229	30.0	30.0	30.0-30.9	30.0-30.9
All occupations	123	113	225	18.00	18.00	18.00-18.49	15.00-18.49	237	30.0	30.0	30.0-30.9	25.0-30.9
All sections—												
Apprentices	180	229	214	5.00	5.00	4.00- 7.49	4.00- 6.49	226	9.0	9.0	7.0-12.9	7.0-11.9
Blacksmiths	287	329	215	15.00	15.00	13.00-18.49	12.50-22.49	227	26.0	25.0	22.0-30.9	21.0-37.9
Boiler-makers	127	86	215	14.00	14.00	13.50-16.99	12.50-15.49	227	24.0	25.0	22.0-28.9	22.0-27.9
Cabinetmakers	356	342	216	15.50	14.00	13.50-16.49	12.00-16.99	228	26.0	24.0	23.0-27.9	20.0-28.9
Car builders and repairers	1,299	800	217	12.00	12.00	9.00-15.49	9.00-16.49	229	20.0	20.0	15.0-26.9	15.0-27.9
Carpenters	824	661	218	12.00	12.50	11.50-14.49	11.00-14.49	230	21.0	21.0	20.0-24.9	19.0-23.9
Foremen	148	117	219	19.50	20.00	16.00-23.49	18.00-23.49	231	34.0	34.0	27.0-38.9	30.0-38.9
General hands, helpers, and laborers	4,303	1,596	220	8.00	8.00	7.00- 9.49	6.50- 9.49	232	14.0	14.0	13.0-15.9	11.0-16.9
Machine operators, wood	200	119	220	13.50	11.50	12.00-15.49	9.00-14.99	232	22.0	19.0	20.0-25.9	15.0-24.9
Machine tenders, metal	376	199	221	14.00	14.00	10.50-16.99	13.00-17.99	233	23.0	23.0	17.0-27.9	21.0-29.9
Machinists	709	288	221	15.00	13.50	13.50-16.49	12.50-15.99	233	25.0	23.0	22.0-27.9	21.0-26.9
Painters	454	459	222	14.00	15.00	12.00-15.49	12.00-16.99	234	23.0	25.0	20.0-25.9	22.0-27.9
Tinsmiths	169	131	222	14.50	13.50	12.50-15.49	12.00-15.99	234	24.0	22.0	22.0-25.9	20.0-26.9
Upholsterers	159	83	223	14.00	16.50	12.50-16.49	14.50-18.49	235	24.0	28.0	22.0-27.9	24.0-30.9
All other occupations peculiar to car and railroad shops	622	254	223	13.50	15.50	9.00-15.99	11.50-19.99	235	22.0	26.0	16.0-26.9	19.0-32.9
General occupations not peculiar to car and railroad shops	481	241	224	11.50	10.50	9.50-15.49	9.50-12.49	236	19.0	17.0	15.0-25.9	14.0-21.9
All occupations	10,960	6,131	225	10.50	12.00	8.00-14.99	9.00-15.49	237	18.0	20.0	14.0-25.9	15.0-25.9

[1] See supplementary table of earnings, page 230.

The Middle, Southern, Central, and Pacific states contribute returns for this industry. The work done includes the manufacture and repair of cars, both passenger and freight, and of locomotives—carried on in some cases by railroad companies and in others by independent concerns. The normal time is the same for both periods, 10 hours per day, or 60 hours per week, prevailing in 80 per cent of the establishments. The proportion of males 16 and over to the total number of employees at each period is about 99 per cent.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—When "all occupations" combined are considered, the rates show a considerable decrease. The proportion of "carpenters," a high-paid class of workmen, decreased from 18 per cent in 1890 to 6 per cent in 1900; on the other hand, the proportion of "general hands, helpers, and laborers," a low-paid class, increased from 37 per cent in 1890 to 48 per cent in 1900.

The rates for "apprentices," "carpenters," "machine operators, wood," and "painters" show considerable increases; those for "blacksmiths" and "cabinetmakers," slight increases; and those for "general hands, helpers, and laborers," little change. Rates for "car builders and repairers" show a slight decrease, as do those for "foremen." The hour rates for "machinists" show a decided increase, but in the week rates there is practically no difference.

Southern states.—The rates for "all occupations" combined increase slightly. A considerable rise can be seen in the rates for "apprentices," "car builders and repairers," and "carpenters." Less marked increases are noticeable for "general hands, helpers, and laborers" and "machinists." Few returns are presented for "blacksmiths."

Central states.—The rates for "all occupations" combined show a distinct decrease. Here, as in the Middle states, the percentage of "general hands, helpers, and laborers" increased appreciably, being 22 per cent in 1890 and 38 per cent in 1900, while some of the more skilled occupations are proportionately not so well represented in 1900.

The returns at each period are, for many occupations, widely disproportionate in number; this applies especially to "boiler-makers," "carpenters," "general hands, helpers, and laborers," "machine operators, wood," and "machinists." Decided increases are shown in the rates for "cabinetmakers" and "machinists," and slight ones for "boiler-makers," "carpenters," and "tinsmiths;" for "blacksmiths," "car builders and repairers," "general hands, helpers, and laborers," and "machine operators, wood," there is little change; "foremen" show a slight decrease; while for "apprentices," "finishers, inside," "machine tenders, metal," "painters," and "upholsterers" there are heavy decreases.

Pacific states.—The "all occupations" group and its chief component occupation, "car builders and repairers," show a considerable rise in rates.

All sections combined.—The proportions which the returns of the Middle and Central states form of the total for "all occupations" are as follows: Middle states, 24 per cent in 1890 and 18 per cent in 1900; Central states, 65 per cent in 1890 and 75 per cent in 1900. Similarly there are changes in the proportions which the occupations form of the total at the two periods, the returns for "general hands, helpers, and laborers" increasing from 26 per cent of the total in 1890 to 39 per cent in 1900, while the proportions for several high-paid occupations decreased. The total for all sections combined indicates a slight decrease in rates.

In many of the specified occupations the disparity in the numbers returned for a given section at the two periods caused a considerable change in the proportion which the section forms of the total, as is illustrated by the following examples: "Boiler-makers" in the Middle states form 36 per cent in 1890 and 9 per cent in 1900 of the total for that occupation, those in the Central states, 54 per cent and 82 per cent; "carpenters" in the Central states, 44 per cent and 79 per cent, and in the Middle states, 40 per cent and 15 per cent at the respective periods.

The combined rates for "machine operators, wood," and for "machinists" show heavy increases, and those for "apprentices," "boiler-makers," "cabinetmakers," "carpenters," "general hands, helpers, and laborers," and "tinsmiths" indicate slight increases. Little change is shown in the rates for "blacksmiths," slight decreases for "car builders and repairers" and "foremen," and heavy decreases for "machine tenders, metal," "painters," and "upholsterers."

EARNINGS.

For a large number of persons, especially in 1890, earnings were returned without the exact time worked; these are presented in a supplementary table but without regard to the occupation represented. None of the persons thus shown appear in the tables of rates for this industry.

Middle states.—A very slight increase in the earnings is shown. It will readily be seen that these returns comprise a larger proportion of skilled and high-paid labor than the returns for rates, since the middle half of all the employees in the earnings tabulation for 1900 receive from $12.00 to $17.49, while the corresponding limits for the rates tabulation are $7.00 and $11.99. In 1890 the limits for earnings were the same as in 1900, while those for rates were $7.50 and $13.49.

Central states.—Earnings in this group of states are presented only for 1890. Compared with the rates, no significant differences are apparent; the median of earnings falls in the group $12.00 to $12.49, that of rates in the group $13.50 to $13.99. The range of rates for the middle half is between $9.50 and $16.99, that of earnings between $8.50 and $16.99.

GENERAL SUMMARY.

No tabulation for the industry as a whole can be made, since part of the returns are in the form of rates, and part in the form of earnings. From the various tables shown, however, it is evident that the wages decreased to some extent in the Middle and Central states and increased in the Southern and Pacific states.

FOUNDRIES AND METAL WORKING.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Apprentices, machinists	178	116	240	4.50	4.00	3.50- 6.49	4.00- 5.99	274	8.0	7.0	6.0-10.9	6.0- 9.9
Apprentices, molders and core-makers	20	47	241	7.00	7.00	6.00-10.49	6.00- 8.99	275	12.0	12.0	10.0-17.9	10.0-14.9
Apprentices, other occupations	43	27	242	5.00	6.00	4.50- 5.99	5.00- 6.99	276	9.0	10.0	8.0-10.9	9.0-11.9
Blacksmiths	34	33	243	15.50	15.00	13.00-18.49	12.00-18.49	277	27.0	25.0	22.0-30.9	22.0-30.9
Buffers and polishers	94	57	245	13.00	15.00	10.00-15.99	10.00-16.99	279	22.0	26.0	17.0-26.9	17.0-30.9
Carpenters and woodworkers	116	62	245	13.50	13.50	12.00-14.99	12.00-13.99	279	23.0	22.0	20.0-25.9	20.0-25.9
Chippers and cleaners	91	63	246	11.50	10.00	10.00-14.49	10.00-11.49	280	20.0	16.0	16.0-23.9	16.0-20.9
Core-makers	51	58	247	12.00	9.00	9.00-15.49	7.00-10.99	281	20.0	15.0	15.0-25.9	12.0-18.9
Erectors and assemblers	156	96	248	12.50	13.50	10.00-13.99	10.50-15.49	282	21.0	24.0	17.0-23.9	20.0-28.9
Foremen, machine shop	65	14	250	19.00	23.00	17.00-22.99	19.00-27.49	284	32.0	40.0	29.0-38.9	35.0-45.9
Foremen, not specified	135	139	251	18.00	18.00	14.50-23.99	15.00-21.99	285	30.0	31.0	25.0-40.9	25.0-35.9
General hands, helpers, and laborers	737	661	252	8.00	8.00	7.50- 9.49	7.00- 9.49	286	14.0	13.0	13.0-15.9	12.0-15.9
Helpers, machinists	48	70	255	9.00	9.00	9.00- 9.49	9.00- 9.49	289	15.0	15.0	15.0-15.9	15.0-15.9
Helpers, molders and core-makers	214	35	257	8.00	9.00	8.00- 9.49	9.00-10.49	291	13.0	15.0	13.0-16.9	15.0-16.9
Machine tenders and second-class machinists	759	531	258	10.00	9.00	8.00-12.49	7.50-12.49	292	17.0	16.0	14.0-20.9	13.0-22.9
Machinists, including tool-makers and metal-pattern makers	1,394	943	259	13.50	13.50	11.00-15.49	11.50-15.49	293	22.0	22.0	18.0-26.9	20.0-25.9
Molders, floor	44	44	260	16.50	15.50	16.50-18.49	15.00-19.99	294	30.0	26.0	28.0-32.9	25.0-33.9
Molders, not specified	261	322	261	14.00	14.00	11.00-16.49	11.50-15.49	295	23.0	23.0	18.0-29.9	19.0-25.9
Packers	61	60	262	9.00	9.00	8.50-11.99	8.00-10.99	296	15.0	15.0	15.0-20.9	15.0-20.9
Painters	54	32	262	12.00	13.00	12.00-14.49	12.00-14.99	296	20.0	23.0	20.0-23.9	20.0-26.9
Pattern-makers, wood and not specified	48	31	263	17.00	16.50	15.00-19.49	15.00-18.49	297	30.0	27.0	25.0-32.9	25.0-30.9
All other occupations	311	208	266	11.50	11.00	10.00-14.49	9.00-13.99	300	19.0	19.0	16.0-22.9	15.0-22.9
All occupations	4,947	3,684	267	11.00	10.50	8.50-14.99	8.00-14.99	301	18.0	19.0	15.0-24.9	14.0-24.9
Middle states—												
Apprentices, machinists	226	161	240	4.50	5.00	3.50- 6.49	3.50- 7.49	274	7.0	8.0	6.0-10.9	5.0-11.9
Apprentices, molders and core-makers	95	122	241	4.50	5.00	4.00- 6.49	4.00- 6.99	275	8.0	8.0	6.0-10.9	6.0-10.9
Apprentices, other occupations	219	210	242	4.00	5.00	3.00- 6.49	3.50- 6.99	276	7.0	8.0	5.0-10.9	6.0-10.9
Blacksmiths	718	357	243	15.00	17.50	13.00-18.49	15.00-21.99	277	25.0	30.0	22.0-30.9	25.0-36.9
Boiler-makers	1,040	567	244	12.00	13.00	10.00-15.49	10.00-15.49	278	20.0	22.0	18.0-26.9	17.0-26.9
Buffers and polishers	34	44	245	9.00	10.50	7.50-13.99	4.50-15.49	279	15.0	17.0	12.0-22.9	7.0-25.9
Carpenters and woodworkers	422	155	245	13.00	13.50	12.00-15.49	12.00-15.49	279	23.0	23.0	20.0-25.9	20.0-26.9
Chippers and cleaners	214	169	246	9.50	9.00	8.00-12.49	7.50-10.99	280	16.0	15.0	13.0-21.9	13.0-17.9
Core-makers	227	136	247	12.00	10.50	9.50-12.99	9.00-13.49	281	20.0	18.0	16.0-22.9	15.0-22.9
Engineers	134	64	248	12.00	12.50	10.50-14.49	10.50-15.49	282	20.0	21.0	16.0-23.9	17.0-25.9
Erectors and assemblers	583	349	248	13.50	15.00	11.00-15.49	12.00-16.99	282	24.0	25.0	20.0-27.9	20.0-27.9
Foremen, foundry branch	36	34	249	22.50	18.00	17.00-26.49	16.50-24.49	283	37.0	30.0	30.0-44.9	27.0-40.9
Foremen, machine shop	67	43	250	22.50	21.00	19.00-28.49	18.00-24.49	284	39.0	35.0	33.0-50.9	30.0-40.9
Foremen, not specified	260	134	251	15.50	18.00	11.00-21.49	12.00-22.99	285	27.0	30.0	19.0-35.9	20.0-37.9
General hands, helpers, and laborers	5,022	3,591	252	8.00	8.00	7.50- 9.49	7.00- 9.49	286	13.0	14.0	12.0-15.9	11.0-15.9
Helpers, blacksmiths	485	632	253	11.00	11.00	9.00-12.99	9.50-13.49	287	18.0	20.0	16.0-21.9	16.0-21.9
Helpers, boiler-makers	595	360	254	9.00	9.00	8.00-11.49	8.00-10.99	288	15.0	15.0	13.0-20.9	14.0-18.9
Helpers, machinists	671	246	255	9.00	9.00	7.50- 9.99	7.50-10.49	289	15.0	15.0	12.0-16.9	12.0-17.9
Helpers, molders and core-makers	431	96	257	9.00	8.00	8.00- 9.99	7.50- 9.49	291	15.0	13.0	13.0-16.9	12.0-15.9
Machine tenders and second-class machinists	1,348	423	258	9.50	11.00	7.50-12.49	9.00-13.99	292	16.0	18.0	13.0-20.9	15.0-22.9
Machinists, including tool-makers and metal-pattern makers	2,682	1,197	259	14.00	15.00	12.00-16.49	13.00-18.49	293	23.0	25.0	20.0-27.9	22.0-30.9
Molders, floor	84	70	260	17.00	18.00	16.50-17.99	16.50-18.49	294	30.0	30.0	30.0-31.9	28.0-30.9
Molders, not specified	880	738	261	15.00	14.00	12.00-18.49	12.00-17.99	295	25.0	24.0	20.0-30.9	20.0-30.9
Painters	130	59	263	12.00	12.50	10.50-13.49	11.00-14.99	297	20.0	21.0	18.0-21.9	19.0-24.9
Pattern-makers, wood and not specified	215	203	263	16.50	15.50	15.00-18.49	15.00-16.99	297	27.0	26.0	25.0-30.9	25.0-28.9
Sheet-metal workers	150	76	265	13.00	14.50	12.00-15.49	12.00-16.99	299	22.0	24.0	20.0-25.9	20.0-28.9
Wire-workers	278	317	265	7.00	7.50	5.00- 7.99	6.50- 9.49	299	12.0	12.0	9.0-12.9	11.0-15.9
All other occupations	1,467	760	266	10.50	12.00	9.00-14.99	9.00-15.49	300	18.0	18.0	14.0-24.9	15.0-25.9
All occupations	18,740	11,320	267	10.00	10.00	8.00-13.99	8.00-14.49	301	17.0	17.0	13.0-23.9	13.0-24.9
Southern states—												
Blacksmiths	54	27	243	15.00	15.00	12.00-16.99	12.00-16.99	277	25.0	25.0	20.0-27.9	20.0-27.9
Boiler-makers	111	105	244	14.00	14.00	12.00-16.99	12.50-16.99	278	24.0	24.0	20.0-27.9	22.0-30.9
Carpenters and woodworkers	47	31	246	12.00	12.50	10.50-12.49	12.00-13.99	280	20.0	21.0	17.0-20.9	20.0-22.9
General hands, helpers, and laborers	315	139	252	6.00	6.00	5.50- 6.49	4.50- 7.99	286	10.0	11.0	9.0-10.9	7.0-12.9
Helpers, blacksmiths	136	36	253	7.50	7.50	6.00- 7.99	7.50- 8.49	287	12.0	12.0	10.0-12.9	12.0-14.9
Helpers, boiler-makers	255	146	254	7.50	7.50	6.50- 9.49	6.50- 9.49	288	12.0	12.0	11.0-15.9	11.0-15.9
Helpers, machinists	344	110	256	6.50	7.50	6.00- 7.99	6.50- 8.49	290	11.0	12.0	10.0-12.9	11.0-13.9
Helpers, molders and core-makers	105	92	257	6.00	6.50	6.00- 6.99	6.00- 7.99	291	10.0	11.0	10.0-11.9	10.0-12.9
Machinists, including tool-makers and metal-pattern makers	294	250	259	14.00	14.00	12.00-16.99	12.50-16.99	293	23.0	23.0	20.0-27.9	21.0-27.9
Molders, not specified	126	121	261	15.00	14.00	13.00-16.99	12.00-15.99	295	25.0	23.0	22.0-28.9	20.0-26.9
Pattern-makers, wood and not specified	33	22	264	16.50	15.00	12.00-18.49	13.50-16.99	298	27.0	25.0	20.0-30.9	22.0-27.9
Sheet-metal workers	37	22	265	10.50	10.50	9.00-15.49	9.00-15.49	299	17.0	19.0	15.0-25.9	16.0-27.9
All other occupations	29	15	266	13.50	10.00	9.00-18.49	7.00-15.49	300	22.0	16.0	15.0-30.9	10.0-27.9
All occupations	2,009	1,183	267	7.50	10.50	6.00-12.99	7.50-14.49	301	12.0	17.0	10.0-21.9	12.0-24.9
Central states—												
Apprentices, machinists	461	231	240	4.50	4.50	3.00- 6.49	3.00- 5.99	274	7.0	7.0	5.0-10.9	5.0-10.9
Apprentices, molders and core-makers	45	22	241	5.00	6.00	3.50- 7.99	4.00- 6.99	275	9.0	10.0	5.0-12.9	6.0-11.9
Apprentices, other occupations	27	35	242	6.00	5.00	3.50- 9.49	3.50- 7.99	276	10.0	8.0	6.0-15.9	5.0-12.9
Blacksmiths	82	52	243	16.50	13.50	14.50-18.99	11.00-15.49	277	27.0	22.0	22.0-30.9	18.0-25.9
Boiler-makers	103	43	244	15.00	14.50	14.50-15.49	13.50-15.49	278	27.0	25.0	25.0-28.9	25.0-27.9
Buffers and polishers	300	72	245	10.50	8.00	7.50-16.49	6.00- 9.49	279	17.0	13.0	12.0-27.9	10.0-16.9
Carpenters and woodworkers	239	102	246	13.00	13.00	12.00-15.49	12.00-15.49	280	22.0	22.0	20.0-25.9	20.0-25.9
Chippers and cleaners	193	75	247	9.00	9.00	9.00-10.99	7.50-10.99	281	15.0	15.0	15.0-17.9	12.0-18.9
Core-makers	208	118	247	11.00	10.00	9.00-13.99	9.00-12.49	281	19.0	17.0	15.0-22.9	15.0-20.9
Engineers	48	19	248	17.00	14.50	13.00-20.49	12.50-18.49	282	25.0	23.0	18.0-30.9	20.0-30.9
Erectors and assemblers	799	225	249	10.50	9.00	9.00-13.99	7.50-12.49	283	17.0	15.0	15.0-24.9	12.0-20.9
Foremen, foundry branch	21	24	249	21.00	18.00	17.00-23.49	15.00-24.49	283	35.0	30.0	28.0-39.9	25.0-40.9
Foremen, machine shop	26	29	250	21.00	19.50	19.50-24.49	15.00-23.49	284	35.0	32.0	32.0-37.9	25.0-38.9
Foremen, not specified	247	123	251	18.00	18.00	15.50-21.49	16.00-21.99	285	30.0	30.0	26.0-35.9	26.0-36.9
General hands, helpers, and laborers	3,232	1,526	252	9.00	9.00	8.50- 9.99	8.00- 9.49	286	15.0	15.0	15.0-16.9	14.0-15.9
Helpers, blacksmiths	69	42	253	9.50	9.00	9.00-11.49	9.00-10.99	287	16.0	15.0	15.0-17.9	15.0-17.9
Helpers, boiler-makers	168	79	255	10.50	9.50	7.50-12.49	8.00-10.99	289	17.0	17.0	14.0-22.9	14.0-20.9
Helpers, machinists	455	112	256	9.00	8.50	8.50-10.99	7.50- 9.49	290	15.0	15.0	14.0-16.9	12.0-15.9
Helpers, molders and core-makers	147	115	257	9.00	7.50	7.00- 9.99	5.00- 9.49	291	15.0	12.0	12.0-16.9	8.0-15.9
Machine tenders and second-class machinists	1,019	670	258	9.50	8.00	7.50-12.49	5.00-10.99	292	16.0	14.0	12.0-20.9	9.0-18.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.												
Central states—Continued.												
Machinists, including tool-makers and metal-pattern makers	1,398	879	259	13.50	13.50	12.00-15.99	12.00-15.49	293	22.0	22.0	20.0-25.9	20.0-25.9
Molders, floor	390	123	260	18.00	15.50	15.00-20.99	14.50-18.49	294	30.0	26.0	25.0-34.9	24.0-30.9
Molders, not specified	665	595	261	15.00	12.50	11.00-16.99	10.50-14.49	295	25.0	21.0	18.0-27.9	17.0-24.9
Packers	131	87	262	9.50	7.50	8.00-12.99	4.50- 9.49	296	16.0	12.0	13.0-21.9	8.0-15.9
Painters	140	61	263	9.00	9.00	8.00-10.99	7.00-10.99	297	15.0	15.0	13.0-17.9	12.0-17.9
Pattern-makers, wood and not specified	178	105	264	16.00	16.50	14.00-18.49	15.00-18.49	298	27.0	27.0	23.0-30.9	25.0-30.9
Sheet-metal workers	73	72	265	13.50	13.50	11.50-13.99	11.50-15.49	299	22.0	22.0	20.0-22.9	20.0-25.9
All other occupations	792	344	266	11.00	11.00	9.00-13.49	9.00-14.49	300	17.0	18.0	15.0-20.9	15.0-23.9
All occupations	11,656	5,980	268	10.50	9.50	9.00-13.99	8.00-13.99	302	17.0	16.0	15.0-22.9	14.0-22.9
Pacific states—												
Apprentices, machinists	74	28	240	4.00	7.50	2.50- 4.99	4.50- 7.99	274	7.0	12.0	5.0- 8.9	8.0-13.9
Apprentices, molders and core-makers	29	22	241	6.00	6.00	5.00- 6.99	5.50- 6.49	275	10.0	10.0	8.0-11.9	9.0-10.9
Apprentices, other occupations	86	81	242	7.50	6.50	6.00- 9.99	4.50- 9.99	276	12.0	11.0	10.0-16.9	7.0-16.9
Blacksmiths	57	26	243	18.50	20.50	16.00-21.99	17.00-21.99	277	35.0	35.0	27.0-37.9	30.0-37.9
Boiler-makers	47	63	244	18.00	17.50	17.50-21.49	17.50-17.99	278	32.0	32.0	32.0-35.9	32.0-32.9
Foremen, not specified	41	21	251	23.50	25.00	15.50-27.49	23.50-34.99	285	40.0	42.0	35.0-46.9	40.0-57.9
General hands, helpers, and laborers	313	234	253	12.00	12.00	10.00-12.49	10.50-13.99	287	20.0	20.0	17.0-22.9	17.0-25.9
Helpers, blacksmiths	47	31	254	12.00	13.00	12.00-13.99	7.00-13.99	288	22.0	22.0	22.0-25.9	11.0-22.9
Helpers, boiler-makers	25	29	255	13.50	10.50	12.00-13.99	10.50-15.49	289	22.0	20.0	20.0-22.9	20.0-25.9
Helpers, machinists	29	30	256	12.00	13.00	11.50-12.49	11.00-14.49	290	21.0	22.0	20.0-22.9	20.0-23.9
Helpers, molders and core-makers	57	32	257	12.00	12.00	12.00-13.99	12.00-13.99	291	20.0	21.0	20.0-25.9	20.0-22.9
Machinists, including tool-makers and metal-pattern makers	397	169	259	18.00	19.50	17.50-21.49	18.00-20.99	293	32.0	32.0	30.0-35.9	30.0-35.9
Molders, not specified	98	96	261	18.00	21.00	17.50-19.99	18.00-21.49	295	30.0	35.0	30.0-35.9	30.0-35.9
Pattern-makers, wood and not specified	27	24	264	20.50	20.50	19.50-21.49	18.00-21.49	298	35.0	35.0	32.0-35.9	30.0-35.9
All other occupations	78	95	267	14.00	9.50	9.50-16.99	9.00-14.49	301	23.0	15.0	16.0-27.9	15.0-22.9
All occupations	1,537	1,003	268	15.00	14.00	12.00-18.49	10.50-19.49	302	25.0	25.0	20.0-32.9	20.0-32.9
All sections—												
Apprentices, machinists	956	552	240	4.50	4.50	3.50- 6.49	3.50- 6.49	274	7.0	7.0	6.0-10.9	5.0-10.9
Apprentices, molders and core-makers	197	217	241	5.00	6.00	4.00- 6.99	4.50- 7.49	275	8.0	10.0	6.0-11.9	7.0-12.9
Apprentices, other occupations	401	308	242	5.00	5.00	3.50- 6.99	4.00- 6.99	276	9.0	8.0	6.0-12.9	6.0-11.9
Blacksmiths	945	495	243	15.00	16.50	13.00-18.49	14.00-21.49	277	25.0	27.0	22.0-30.9	23.0-35.9
Boiler-makers	1,301	778	244	13.00	13.50	10.00-15.99	11.00-16.49	278	22.0	23.0	18.0-27.9	19.0-27.9
Buffers and polishers	429	174	245	11.00	10.00	7.50-15.99	7.00-15.49	279	19.0	17.0	13.0-26.9	12.0-26.9
Carpenters and woodworkers	847	360	246	13.00	13.50	12.00-15.49	12.00-15.49	280	22.0	22.0	20.0-25.9	20.0-25.9
Chippers and cleaners	512	316	247	9.50	9.00	8.50-12.49	7.50-11.49	281	16.0	15.0	15.0-20.9	13.0-19.9
Core-makers	500	322	247	11.50	10.50	9.00-13.49	9.00-12.99	281	20.0	17.0	15.0-22.9	15.0-21.9
Engineers	212	111	248	13.00	13.50	11.50-16.99	12.00-15.49	282	21.0	22.0	18.0-26.9	18.0-25.9
Erectors and assemblers	1,560	675	249	12.00	12.50	9.50-14.99	9.00-15.99	283	21.0	21.0	15.0-25.9	15.0-27.9
Foremen, foundry branch	74	74	249	21.00	19.50	17.00-26.49	16.50-25.49	283	35.0	31.0	29.0-44.9	27.0-41.9
Foremen, machine shop	175	101	250	21.00	21.00	18.00-25.99	18.00-24.49	284	35.0	37.0	30.0-43.9	30.0-41.9
Foremen, not specified	707	430	251	18.00	18.00	14.50-22.99	14.50-22.99	285	30.0	30.0	24.0-37.9	25.0-38.9
General hands, helpers, and laborers	9,619	6,151	253	8.50	8.00	7.50- 9.49	7.00- 9.49	287	14.0	14.0	13.0-15.9	12.0-15.9
Helpers, blacksmiths	747	753	254	10.50	11.00	9.00-12.49	9.00-12.99	288	17.0	18.0	15.0-20.9	15.0-21.9
Helpers, boiler-makers	1,043	614	255	9.00	9.00	7.50-10.99	7.50-10.99	289	15.0	15.0	12.0-18.9	12.0-18.9
Helpers, machinists	1,547	568	256	9.00	9.00	7.00- 9.99	7.50- 9.99	290	15.0	15.0	12.0-16.9	12.0-16.9
Helpers, molders and core-makers	954	370	257	9.00	8.00	8.00- 9.99	6.50- 9.49	291	15.0	13.0	13.0-16.9	11.0-15.9
Machine tenders and second-class machinists	3,151	1,627	258	10.00	9.00	7.50-12.49	7.00-12.49	292	16.0	15.0	13.0-20.9	12.0-20.9
Machinists, including tool-makers and metal-pattern makers	6,165	3,438	259	14.00	14.00	12.00-16.99	12.00-16.99	293	23.0	24.0	20.0-27.9	20.0-27.9
Molders, floor	518	237	260	17.00	16.50	15.50-19.99	15.00-18.49	294	30.0	28.0	26.0-33.9	25.0-30.9
Molders, not specified	2,030	1,872	261	15.00	13.50	11.50-17.49	11.50-16.49	295	25.0	23.0	20.0-30.9	19.0-27.9
Packers	219	154	262	9.50	8.00	7.50-11.99	6.00- 9.49	296	16.0	15.0	13.0-20.9	10.0-16.9
Painters	343	161	263	11.00	12.00	9.00-12.49	9.00-13.99	297	18.0	20.0	15.0-20.9	15.0-23.9
Pattern-makers, wood and not specified	501	385	264	16.50	16.00	15.00-18.49	15.00-18.49	298	27.0	27.0	25.0-31.9	25.0-30.9
Sheet-metal workers	260	170	265	13.00	13.50	10.50-15.49	11.50-15.49	299	22.0	22.0	17.0-25.9	19.0-25.9
Wire-workers	299	335	265	7.50	7.50	6.00- 7.99	6.50- 9.49	299	12.0	12.0	10.0-12.9	11.0-15.9
All other occupations	2,677	1,422	267	11.00	11.50	9.00-14.49	9.00-14.99	301	18.0	18.0	15.0-23.9	15.0-24.9
All occupations	38,889	23,170	268	10.50	10.50	8.00-14.49	8.00-14.49	302	17.0	17.0	14.0-24.9	13.0-24.9
Females 16 and over:												
New England states—												
Machine tenders	198	220	269	5.50	4.50	4.50- 6.49	4.50- 5.99	303	9.0	7.0	7.0-10.9	7.0- 9.9
All other occupations	143	171	269	5.00	4.00	4.50- 6.49	4.00- 5.99	303	8.0	6.0	7.0-10.9	6.0-10.9
All occupations	341	391	270	5.00	4.50	4.50- 6.49	4.00- 5.99	304	9.0	7.0	7.0-10.9	6.0- 9.9
Middle states—												
All other occupations	205	81	269	4.50	4.50	4.50- 4.99	4.50- 5.49	303	8.0	7.0	8.0- 8.9	7.0- 8.9
Central states—												
Core-makers	74	113	268	6.00	4.50	5.00- 7.49	3.50- 5.49	302	10.0	8.0	9.0-11.9	6.0- 9.9
All other occupations	105	29	269	5.50	4.00	4.50- 7.49	4.00- 6.49	303	9.0	6.0	7.0-11.9	6.0-10.9
All occupations	181	145	270	6.00	4.50	4.50- 7.49	4.00- 5.49	304	10.0	8.0	8.0-11.9	6.0- 9.9
All sections—												
All other occupations	453	281	269	4.50	4.50	4.50- 5.99	4.00- 5.99	303	8.0	7.0	8.0- 9.9	6.0- 9.9
All occupations	727	617	270	5.00	4.50	4.50- 6.49	4.00- 5.99	304	8.0	7.0	8.0-10.9	6.0- 9.9
Males under 16:												
New England states—												
General hands, helpers, and laborers	58	52	271	3.00	3.00	3.00- 3.99	3.00- 4.49	305	5.0	5.0	5.0- 6.9	5.0- 6.9
All occupations	69	64	273	3.00	3.00	3.00- 4.49	3.00- 3.99	307	5.0	5.0	5.0- 6.9	5.0- 6.9
Middle states—												
General hands, helpers, and laborers	39	57	271	3.00	3.50	3.00- 3.99	3.00- 3.99	305	5.0	6.0	5.0- 6.9	5.0- 6.9
All other occupations	32	31	272	3.50	3.50	3.00- 3.99	3.50- 3.99	306	5.0	6.0	5.0- 6.9	6.0- 6.9
All occupations	71	88	273	3.00	3.50	3.00- 3.99	3.00- 3.99	307	5.0	6.0	5.0- 6.9	5.0- 6.9
Southern states—												
All other occupations	180	78	272	4.00	3.00	4.00- 4.49	(1)- 3.49	306	7.0	5.0	7.0- 7.9	(2)- 5.9
All occupations	180	78	273	4.00	3.00	4.00- 4.49	(1)- 3.49	307	7.0	5.0	7.0- 7.9	(2)- 5.9
Central states—												
Core-makers	83	37	271	6.50	7.50	6.50- 7.99	6.50- 8.49	305	11.0	12.0	11.0-13.9	11.0-13.9
General hands, helpers, and laborers	244	168	271	4.00	3.50	3.50- 4.99	3.00- 4.99	305	6.0	6.0	6.0- 8.9	5.0- 7.9
All occupations	375	249	273	4.50	4.00	3.50- 6.49	3.00- 5.49	307	7.0	6.0	6.0-10.9	5.0- 8.9
All sections—												
General hands, helpers, and laborers	341	277	271	3.50	3.50	3.00- 4.99	3.00- 4.49	305	6.0	6.0	5.0- 7.9	5.0- 7.9
Machine tenders	31	52	272	3.50	3.50	3.50- 4.99	3.00- 4.99	306	5.0	5.0	5.0- 7.9	5.0- 7.9
All other occupations	240	118	272	4.00	3.00	3.00- 4.49	2.00- 3.99	306	7.0	5.0	5.0- 7.9	(2)- 6.9
All occupations	695	479	273	4.00	3.50	3.50- 4.99	3.00- 4.49	307	7.0	6.0	5.0- 8.9	5.0- 7.9

[1] Less than $2.00.

[2] Less than 5 cents.

The New England, Middle, Southern, Central, and Pacific states are represented in the returns for "foundries and metal working." The industry includes a wide variety in the nature of its products. A majority of the establishments are foundries or are engaged in making heavy machinery, engines, boilers, etc.; there are several stove factories, also a few bicycle, sewing-machine, firearm, and cutlery and tool factories. In many cases the nature of the product manufactured in an establishment changed during the decade, and, in some, improved machinery was installed.

The normal working time remained unchanged for the decade in a little over three-fourths of the whole number of establishments tabulated; in the remainder the changes as a rule were in the direction of a shorter working time in a week. In most of the establishments in which these changes took place the different departments did not work the same number of hours even at the same period. About one-half of the total number of establishments worked 60 hours at each period, and in the others the normal time ranged from 48 to 72 hours.

The facts regarding decrease or increase of rates are shown by the two sets of tables; those for week and those for hour rates often differ considerably, but in only a few cases (to which attention is especially called) are these differences marked.

The exact time worked was reported for a considerable number of employees—about 8,300 in 1890 and 15,000 in 1900—and the earnings of these persons form practically all the earnings returned. Since almost all these returns enter into the tables of rates, it is not necessary to present a separate table of earnings.

The proportion of males to all employees in the establishments considered is 97 per cent in 1890 and 98 per cent in 1900. Unless specially noted the proportions which the various specified occupations form of the total for "all occupations" combined, changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates for "all occupations" combined show little change for the decade. Of the specified occupations "chippers and cleaners" and "core-makers" show decided increases in rates and "apprentices, machinists," "blacksmiths," "carpenters and woodworkers," "general hands, helpers, and laborers," "machine tenders and second-class machinists," and "pattern-makers, wood and not specified," slight increases; "foremen, not specified," "machinists, including tool-makers and metal-pattern makers," "molders, floor," "molders, not specified," and "packers," show little change; for "helpers, machinists," there is a slight decrease; and for "buffers and polishers," "erectors and assemblers," and "painters," decided decreases. The returns for "apprentices, molders and core-makers," "apprentices, other occupations," "foremen, machine shop," and "helpers, molders and core-makers" are either too few, or too disproportionate for the two periods, to justify conclusions as to change.

Middle states.—The rates for "all occupations" combined show little change for the decade. For several of the specified occupations the returns at the two periods are widely disproportionate in number, but are sufficiently numerous to justify conclusions as to changes in wages. Of the specified occupations, "foremen, foundry branch," "foremen, machine shop," "helpers, molders and core-makers," and "pattern-makers, wood and not specified," show decided increases; "chippers and cleaners" and "helpers, boiler-makers," slight increases; "buffers and polishers," "core-makers," "general hands, helpers, and laborers," "helpers, machinists," "molders, not specified," and "painters," little change; "apprentices" (all three classes), "boiler-makers," "carpenters and woodworkers," "engineers," "erectors and assemblers," "foremen, not specified," "helpers, blacksmiths," "machine tenders, and second-class machinists," "machinists, including tool-makers and metal-pattern makers," and "sheet-metal workers," show slight, and "blacksmiths" and "wire-workers," decided decreases. The hour rates for "molders, floor," show a decided increase, the week rates an equally marked decrease; this is probably largely due to a shortening of normal working time.

Southern states.—The rates for "all occupations" combined show a substantial decrease. There is considerable change in the proportions which some of the specified occupations form of the total for the two periods. Of the specified occupations, "molders, not specified," show a slight increase; "general hands, helpers, and laborers," and "helpers, boiler-makers," little change; "boiler-makers," "carpenters and woodworkers," "helpers, blacksmiths," "helpers, machinists," and "machinists, including tool-makers and metal-pattern makers," slight decreases; and "helpers, molders and core-makers," a heavy decrease. The returns for "blacksmiths," "pattern-makers, wood and not specified," and "sheet-metal workers" are few, especially for 1890.

Central states.—Rates for "all occupations" combined show a slight increase. As is the case for the other sections, the numbers returned for an occupation at the two periods are often disproportionate. Of the specified occupations, "blacksmiths," "boiler-makers," "buffers and polishers," "core-makers," "erectors and assemblers," "helpers, machinists," "helpers, molders and core-makers," "machine tenders and second-class machinists," "molders, floor," "molders, not specified," and "packers" show decided increases; "apprentices, machinists," "chippers and cleaners," "general hands, helpers, and laborers," "helpers, blacksmiths," "machinists, including tool-makers and metal-pattern makers," and "painters," slight increases; "helpers, boiler-makers," show little change; and "foremen, not specified," "pattern-makers, wood and not specified," and

"sheet-metal workers" show slight decreases. The week rates for "carpenters and woodworkers" indicate a slight increase and the hour rates a slight decrease. There are but few returns for "apprentices, molders and core-makers," "apprentices, other occupations," "engineers," "foremen, foundry branch," and "foremen, machine shop."

Pacific states.—The rates for "all occupations" combined show little change. There is considerable change in the proportions in which the different occupations enter the total at the two periods. In this section fewer returns are shown for the various occupations than in the other sections, and for several occupations—"apprentices, machinists," "apprentices, molders and core-makers," "blacksmiths," "foremen, not specified," "helpers, boiler-makers," "helpers, machinists," and "pattern-makers, wood and not specified"—the returns are too few for definite conclusions. Of the other specified occupations, "apprentices, other occupations," and "helpers, blacksmiths," show decided increases; "general hands, helpers, and laborers" and "helpers, molders," show little change; "machinists, including tool-makers and metal-pattern makers" a slight, and "molders, not specified," a decided decrease. The week rates for "boiler-makers" indicate a decided increase, the hour rates little change.

All sections combined.—The proportions which the three sections furnishing the largest number of returns form of the total for "all occupations" combined at each period are as follows: The New England states, 16 per cent in 1890 and 13 per cent in 1900; the Middle states, 49 per cent and 48 per cent; the Central states, 26 per cent and 30 per cent at the respective periods. The Pacific states show the highest and the Southern states the lowest rates; there is not much difference between the rates for the other sections. As previously stated, the New England, Middle, and Pacific states show little change in rates, the Southern states a decided decrease, and the Central states a slight increase. The total for all sections combined indicates little change.

For each of the following specified occupations there is a decided increase in rates: "Core-makers," "foremen, foundry branch," "helpers, molders and core-makers," "molders, floor," "molders, not specified," and "packers;" for "buffers and polishers," "chippers and cleaners," "general hands, helpers, and laborers," "machine tenders," and "pattern-makers, wood and not specified," there are slight increases. Occupations showing little change in rates are: "Apprentices, other occupations," "carpenters and woodworkers," "engineers," "erectors and assemblers," "foremen, machine shop," "helpers, boiler-makers," "helpers, machinists," and "painters." Slight decreases are shown for "apprentices, machinists," "apprentices, molders and core-makers," "blacksmiths," "boiler-makers," "foremen, not specified," "helpers, blacksmiths," "machinists, including tool-makers and metal-pattern makers," and "sheet-metal workers." One occupation, "wire-workers," shows a decided decrease.

The combined tabulations for a number of occupations indicate changes in regard to increase or decrease contradictory to those shown by one or more of their component sections. This is due partly to the varying proportions which a section forms of the total at the two periods, resulting from the frequent wide divergence in the number of returns, and partly due to differences in the height of rates for the same occupation in the different sections. On the whole, however, the inferences to be drawn from totals for all sections combined, agree with those drawn from the sections which form the largest of the component parts of these totals.

Females 16 and over—New England states.—The rates for "all occupations" combined show a decided increase. This is also true for "machine tenders," the one occupation separately presented.

Middle states.—Fewer returns by far are shown in the "all other occupations" tabulation for 1890 than in that for 1900. This group in this section includes all the persons returned. The week rates indicate a slight decrease, the hour rates a slight increase.

Central states.—The rates for "all occupations" combined show a decided increase. The only occupation separately presented, "core-makers," also shows a decided increase.

All sections combined.—In the tabulation for "all occupations," rates in 1900 are higher in the New England and Central states than in the Middle states, otherwise there is little difference between the sections. The New England states form 63 per cent of the total in 1890 and 47 per cent in 1900; the Middle states 13 per cent in 1890 and 28 per cent in 1900; and the Central states 24 per cent in 1890 and 25 per cent in 1900. The combined rates for the sections show a decided increase.

Males under 16.—The returns for the New England and Middle states are few; the "all occupations" group for the former section indicates little change in rates, for the latter section, a decrease; in both sections "general hands, helpers, and laborers" show decreases. In the Southern and Central states the "all occupations" totals indicate decided increases; "general hands, helpers, and laborers" in the Central states show an increase and "core-makers" little change. All the tabulations presented for all sections combined indicate increases more or less decided.

GENERAL SUMMARY.

As previously stated, the tables of rates comprise practically all the persons in the various establishments. The returns for the New England states indicate little change for men, and some increase for women; but few returns are shown for males under 16. In the Middle states little change is shown for males 16 and over, and not much importance can be attached to the returns for females 16 and over or for males under 16. In the Southern states the rates for men show a decided decrease, and those for males under 16, a decided increase. In the Central states some increase is shown for all, and in the Pacific states little change for men.

IRON AND STEEL MILLS.

MEDIAN AND QUARTILES FOR BIWEEKLY AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER TWO WEEKS (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Apprentices	164	73	308	13.00	11.00	12.00-18.99	9.00-13.99	326	11.0	9.0	10.0-15.9	7.0-11.9
Blacksmiths	68	53	308	29.00	27.00	26.00-33.99	26.00-30.99	326	23.0	22.0	20.0-27.9	22.0-25.9
Chargers	73	43	309	21.00	27.00	21.00-26.99	24.00-27.99	327	16.0	29.0	14.0-27.9	19.0-29.9
Cranemen and hoistmen	136	44	310	21.00	16.00	19.00-27.99	15.00-19.99	328	16.0	16.0	12.0-22.9	13.0-17.9
Cupola and furnace tenders	55	57	310	30.00	27.00	30.00-64.99	25.00-29.99	328	23.0	17.0	18.0-43.9	15.0-28.9
Engineers, locomotive and stationary	370	208	311	25.00	20.00	22.00-33.99	18.00-24.99	329	20.0	15.0	15.0-23.9	13.0-17.9
Firemen	201	83	312	23.00	20.00	21.00-24.99	18.00-24.99	330	15.0	14.0	15.0-17.9	12.0-18.9
Foremen	349	217	313	28.00	28.00	20.00-41.99	19.00-45.99	331	20.0	20.0	17.0-34.9	15.0-35.9
Gas producers	80	29	313	22.00	20.00	22.00-22.99	20.00-27.99	331	15.0	14.0	15.0-15.9	14.0-18.9
Hammermen	39	32	314	44.00	50.00	24.00-69.99	29.00-69.99	332	50.0	42.0	20.0-69.9	25.0-79.9
Heaters	142	146	314	55.00	55.00	37.00-64.99	46.00-64.99	332	42.0	44.0	32.0-59.9	32.0-51.9
Levermen	63	41	316	40.00	38.00	26.00-41.99	25.00-44.99	334	42.0	37.0	28.0-47.9	25.0-51.9
Machine hands	483	172	316	18.00	16.00	16.00-24.99	15.00-24.99	334	15.0	12.0	14.0-19.9	12.0-18.9
Machinists	430	228	317	29.00	25.00	25.00-33.99	22.00-29.99	335	23.0	20.0	21.0-27.9	18.0-24.9
Masons	173	50	318	34.00	30.00	22.00-41.99	23.00-34.99	336	29.0	25.0	18.0-31.9	19.0-28.9
Molders	121	78	318	30.00	29.00	26.00-31.99	26.00-31.99	337	24.0	24.0	22.0-26.9	22.0-26.9
Pattern-makers	52	32	319	32.00	27.00	29.00-36.99	24.00-33.99	337	27.0	22.0	24.0-30.9	20.0-27.9
Puddlers	111	163	320	47.00	44.00	45.00-49.99	40.00-48.99	338	52.0	44.0	44.0-55.9	40.0-47.9
Rollers	56	77	320	65.00	65.00	48.00-94.99	45.00-84.99	338	60.0	44.0	39.0-79.9	33.0-74.9
Roll tenders	205	192	321	34.00	36.00	30.00-47.99	30.00-48.99	339	31.0	30.0	26.0-37.9	22.0-37.9
Shearsmen	88	59	322	27.00	24.00	24.00-34.99	22.00-27.99	340	23.0	18.0	20.0-25.9	16.0-22.9
All other occupations peculiar to iron and steel mills	7,191	4,454	322	17.00	16.00	15.00-21.99	14.00-22.99	340	13.0	12.0	12.0-15.9	11.0-16.9
General occupations not peculiar to iron and steel mills	738	487	323	17.00	15.00	15.00-21.99	14.00-21.99	341	14.0	12.0	12.0-17.9	12.0-17.9
All occupations	11,396	7,033	324	19.00	19.00	15.00-26.99	15.00-27.99	342	14.0	14.0	12.0-21.9	12.0-22.9
Southern states—												
Blacksmiths	39	30	308	28.00	27.00	21.00-30.99	20.00-31.99	326	22.0	20.0	17.0-23.9	17.0-23.9
Engineers, locomotive and stationary	64	47	311	28.00	28.00	23.00-35.99	22.00-34.99	329	20.0	17.0	15.0-22.9	15.0-24.9
Firemen	66	41	312	22.00	21.00	21.00-24.99	20.00-24.99	330	16.0	15.0	14.0-16.9	14.0-15.9
Foremen	63	72	313	32.00	27.00	23.00-45.99	16.00-42.99	331	22.0	20.0	16.0-33.9	13.0-30.9
Heaters	46	44	315	41.00	44.00	27.00-64.99	15.00-54.99	333	34.0	38.0	23.0-57.9	13.0-51.9
Machine hands	84	51	316	18.00	16.00	15.00-20.99	14.00-19.99	335	15.0	13.0	13.0-18.9	11.0-18.9
Machinists	74	44	317	28.00	28.00	24.00-31.99	24.00-33.99	335	22.0	22.0	20.0-25.9	20.0-25.9
Molders	22	22	319	28.00	25.00	26.00-30.99	24.00-25.99	337	23.0	21.0	21.0-25.9	20.0-21.9
Puddlers	168	122	320	37.00	27.00	32.00-38.99	26.00-34.99	338	37.0	27.0	28.0-39.9	26.0-32.9
Rollers	35	27	321	60.00	48.00	27.00-94.99	36.00-64.99	339	50.0	40.0	22.0-74.9	24.0-51.9
Roll tenders	73	86	321	25.00	20.00	14.00-37.99	11.00-31.99	339	21.0	17.0	12.0-33.9	9.0-30.9
Shearsmen	31	25	322	22.00	19.00	17.00-29.99	15.00-22.99	340	15.0	15.0	13.0-25.9	13.0-22.9
All other occupations peculiar to iron and steel mills	1,940	1,542	323	16.00	16.00	12.00-20.99	12.00-19.99	341	12.0	11.0	10.0-14.9	10.0-14.9
General occupations not peculiar to iron and steel mills	107	89	323	18.00	19.00	14.00-23.99	17.00-24.99	341	13.0	14.0	10.0-17.9	12.0-17.9
All occupations	2,863	2,299	324	18.00	18.00	13.00-25.99	13.00-25.99	342	13.0	13.0	10.0-20.9	10.0-19.9
Central states—												
Blacksmiths	69	52	309	34.00	35.00	30.00-36.99	32.00-38.99	327	25.0	25.0	22.0-29.9	25.0-27.9
Chargers	58	38	309	27.00	37.00	21.00-34.99	24.00-64.99	327	16.0	38.0	15.0-20.9	16.0-43.9
Cranemen and hoistmen	111	47	310	30.00	30.00	30.00-36.99	23.00-59.99	328	19.0	18.0	19.0-21.9	16.0-57.9
Cupola and furnace tenders	62	36	311	37.00	45.00	37.00-64.99	43.00-69.99	329	22.0	30.0	22.0-55.9	25.0-53.9
Engineers, locomotive and stationary	254	180	311	33.00	35.00	31.00-36.99	30.00-38.99	329	23.0	20.0	19.0-25.9	19.0-25.9
Firemen	432	166	312	25.00	24.00	22.00-26.99	21.00-24.99	330	15.0	16.0	15.0-15.9	13.0-16.9
Foremen	266	167	313	32.00	33.00	27.00-42.99	27.00-54.99	331	22.0	22.0	19.0-28.9	18.0-34.9
Hammermen	50	24	314	25.00	29.00	22.00-31.99	23.00-48.99	332	20.0	24.0	18.0-25.9	19.0-41.9
Heaters	59	92	315	85.00	60.00	70.00- (1)	50.00- (1)	333	90.0	52.0	44.0-119.9	35.0-74.9
Ladlemen	56	28	315	45.00	65.00	28.00-99.99	50.00-79.99	333	26.0	54.0	18.0-109.9	50.0-67.9
Levermen	123	44	316	70.00	70.00	37.00-84.99	60.00-84.99	334	70.0	68.0	22.0-84.9	50.0-84.9
Machine hands	323	175	317	21.00	25.00	15.00-26.99	16.00-31.99	335	15.0	20.0	12.0-20.9	12.0-23.9
Machinists	342	180	317	36.00	37.00	31.00-39.99	33.00-38.99	336	27.0	27.0	26.0-28.9	25.0-29.9
Masons	65	220	318	55.00	55.00	55.00-59.99	55.00-59.99	336	50.0	50.0	50.0-51.9	50.0-51.9
Molders	76	61	319	33.00	33.00	33.00-34.99	30.00-38.99	337	27.0	25.0	27.0-29.9	25.0-27.9
Roll tenders	50	66	321	48.00	36.00	30.00-59.99	25.00-44.99	339	39.0	25.0	31.0-43.9	17.0-31.9
Shearsmen	63	39	322	19.00	19.00	17.00-22.99	18.00-22.99	340	15.0	16.0	14.0-18.9	14.0-17.9
All other occupations peculiar to iron and steel mills	8,005	5,528	323	23.00	21.00	21.00-25.99	20.00-23.99	341	15.0	15.0	15.0-16.9	14.0-16.9
General occupations not peculiar to iron and steel mills	332	233	324	28.00	28.00	23.00-34.99	20.00-35.99	342	19.0	21.0	16.0-24.9	15.0-25.9
All occupations	10,912	7,394	324	25.00	21.00	21.00-29.99	21.00-30.99	342	15.0	15.0	15.0-20.9	14.0-20.9
Pacific states—												
All other occupations peculiar to iron and steel mills	152	83	323	18.00	18.00	18.00-18.99	18.00-19.99	341	15.0	15.0	15.0-15.9	15.0-16.9
All occupations	183	109	325	18.00	19.00	18.00-19.99	18.00-21.99	343	15.0	15.0	15.0-17.9	15.0-18.9
All sections—												
Apprentices	206	88	308	13.00	11.00	12.00-17.99	9.00-13.99	326	11.0	9.0	10.0-14.9	7.0-11.9
Blacksmiths	177	136	309	30.00	30.00	27.00-34.99	27.00-35.99	327	23.0	24.0	21.0-27.9	22.0-27.9
Chargers	131	81	309	25.00	27.00	21.00-28.99	24.00-30.99	327	16.0	29.0	14.0-25.9	16.0-29.9
Cranemen and hoistmen	252	96	310	28.00	21.00	20.00-32.99	16.00-30.99	328	19.0	17.0	15.0-22.9	13.0-18.9
Cupola and furnace tenders	129	103	311	37.00	28.00	30.00-59.99	26.00-46.99	329	22.0	21.0	18.0-43.9	16.0-32.9
Engineers, locomotive and stationary	694	391	311	30.00	24.00	23.00-35.99	19.00-34.99	329	20.0	17.0	16.0-24.9	15.0-22.9
Firemen	699	290	312	23.00	24.00	22.00-26.99	20.00-24.99	330	15.0	16.0	15.0-15.9	13.0-16.9
Foremen	679	463	313	31.00	30.00	23.00-42.99	23.00-46.99	331	21.0	20.0	17.0-31.9	16.0-34.9
Gas producers	114	64	313	22.00	20.00	22.00-23.99	18.00-23.99	331	15.0	14.0	15.0-15.9	14.0-16.9
Hammermen	89	56	314	26.00	39.00	23.00-38.99	25.00-64.99	332	22.0	32.0	19.0-31.9	23.0-63.9
Heaters	247	282	315	55.00	55.00	37.00-59.99	42.00-69.99	333	44.0	44.0	32.0-69.9	32.0-59.9
Ladlemen	64	43	315	35.00	48.00	28.00-99.99	27.00-79.99	333	24.0	46.0	18.0-109.9	20.0-57.9
Levermen	192	97	316	49.00	46.00	29.00-74.99	37.00-74.99	334	46.0	44.0	28.0-79.9	33.0-65.9
Machine hands	890	398	317	18.00	19.00	16.00-25.99	15.00-28.99	335	15.0	15.0	13.0-19.9	12.0-21.9
Machinists	849	456	317	31.00	30.00	26.00-36.99	24.00-37.99	336	25.0	23.0	21.0-27.9	20.0-27.9
Masons	247	280	318	34.00	55.00	26.00-54.99	55.00-59.99	336	29.0	50.0	22.0-41.9	50.0-51.9
Molders	219	161	319	31.00	30.00	27.00-33.99	25.00-33.99	337	26.0	24.0	23.0-27.9	21.0-27.9
Pattern-makers	77	47	319	33.00	30.00	30.00-37.99	25.00-42.99	337	27.0	25.0	25.0-30.9	21.0-30.9
Puddlers	291	297	320	39.00	39.00	36.00-46.99	28.00-44.99	338	39.0	38.0	33.0-51.9	27.0-45.9
Rollers	114	117	321	70.00	55.00	48.00-99.99	45.00-79.99	339	60.0	42.0	39.0-79.9	33.0-63.9
Roll tenders	328	344	321	33.00	33.00	28.00-48.99	26.00-43.99	339	31.0	27.0	24.0-38.9	18.0-34.9
Shearsmen	199	126	322	22.00	22.00	19.00-29.99	19.00-25.99	340	18.0	17.0	15.0-23.9	15.0-20.9
All other occupations peculiar to iron and steel mills	17,288	11,607	323	21.00	20.00	16.00-25.99	15.00-22.99	341	15.0	14.0	12.0-16.9	12.0-16.9
General occupations not peculiar to iron and steel mills	1,179	812	324	20.00	19.00	16.00-27.99	14.00-24.99	342	16.0	15.0	13.0-20.9	12.0-19.9
All occupations	25,354	16,835	325	21.00	21.00	17.00-28.99	16.00-28.99	343	15.0	15.0	13.0-20.9	12.0-21.9

[1] $100 and over.

MEDIAN AND QUARTILES FOR BIWEEKLY AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER TWO WEEKS (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
Central states—												
All occupations	62	37	325	10.00	9.00	8.00-12.99	6.00-11.99	343	8.0	8.0	7.0-10.9	5.0- 9.9
Males under 16:												
Southern states—												
All occupations	59	40	325	6.00	6.00	5.00- 8.99	6.00- 8.99	343	5.0	5.0	(1)- 7.9	5.0- 7.9
Central states—												
All occupations	55	36	325	7.00	5.00	7.00- 7.99	5.00- 6.99	343	6.0	(1)	6.0- 6.9	(1)- 5.9
All sections—												
All occupations	131	97	325	7.00	6.00	6.00- 8.99	5.00- 7.99	343	6.0	5.0	5.0- 6.9	(1)- 6.9

[1] Less than 5 cents.

The Middle, Southern, Central, and Pacific states furnish returns for this industry, but in the Pacific states the number of employees in the establishments reported is too small to warrant conclusions regarding wage changes. The normal working hours present a variety so diverse that even in any single establishment it is difficult to state definitely just what the prevailing hours are. There seems to have been no marked change in the time regularly worked, but it should be observed that the peculiar conditions in this industry make it necessary to disregard the normal hours in a single week and adopt instead the number of hours per two weeks as a basis upon which to present rates of wages. The custom or necessity of operating some of the departments in certain plants without interruption is the cause of this difference in the treatment of the iron and steel industry. (For shift workers see page xix.)

In this industry there is an exceptional diversity in the product turned out by the mills represented; the returns are from open-hearth and blast furnaces, rolling mills, Bessemer converters, and puddling furnaces. The establishments reported differed greatly in size and variety, some including but a single one of the steps in the manufacture of the finished product, others combining many. There are thus comprehended in the industry several distinct phases, each including processes which are similar but require varying degrees of skill, and are so closely related that to classify them minutely would separate arbitrarily parts which by imperceptible gradations build up and compose one recognized, well-defined, united industry. A representative number of returns from each separate subdivision would justify a separate presentation for each, but the purposes and opportunities of the present wage investigation did not make possible such exhaustive and detailed treatment, and perhaps it would not have been possible under any circumstances, owing to the almost endless variety of products and combinations of separate processes covered by the operations of a single company and often in a single plant.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—In "all occupations" combined there appears to be practically no change. In some of the specified occupations the returns for the two periods are widely disproportionate in numbers. A rise is quite marked in the rates for "apprentices," "cranemen and hoistmen," "cupola and furnace tenders," "engineers, locomotive and stationary," "firemen," "machinists," "pattern-makers," and "puddlers"; less marked in the rates for "blacksmiths" and "molders." The changes for "foremen," "gas producers," "hammermen," "levermen," and "masons" were slight. "Chargers" show a decided decrease in rates. "Machine hands," "rollers," and "shearsmen" show increases more pronounced in the hour than in the biweekly rates. There was practically no change in the biweekly rates for "roll tenders," but a noticeable rise in the hour rates.

Southern states.—There is practically no change for "all occupations" combined either in the biweekly or the hour presentation. A decided increase in rates is shown for "foremen," "puddlers," "roll tenders," and "shearsmen"; and there are slight variations in the rates for "blacksmiths," "engineers, locomotive and stationary," "firemen," "heaters," and "rollers." The biweekly rates for "machine hands" remain about the same, but the hour rates show an increase. "Machinists" show a slight decrease per two weeks but little change in rates per hour. Very few returns are shown for "molders."

Central states.—There is little change to be noticed in the rates for "all occupations" combined. As in the Middle states, the returns for the two periods are widely disproportionate in number, particularly in the case of "cranemen and hoistmen," "firemen," "levermen," and "masons." The few returns in 1890 for "hammermen" and "ladlemen" do not justify definite conclusions. A marked increase is shown in the rates for "heaters" and "roll tenders," and a slight increase for "firemen;" little change appears in the rates for "cranemen and hoistmen," "cupola and furnace tenders," "foremen," "levermen," "machinists," "masons,"

and "shearsmen;" a slight decrease for "blacksmiths;" and heavy decreases for "chargers" and "machine hands." The biweekly rates for "engineers, locomotive and stationary" and for "molders" show little change, but the rates per hour show considerable increases.

Pacific states.—"All occupations" combined show a considerable falling off in biweekly rates but little change in hour rates; the numbers reported, however, are few.

All sections combined.—For "all occupations" combined the rates show almost no change. The proportions which the several occupations form of their total remained constant for the two periods.

For the greater number of specified occupations, the proportions contributed by each of the sections represented remain about the same. Among the exceptions may be noted "cranemen and hoistmen," "gas producers," "heaters," "machine hands," and "masons," in all of which the percentage reported from the Middle states increased; the percentage from the Central states fell correspondingly. In the case of "cupola and furnace tenders," "hammermen," "ladlemen," "levermen," "rollers," and "straighteners," the reverse is true, there being an increase in the representation of the Central states and a decrease in that of the Middle states. There is a larger proportion of "puddlers" reported in the Southern states in 1900 than in 1890, the proportion in the Middle states shrinking correspondingly.

In all sections combined the rates for "apprentices," "cranemen and hoistmen," "cupola and furnace tenders," "engineers, locomotive and stationary," and "rollers" were considerably higher in 1900 than in 1890. The rates for "gas producers" and "puddlers" increased somewhat during the decade. There seems to have been little change in "blacksmiths," "foremen," "ladlemen," "levermen," and "machine hands." A definite decrease took place in "chargers," "hammermen," and "masons." The disproportion in the numbers returned for "masons" in the Central states, and the fact that rates are higher in that section than elsewhere, causes the total for all sections combined to show a decrease, though in both the Middle and Central states no change is apparent. A rise is observable in rates per two weeks for "machinists," "molders," "pattern-makers," "roll tenders," and "shearsmen," which is more definite and pronounced in the rates per hour. The biweekly rates for "firemen" show a rise in wages, but the hour rates disclose little variation between the two periods. A slight increase may be seen in rates per hour for "heaters," while the rates per two weeks for the same occupation indicate little change.

Females 16 and over—Central states.—The numbers tabulated are too few to justify inferences.

Males under 16—Southern states.—For "all occupations" a slight decrease is discernible in rates per two weeks, but little change appears in rates per hour.

Central states.—A considerable increase is shown.

All sections combined.—A marked increase is shown.

GENERAL SUMMARY.

Apparently little change took place in the wages of men in the three sections adequately represented by returns.

SHIPYARDS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Calkers (wooden vessels)	37	68	346	16.00	19.50	16.00-16.49	19.50-19.99	356	27.0	32.0	27.0-27.9	32.0-32.9
Carpenters and ship joiners	205	163	346	13.00	16.50	11.50-14.99	15.00-16.99	356	22.0	27.0	20.0-25.9	25.0-27.9
General hands, helpers, and laborers	36	54	348	8.50	10.50	8.50- 8.99	10.50-12.49	358	15.0	17.0	15.0-15.9	17.0-20.9
All occupations	331	343	353	13.00	16.50	11.50-14.99	15.00-18.49	363	22.0	27.0	20.0-25.9	25.0-30.9
Middle states—												
Apprentices	280	134	344	3.50	4.00	3.00- 5.49	3.00- 5.49	354	6.0	6.0	5.0- 8.9	5.0- 8.9
Blacksmiths	65	51	344	17.50	15.00	14.50-18.49	13.00-17.49	354	32.0	25.0	25.0-32.9	22.0-31.9
Boiler-makers	194	127	345	14.50	13.00	12.00-14.99	12.00-15.99	355	25.0	21.0	20.0-25.9	20.0-27.9
Calkers (wooden vessels)	109	67	346	15.00	15.00	15.00-16.99	15.00-15.49	356	27.0	27.0	27.0-30.9	25.0-27.9
Carpenters and ship joiners	715	451	347	14.00	14.00	13.50-16.99	13.50-15.49	357	24.0	24.0	22.0-30.9	22.0-26.9
Foremen	99	83	347	20.00	20.50	18.00-25.49	18.00-25.49	357	36.0	35.0	33.0-42.9	30.0-41.9
General hands, helpers, and laborers	1,464	1,043	348	8.00	7.50	7.50- 9.49	7.00- 9.49	358	14.0	12.0	12.0-17.9	11.0-15.9
Iron-ship builders	417	231	348	13.50	12.00	13.50-13.99	10.50-13.49	358	24.0	20.0	24.0-24.9	18.0-21.9
Machinists and machine tenders	885	503	349	15.00	13.50	13.50-15.99	12.00-15.49	359	26.0	22.0	23.0-28.9	20.0-26.9
Molders	116	98	350	13.00	14.00	13.00-15.99	13.00-15.49	360	23.0	23.0	21.0-26.9	21.0-25.9
Painters	150	126	350	13.50	12.00	12.00-15.49	12.00-14.49	360	23.0	22.0	22.0-25.9	22.0-24.9
Riggers	36	39	351	10.00	10.00	9.00-12.49	10.00-10.99	361	16.0	16.0	15.0-22.9	16.0-17.9
Riveters	97	44	351	16.50	16.00	10.50-16.99	10.00-16.49	361	31.0	30.0	17.0-31.9	16.0-30.9
All other occupations peculiar to shipyards	38	34	352	13.50	14.50	10.00-15.49	12.00-14.99	362	22.0	24.0	16.0-25.9	20.0-24.9
General occupations not peculiar to shipyards	129	104	352	11.50	10.50	9.50-16.49	8.00-15.49	362	18.0	17.0	15.0-26.9	13.0-25.9
All occupations	4,794	3,135	353	13.00	12.00	9.00-15.49	8.00-14.49	363	22.0	20.0	16.0-26.9	13.0-24.9
Central states—												
Carpenters and ship joiners	67	95	347	15.00	15.00	15.00-16.99	13.50-15.99	357	25.0	25.0	25.0-27.9	22.0-25.9
General hands, helpers, and laborers	143	129	348	9.00	8.00	9.00-10.99	8.00- 9.49	358	15.0	13.0	15.0-17.9	13.0-15.9
Iron-ship builders	26	32	349	15.00	15.00	13.50-15.49	11.00-15.49	359	25.0	25.0	22.0-25.9	18.0-25.9
All occupations	350	303	353	12.00	10.50	9.00-15.49	9.00-15.49	363	20.0	17.0	15.0-25.9	14.0-25.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.												
Pacific states—												
Apprentices	327	210	344	6.00	6.00	4.00- 6.49	4.50- 6.49	354	10.0	10.0	6.0-10.9	7.0-10.9
Blacksmiths	38	20	345	15.00	21.00	13.50-18.49	18.00-22.99	355	25.0	35.0	22.0-30.9	30.0-37.9
Boiler-makers	60	49	345	15.00	21.00	13.50-16.99	19.50-21.49	355	25.0	35.0	22.0-27.9	32.0-35.9
Carpenters and ship joiners	268	80	347	19.50	21.00	18.00-21.49	21.00-24.49	357	32.0	35.0	30.0-35.9	35.0-40.9
General hands, helpers, and laborers	1,372	257	348	12.00	12.00	10.50-12.49	12.00-12.49	358	20.0	20.0	17.0-20.9	20.0-20.9
Iron-ship builders	78	85	349	15.00	15.00	13.50-16.99	13.50-18.49	359	25.0	25.0	22.0-27.9	22.0-30.9
Machinists and machine tenders	353	128	349	18.00	21.00	18.00-18.49	18.00-21.99	359	30.0	35.0	30.0-30.9	30.0-36.9
Molders	67	27	350	19.50	21.00	18.00-21.49	19.50-21.49	360	32.0	35.0	30.0-35.9	32.0-35.9
Riggers	38	22	351	13.50	13.50	13.50-13.99	13.50-13.99	361	22.0	22.0	22.0-22.9	22.0-22.9
General occupations not peculiar to shipyards	38	20	352	13.50	15.00	12.00-18.49	12.00-18.49	362	22.0	25.0	20.0-30.9	20.0-30.9
All occupations	2,726	910	353	12.00	13.50	10.50-16.99	12.00-19.99	363	20.0	22.0	17.0-27.9	20.0-32.9
All sections—												
Apprentices	608	346	344	5.00	6.00	3.50- 6.49	3.50- 6.49	354	9.0	10.0	6.0-10.9	5.0-10.9
Blacksmiths	114	77	345	16.00	16.00	13.50-18.49	14.00-18.49	355	27.0	26.0	24.0-32.9	23.0-33.9
Boiler-makers	254	176	345	14.50	15.00	13.50-15.49	12.50-18.49	355	25.0	25.0	22.0-25.9	20.0-32.9
Calkers (wooden vessels)	159	144	346	15.00	16.50	15.00-16.49	15.00-19.99	356	27.0	30.0	27.0-27.9	27.0-32.9
Carpenters and ship joiners	1,255	789	347	15.00	15.00	13.50-16.99	14.00-16.99	357	25.0	25.0	22.0-30.9	23.0-27.9
Foremen	130	106	347	20.00	20.50	18.00-24.49	18.00-25.49	357	35.0	35.0	30.0-41.9	30.0-41.9
General hands, helpers, and laborers	3,015	1,483	348	10.50	8.50	8.00-12.49	7.00-10.99	358	17.0	14.0	14.0-20.9	11.0-18.9
Iron-ship builders	522	350	349	13.50	13.00	13.50-13.99	11.00-13.99	359	24.0	21.0	22.0-24.9	18.0-22.9
Machinists and machine tenders	1,303	651	349	15.00	14.00	13.50-17.99	13.00-16.99	359	26.0	25.0	24.0-30.9	21.0-28.9
Molders	188	125	350	15.00	14.50	13.00-18.49	13.00-16.99	360	25.0	24.0	22.0-30.9	21.0-27.9
Painters	158	133	350	13.50	13.50	12.00-15.49	12.00-15.49	360	23.0	22.0	22.0-25.9	22.0-25.9
Riggers	74	61	351	13.50	10.50	10.00-13.99	10.00-13.99	361	22.0	17.0	16.0-22.9	16.0-22.9
Riveters	109	57	351	16.50	15.00	10.50-16.99	10.00-16.49	361	31.0	25.0	17.0-31.9	16.0-30.9
All other occupations peculiar to shipyards	124	51	352	15.00	14.50	14.00-18.49	14.00-16.99	362	25.0	24.0	23.0-30.9	23.0-27.9
General occupations not peculiar to shipyards	193	142	352	12.00	12.00	10.00-16.49	9.00-15.49	362	20.0	18.0	15.0-26.9	13.0-25.9
All occupations	8,201	4,691	353	12.00	12.00	9.50-15.49	8.50-15.49	363	21.0	21.0	17.0-26.9	14.0-25.9

The New England, Middle, Central, and Pacific states are represented in this industry. The number of employees returned for the New England and Central states is very small, each of these sections representing in 1900 less than 5 per cent of the total number reported, and in 1890 only slightly more than 5 per cent. In all but 3 establishments the normal working time remained unchanged during the decade, but differed in different cases, ranging from 54 to 60 hours per week. The 3 establishments referred to are in the Middle states, and in each of them the number of hours worked was less in 1900 than in 1890. As regards increase or decrease of rates, the facts shown by the week and hour tabulations differ very little; in a few cases a better showing is made in 1900 on the basis of the hour rates. No females and no males under 16 are reported in this industry for either period. The portion of the returns in the form of earnings is so small as to be insignificant, and no separate tabulation of earnings is presented.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The returns for the occupations in this section are few; they are separately presented for "calkers (wooden vessels)," "carpenters and ship joiners," "general hands, helpers, and laborers," as well as for "all occupations" combined; in each case there is a marked decrease.

Middle states.—The tabulation for "all occupations" combined shows a slight increase according to the week rates and a considerable increase according to the hour rates. Among the occupations for which separate tabulations are shown there is a decided increase in rates for "blacksmiths," "calkers (wooden vessels)," "general hands, helpers, and laborers," "iron-ship builders," and "machinists and machine tenders." "Painters" and "riveters" show slight increases, and "apprentices," "carpenters and ship joiners," and "foremen" show practically no change. "Boiler-makers" show a considerable increase in rates, but there is a decrease for the highest paid employees; in explanation of this it may be stated that the rates were higher at both periods in one establishment than in the others, but in that establishment there was a decrease in rates during the decade. There is a slight increase in the hour rates for "molders," but inasmuch as many of the men worked 60 hours in 1890 and only 56 in 1900, the week rates show a slight decrease. For "riggers" the returns are not conclusive.

Central states.—The rates for "all occupations" combined show a slight increase. Separate tabulations are presented for "carpenters and ship joiners," "general hands, helpers, and laborers," and "iron-ship builders"; for the first and second, rates are higher in 1900 than in 1890; for the third, there is practically no change.

Pacific states.—The returns for this section are for 2,726 men in 1900 as compared with only 910 in 1890. In "all occupations" combined rates are considerably lower in 1900 than in 1890. Of the occupations separately presented, "blacksmiths," "boiler-makers," "carpenters and ship joiners," "general hands, helpers, and laborers," "machinists and machine tenders," and

"molders" show heavy decreases in rates; for "apprentices" and "iron-ship builders" there is very little change. The rates for "riggers" are slightly higher in 1900 than in 1890, but the number returned is small.

All sections combined.—The proportions which the two sections furnishing the largest number of returns form of the total number reported for the industry at each period are as follows: In 1890, Middle states, 67 per cent and Pacific states, 19 per cent; in 1900, Middle states, 58 per cent and Pacific states, 33 per cent. For 1900 "all occupations" combined show comparatively little variation in the height of wages in the several sections. For 1890 the rates shown are considerably higher in the New England and Pacific states than in the Middle and Central states; but during the decade there was a decrease in the first two sections, and an increase in the last two. For the four sections combined there is a slight increase.

Of the occupations for which separate tabulations are presented, "riggers" and "machinists and machine tenders" show decided increases in all sections combined. For "riggers" there is an increase in each section for which a separate tabulation is presented; "machinists and machine tenders" are reported principally from the Middle and Pacific states, the former section showing a decided increase in rates, and the latter a decrease.

The combined tabulation for "general hands, helpers, and laborers" for the four sections shows considerable increase in rates, the increase in the Middle and Central states being sufficient to overbalance the decrease in the other two sections.

"Iron-ship builders," "painters," and "riveters" show slight increases for all sections combined; in each of these occupations the bulk of the employees are in the Middle states, and the tabulations for that section also show increases, in the case of "iron-ship builders," a decided increase.

"Molders" are reported only from the Middle and Pacific states and show little change in the former section, but a decided decrease in the latter; rates are much higher, however, at both periods in the Pacific states, and as the returns for that section constitute 37 per cent of the total in 1900 and only 22 per cent in 1890, the combined tabulation for the two sections shows a slight increase in week rates and a decided increase in hour rates.

The combined tabulations for "apprentices" and "foremen" show practically no change in rates; this is true also of the sectional presentations.

"Blacksmiths" and "boiler-makers" are reported principally from the Middle and Pacific states, and show an increase in the former section, a decrease in the latter, and little change in all sections combined. Separate tabulations for "carpenters and ship joiners" are presented for all four sections, the New England and Pacific states showing decreases, the Middle states little change, and the Central states an increase in rates; from the combined tabulation it is difficult to determine the degree of change.

For "calkers (wooden vessels)" the decided decrease in the New England states overbalances the increase in the Middle states, producing a decrease for all sections combined.

GENERAL SUMMARY.

The returns indicate an increase in the Middle and Central states and a decrease in the New England and Pacific states, the combined figures for the four sections showing a slight increase.

BAKERIES.

MEDIAN AND QUARTILES FOR WEEK RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Bakers	91	61	366	12.00	11.00	9.00-13.49	9.00-12.49
Drivers	20	22	367	15.00	13.00	10.00-16.49	9.00-15.49
All occupations	168	115	370	11.00	11.50	9.00-14.49	9.00-14.49
Middle states—							
Bakers	77	82	366	14.00	14.00	11.00-16.49	14.00-14.49
Drivers	119	105	367	14.50	13.00	12.00-15.49	10.50-13.49
General hands, helpers, and laborers	30	44	368	8.00	7.00	5.00-10.49	4.00-10.49
Mixers	59	44	368	12.00	9.50	12.00-13.49	9.50-13.49
All other occupations peculiar to bakeries	67	32	369	8.00	9.50	5.00-10.49	8.00-10.99
General occupations not peculiar to bakeries	39	30	370	12.00	12.00	10.00-15.49	10.00-15.49
All occupations	425	366	370	12.00	12.00	10.00-15.49	10.00-14.49
Southern states—							
Bakers	30	30	366	10.50	10.00	9.00-13.49	8.00-12.49
All occupations	79	77	371	10.00	9.50	6.00-13.49	7.00-12.49
Central states—							
Bakers	61	47	366	12.00	12.00	11.00-12.99	11.00-12.49
Drivers	46	36	367	12.00	12.00	12.00-15.49	12.00-15.49
General hands, helpers, and laborers	42	22	368	6.00	6.00	5.00- 9.49	5.00- 8.99
Mixers	268	129	368	12.00	12.00	8.00-13.49	10.00-12.49
Oven tenders	29	22	369	14.00	14.00	10.00-16.49	9.00-15.49
All other occupations peculiar to bakeries	187	140	369	8.00	7.00	7.00- 9.49	4.50- 9.49
General occupations not peculiar to bakeries	120	61	370	12.00	11.00	9.00-13.49	9.00-12.49
All occupations	774	479	371	11.00	11.00	8.00-12.49	7.00-12.49

MEDIAN AND QUARTILES FOR WEEK RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.							
All sections—							
Bakers	259	220	366	12.00	12.00	10.00-14.49	10.00-14.49
Drivers	197	175	367	14.00	13.00	12.00-15.49	10.00-13.49
Foremen	59	57	367	18.00	16.00	15.00-22.49	14.00-20.49
General hands, helpers, and laborers	94	80	368	7.50	6.00	5.00-10.49	4.00-10.49
Mixers	332	182	369	12.00	12.00	9.00-13.49	9.50-12.49
Oven tenders	48	37	369	14.00	12.00	12.00-16.49	11.50-15.49
All other occupations peculiar to bakeries	289	188	369	8.00	8.00	6.00-10.49	5.00- 9.49
General occupations not peculiar to bakeries	168	98	370	12.00	12.00	10.00-13.49	10.00-13.49
All occupations	1,446	1,037	371	12.00	11.00	9.00-14.49	9.00-13.49
Females 16 and over:							
Central states—							
All occupations	439	109	371	4.50	5.00	3.50- 6.49	4.00- 6.99
Males under 16:							
Central states—							
All occupations	49	39	371	3.50	3.50	3.00- 4.49	3.00- 4.49
Females under 16:							
Central states—							
All occupations	103	24	371	3.00	3.00	2.50- 3.49	3.00- 3.49

The returns for bakeries represent the New England, Middle, Southern, and Central states. The only tables presented for this industry are those showing rates per week. The working time was so irregular that in some cases it was not reported at all, while many of the establishments reported only the approximate number of hours worked in a week. On one schedule the question as to working time was answered: "Variable, they work until they finish a baking; average about 10 hours per day, 60 hours per week." Several answered: "Hours vary, average about 10 per day, 60 per week." In establishments reporting nearly one-third of the total number in 1890 and more than one-third of all reported in 1900, the working time in a week was shorter at the end of the decade by amounts varying from 3 to 12 hours. The establishments reporting a definite shortening of the working time are all in the Middle and Central states, so that for those sections, only, would a tabulation of hour rates be desirable; but no such tabulation has been made, because the hours are generally so irregular and indefinite that no normal time could be stated.

Males 16 and over form 81 per cent in 1890 of all the employees in the establishments considered, and 65 per cent in 1900. As a rule—exceptions are specially noted—the proportions which the various specified occupations form of the total for "all occupations" combined changed little for the decade. This is true to a somewhat less degree of the proportions which the returns for an occupation from the various sections form of the total for all sections combined.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The only occupations separately shown are "bakers" and "drivers"; these, and the total for "all occupations," show little change during the decade, but for "drivers" that change was clearly an increase, although not a large one.

Middle states.—The rates for "all occupations" combined show a small increase. Of the occupations shown specifically, "drivers" and "mixers" show decided increases; "general hands, helpers, and laborers," a slight increase; and "bakers," little change.

Southern states.—For "all occupations" combined and for "bakers," the only occupation separately presented, the numbers are too small to justify definite conclusions.

Central states.—The tabulation for "all occupations" combined shows practically no change except a slight diminution in the proportion of returns at the lower rates. Of the specified occupations, "bakers" and "drivers" show slight increases, and "mixers" little change. The numbers of "general hands, helpers, and laborers" and "oven tenders" are too small to justify definite conclusions.

All sections combined.—In 1900 the Middle states form 29 per cent of the total for "all occupations" combined, as compared with 35 per cent in 1890. For the Central states the proportions are 54 per cent in 1900 and 46 per cent in 1890. The other sections together form only 17 per cent of the totals in 1900 and 19 per cent in 1890. Rates are highest in the Middle states and lowest in the Southern states, but the differences between the sections are not wide. As has been stated, there was a slight increase in the Middle states, and little change in the New England and Central states, while the figures for the Southern states are too small to warrant conclusions. The combined returns for all these sections show a very small increase for the decade.

Of the specified occupations, "drivers" show a large increase, and "foremen," "general hands, helpers, and laborers," and "oven tenders" show small increases,

when the returns for the various sections are combined. At each period 60 per cent of the "drivers" are in the Middle states, and there is little difference between the sections as to height of wages in this occupation. "Foremen" are shown only for the total of all sections combined. Of "general hands, helpers, and laborers," 55 per cent in 1890 and 32 per cent in 1900 are in the Middle states, and 28 per cent in 1890 and 45 per cent in 1900 are in the Central states; in the former section, and in the total for all sections, a small increase is shown; in the Central states there is little change; rates are about the same in all sections. "Oven tenders" are separately shown only for the Central states, and for that section, as already stated, the returns are too few to justify definite conclusions. For "bakers" and "mixers" the changes are too small to be perceptible; in 1890, 28 per cent and in 1900, 35 per cent of the "bakers" are in the New England states; in the Middle states the proportions are 37 per cent in 1890 and 30 per cent in 1900; in the Central states 21 per cent in 1890 and 24 per cent in 1900; at both periods wages are highest in the Middle states. Of the "mixers," 71 per cent in 1890 and 81 per cent in 1900 are in the Central states, and 24 per cent in 1890 and 18 per cent in 1900 in the Middle states. In the latter section a rise of $2.50 per week is shown for more than half the men, while in the Central states and in the total, the movement is obscure.

Females 16 and over—Central states.—This is the only section separately presented; the returns as a whole show a decrease in rates, but at the high as well as at the low rates the numbers have greatly increased.

Males under 16—Central states.—The change in rates is very small, but on the whole is in the direction of an increase.

Females under 16.—The number reported in 1890 is very small and nearly all are in the wage group $3.00 to $3.49; the increase in number during the decade took place mainly in that group and the group below.

BREWERIES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	126	101	378	16.00	13.00	15.00-17.49	12.00-15.49	386	26.0	20.0	25.0-28.9	17.0-22.9
Middle states—												
Cellarmen	233	241	372	18.00	18.00	15.00-18.49	14.00-18.49	380	30.0	30.0	27.0-30.9	23.0-30.9
Drivers	236	223	373	18.00	18.00	15.00-18.49	15.00-18.49	381	30.0	30.0	25.0-30.9	25.0-30.9
General hands, helpers, and laborers	55	81	374	13.00	11.00	12.00-13.49	11.00-12.49	382	24.0	18.0	22.0-24.9	18.0-20.9
Kettlemen	39	43	374	18.00	16.50	15.00-18.49	13.00-18.49	382	30.0	24.0	27.0-30.9	21.0-30.9
Stablemen	108	88	375	13.00	13.00	13.00-13.49	12.00-13.49	383	21.0	21.0	21.0-21.9	20.0-21.9
Washhouse men	143	172	376	15.00	15.00	15.00-15.49	13.00-15.49	384	25.0	25.0	25.0-25.9	21.0-25.9
General occupations not peculiar to breweries	242	171	377	15.00	16.00	15.00-18.49	14.00-18.49	385	26.0	25.0	25.0-30.9	20.0-30.9
All occupations	1,181	1,122	378	15.00	15.00	14.50-18.49	13.00-18.49	386	27.0	25.0	25.0-30.9	20.0-30.9
Southern states—												
All occupations	99	117	378	12.50	13.50	10.00-16.49	11.50-17.49	386	21.0	23.0	17.0-26.9	19.0-28.9
Central states—												
Bottlers	185	87	372	6.00	3.50	3.50- 6.99	2.00- 4.99	380	10.0	6.0	6.0-11.9	(1)- 8.9
Cellarmen	136	130	372	14.00	12.50	14.00-15.49	12.50-13.99	380	23.0	21.0	23.0-25.9	21.0-23.9
Drivers	118	107	373	13.50	12.50	11.50-14.49	11.50-13.99	381	23.0	21.0	19.0-24.9	19.0-23.9
General hands, helpers, and laborers	291	180	374	9.00	8.00	6.50-10.99	6.50- 9.49	382	16.0	13.0	12.0-19.9	11.0-15.9
Kettlemen	34	25	375	15.00	13.00	14.00-15.49	12.50-13.99	383	25.0	23.0	23.0-25.9	21.0-24.9
Maltsters	94	138	375	16.00	12.50	15.00-16.99	12.50-30.49	383	27.0	21.0	26.0-30.9	21.0-43.9
Washhouse men	119	84	376	13.00	11.50	13.00-14.49	11.50-12.49	384	21.0	19.0	21.0-23.9	19.0-20.9
All other occupations peculiar to breweries	483	354	377	11.00	12.50	10.50-13.99	11.50-14.49	385	17.0	21.0	17.0-25.9	19.0-23.9
General occupations not peculiar to breweries	608	465	377	14.00	11.50	13.00-15.49	10.50-13.99	385	25.0	19.0	21.0-27.9	17.0-23.9
All occupations	2,149	1,641	378	13.00	12.00	10.50-15.49	10.00-13.99	386	21.0	19.0	17.0-25.9	16.0-23.9
Pacific states—												
All occupations	108	142	379	17.00	17.00	15.00-18.49	15.00-17.49	387	31.0	26.0	27.0-33.9	23.0-28.9
All sections—												
Apprentices	23	20	372	10.00	10.00	10.00-10.49	10.00-10.49	380	16.0	16.0	16.0-16.9	16.0-16.9
Cellarmen	414	484	373	15.00	14.00	14.00-18.49	12.50-18.49	381	27.0	23.0	25.0-30.9	21.0-30.9
Drivers	414	384	373	17.00	16.00	14.00-18.49	13.50-18.49	381	28.0	26.0	23.0-30.9	23.0-30.9
Foremen	85	84	373	20.00	18.00	17.00-23.49	15.00-23.49	381	33.0	30.0	28.0-38.9	25.0-37.9
General hands, helpers, and laborers	367	279	374	10.50	9.00	7.50-12.49	7.50-11.49	382	19.0	15.0	13.0-22.9	12.0-18.9
Kettlemen	87	80	375	15.00	14.50	14.00-18.49	12.50-18.49	383	26.0	24.0	25.0-30.9	21.0-30.9
Maltsters	117	171	375	16.00	12.50	15.00-16.99	12.00-27.99	383	27.0	21.0	26.0-30.9	19.0-43.9
Stablemen	155	149	376	13.00	13.00	11.50-13.49	11.50-13.49	384	21.0	21.0	20.0-21.9	16.0-21.9
Washhouse men	300	300	376	14.00	13.50	13.00-15.49	11.50-15.49	384	25.0	23.0	21.0-25.9	19.0-25.9
All other occupations peculiar to breweries	581	423	377	11.50	12.50	10.50-15.49	11.50-15.49	385	20.0	21.0	17.0-25.9	19.0-25.9
General occupations not peculiar to breweries	930	710	377	15.00	13.00	13.00-16.99	10.50-15.49	385	25.0	21.0	21.0-30.9	17.0-25.9
All occupations	3,663	3,123	379	14.00	13.00	11.50-16.49	11.00-15.49	387	25.0	21.0	19.0-28.9	18.0-25.9
Females all ages:												
Central states—												
Washhouse hands	154	118	379	4.00	4.00	4.00- 4.49	4.00- 4.49	387	7.0	7.0	7.0- 7.9	7.0- 7.9
All other occupations	258	193	379	2.50	2.00	2.00- 3.99	2.00- 3.49	387	(1)	(1)	(1)- 6.9	(1)- 5.9
All occupations	412	311	379	3.50	3.50	2.50- 4.49	2.00- 4.49	387	6.0	6.0	(1)- 7.9	(1)- 7.9
Males under 16:												
Central states—												
All occupations	61	24	379	3.50	2.50	3.50- 3.99	2.50- 2.99	387	6.0	(1)	6.0- 6.9	(1)

[1] Less than 5 cents.

Five sections of the United States are represented in the returns for "breweries"—the New England, Middle, Southern, Central, and Pacific states. In half of the establishments the normal working time did not change for the decade; in the remainder it decreased by amounts varying from 1 to 12 hours per week, the usual decrease being 6 hours. In the establishments where the normal time did not change, the usual number of hours was 60; in only two establishments in 1890 and in no establishment in 1900 were the normal hours more than 60. The changes for the decade as shown by week and hour rates differ somewhat, but the difference is one of degree only and in no case affects the direction of the change shown. In many of the tables a slight increase is shown in the week rates and a very heavy increase in the hour rates. This difference is caused in a large measure by the reduction in the normal working time per week without a corresponding reduction in the week rates; the rise in wages shown by the week tables is therefore accentuated in the hour rates.

The proportion of males to all employees in the establishments considered is 92 per cent in 1890 and 90 per cent in 1900. Unless specially noted, the proportions of the various specified occupations to the total for "all occupations" combined changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—But few returns were obtained; these are presented in the "all occupations" group and indicate a decided increase.

Middle states.—The rates for "all occupations" combined show an increase, much greater in the hour than in the week rates; this difference is also apparent in many of the specified occupations. "General hands, helpers, and laborers," "kettlemen," and "stablemen" show on the whole decided increases, and "cellarmen," "drivers," and "washhouse men" slight increases.

Southern states.—The few returns obtained are presented in the "all occupations" group, and indicate a decided decrease.

Central states.—The increases shown in the tables for this section are more pronounced in the hour than in the week rates; this applies to the "all occupations" group and also to several of the specified occupations. "Bottlers," "cellarmen," "drivers," "general hands, helpers, and laborers," and "washhouse men" show on the whole decided increases. In the tabulation of "maltsters," 37 persons are included in 1890 who evidently belonged to some other occupation. The returns for the two periods are disproportionate in number for several of these occupations. The returns for "kettlemen" are too few to justify any inference as to change.

Pacific states.—The rates for "all occupations" combined, the only tabulation for this section, indicate a decided increase.

All sections combined.—In "all occupations" combined, the comparatively few returns from the Pacific states show the highest rates for any section; the rates shown for the Middle states are somewhat higher than those for the Central states; and those for the New England and Southern states are about the same as those for the Middle and Central states, respectively. The proportions which the two sections furnishing the largest number of returns form of the total are as follows: Middle states, 36 per cent in 1890 and 32 per cent in 1900; Central states, 52 per cent in 1890 and 59 per cent in 1900. The total for all sections combined shows a slight increase in the week and a decided increase in the hour rates, thus agreeing with the inferences drawn from most of the component sections.

The proportions which the various sections form of the totals of the several specified occupations at each period change in many instances. In occupations shown both for the Middle and Central states the rates in the Middle states are considerably higher. For each of the specified occupations, except "maltsters," there is an increase in rates. Those showing decided increases are "cellarmen," "general hands, helpers, and laborers," "kettlemen," "stablemen," and "washhouse men," while "drivers" and "foremen" show slight increases. As is the case for "maltsters" in the Central states, the combined returns for this occupation are open to serious doubt. The returns for "apprentices" are too few to justify inferences.

Females all ages.—"Washhouse hands" in the Central states indicate a slight decrease in rates; the "all occupations" group for all sections combined shows little change.

Males under 16.—Some returns are shown for the Central states, but they are too few and too disproportionate to throw much light on changes for the decade.

GENERAL SUMMARY.

Of the three sections for which there were only a few returns, the New England and Pacific states show decided increases in the wages of men, and the Southern states a decided decrease; there was some increase in the wages for men in the Middle and Central states, while for women in the latter section there was little change.

CANDY.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males all ages:												
Middle states—												
Candy-makers	45	18	388	13.00	12.00	12.00-13.49	11.00-15.49	394	21.0	20.0	20.0-22.9	18.0-25.9
General hands, helpers, and laborers	184	67	388	6.00	6.00	5.00- 8.49	4.50- 7.49	394	10.0	10.0	8.0-13.9	7.0-11.9
All other occupations peculiar to candy	30	20	389	13.50	15.00	12.00-15.49	10.00-20.49	395	22.0	25.0	20.0-25.9	16.0-33.9
All occupations	278	114	390	7.50	7.00	5.50-12.49	5.50-12.49	396	12.0	11.0	9.0-20.9	9.0-20.9
Central states—												
Candy-makers	64	75	388	12.00	12.00	9.00-15.49	8.50-15.49	394	20.0	20.0	15.0-25.9	14.0-25.9
General hands, helpers, and laborers	166	133	389	4.50	4.50	3.00- 7.49	3.00- 7.49	395	7.0	7.0	5.0-11.9	5.0-11.9
General occupations not peculiar to candy	31	21	390	10.00	11.00	8.00-12.99	9.00-13.49	396	15.0	18.0	13.0-20.9	15.0-21.9
All occupations	281	247	390	7.50	8.00	4.00-11.49	4.50-12.49	396	12.0	13.0	6.0-18.9	7.0-20.9
All sections—												
Candy-makers	112	100	388	12.00	12.00	10.00-14.49	10.00-15.49	394	20.0	20.0	16.0-23.9	16.0-25.9
General hands, helpers, and laborers	358	206	389	5.50	5.50	4.50- 8.49	3.50- 7.49	395	9.0	9.0	7.0-13.9	5.0-11.9
All other occupations peculiar to candy	52	39	389	13.00	12.00	11.00-16.49	9.00-18.49	395	22.0	20.0	18.0-27.9	15.0-30.9
General occupations not peculiar to candy	50	30	390	12.00	12.00	8.00-13.49	9.00-14.49	396	16.0	20.0	13.0-21.9	15.0-23.9
All occupations	572	375	391	8.00	8.00	5.00-11.49	5.00-12.49	397	13.0	13.0	8.0-18.9	8.0-20.9
Females all ages:												
Middle states—												
Dippers	127	130	391	5.00	4.50	4.50- 6.49	3.50- 5.49	397	8.0	7.0	7.0-10.9	5.0- 8.9
General hands, helpers, and laborers	50	46	392	4.50	4.00	3.50- 5.99	3.50- 5.49	398	7.0	6.0	6.0- 9.9	5.0- 8.9
Packers	264	114	392	3.00	2.50	2.50- 4.99	2.50- 3.49	398	5.0	(1)	(1)- 7.9	(1)- 5.9
All occupations	455	295	393	4.00	3.50	3.00- 5.99	3.00- 4.99	399	6.0	5.0	5.0- 9.9	5.0- 8.9
Central states—												
Dippers	139	92	391	4.00	4.00	3.00- 4.99	3.00- 4.49	397	6.0	7.0	5.0- 7.9	5.0- 7.9
Packers	149	122	392	3.00	3.00	2.50- 3.99	2.00- 4.49	398	5.0	5.0	(1)- 6.9	(1)- 7.9
Wrappers	37	39	393	2.50	2.50	2.50- 5.49	2.00- 3.49	399	(1)	(1)	(1)- 8.9	(1)- 5.9
All occupations	357	268	393	3.50	3.50	2.50- 4.49	2.00- 4.49	399	5.0	5.0	(1)- 6.9	(1)- 7.9
All sections—												
Dippers	266	222	391	4.50	4.00	3.50- 5.99	3.50- 4.99	397	7.0	7.0	6.0- 9.9	5.0- 7.9
General hands, helpers, and laborers	70	50	392	4.00	4.00	3.50- 5.49	3.00- 5.49	398	6.0	6.0	5.0- 8.9	5.0- 8.9
Packers	413	236	392	3.00	3.00	2.50- 4.49	2.00- 3.99	398	5.0	5.0	(1)- 6.9	(1)- 6.9
All other occupations	31	19	393	6.50	6.00	4.50- 8.49	3.50- 8.49	399	10.0	10.0	7.0-13.9	6.0-13.9
All occupations	826	573	393	3.50	3.50	3.00- 4.99	2.50- 4.99	399	6.0	5.0	5.0- 7.9	(1)- 7.9

[1] Less than 5 cents.

Returns are presented for the Middle, Central, and Pacific states, but only for the first two sections are the numbers large enough to be used for analysis. About 7 per cent of the total males and 30 per cent of the total females are returned as under 16 years of age. The boys were employed as "helpers" and the girls as "dippers," "packers," and "wrappers." The nature of the work is the same as that performed in these occupations by the persons reported as 16 years and over; in general, the wages also are about the same. The normal hours are commonly 10 per day, 60 per week; no change occurred in the normal time for any establishment during the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males all ages—Middle states.—Little change appears in the rates for "all occupations" combined; there is a slight increase in the rates for "general hands, helpers, and laborers." The number of "candy-makers" is too small to form the basis of any definite conclusions.

Central states.—The group of "all occupations" shows a slight falling off in rates; "candy-makers" and "general hands, helpers, and laborers" show little change.

All sections combined.—For "all occupations" the rates changed slightly; the same is true for "candy-makers;" for "general hands, helpers, and laborers," there is a marked increase in rates. The proportion which the returns from the several sections form of the total is about the same for the two periods for every occupation except "general hands, helpers, and laborers"; for that occupation the Middle states constituted 32 per cent of the total returns in 1890 and 51 per cent in 1900, while the percentage for the Central states decreased from 64 per cent to 46 per cent.

Females all ages—Middle states.—A slight rise is shown in the rates for "all occupations" combined and a decided advance in those for "dippers," "general hands, helpers, and laborers," and "packers." The proportion of "packers," the lowest paid labor in this section, increased during the decade from 39 per cent of the total to 58 per cent, which accounts for the fact that the increase in the rates is less marked for "all occupations" combined than for the several specified occupations. The proportion that "dippers" form of "all occupations" decreased from 44 per cent to 28 per cent.

Central states.—A slight rise is shown in rates per week for "all occupations," but little change in the rates per hour; the same holds true for "dippers." There was little change for "packers;" rates for "wrappers" slightly increased.

All sections combined.—A general increase is apparent; the rise in rates is not so conspicuous for "all occupations," "general hands, helpers, and laborers," and "packers," as for "dippers," in which occupation it is quite marked. The proportion contributed by the Middle states to the total returns for "packers" increased from 48 to 64 per cent, while the proportion for the Central states decreased from 52 to 36 per cent. The proportions for the other occupations changed but slightly.

CHEMICALS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Chemical workers	675	428	400	10.00	10.50	9.50-10.99	10.00-10.99	404	18.0	14.0	16.0-19.9	14.0-15.9
Foremen	82	87	400	15.00	15.00	13.50-18.99	12.50-18.49	404	25.0	25.0	21.0-28.9	18.0-30.9
General hands, helpers, and laborers	1,879	1,268	401	9.00	8.00	8.00-10.49	8.00- 9.99	405	14.0	14.0	13.0-15.9	13.0-15.9
All other occupations peculiar to chemicals	688	317	401	9.50	9.00	9.50-10.99	8.00-10.99	405	17.0	14.0	15.0-18.9	14.0-15.9
General occupations not peculiar to chemicals	1,192	879	402	10.50	11.00	9.00-13.99	8.50-13.99	406	18.0	16.0	15.0-22.9	14.0-22.9
All occupations	4,516	2,979	403	9.50	9.50	8.00-10.99	8.00-11.49	407	15.0	14.0	14.0-18.9	14.0-16.9
Central states—												
Chemical workers	40	20	400	8.00	10.50	7.50-10.99	9.00-12.49	404	15.0	18.0	14.0-19.9	15.0-20.9
All other occupations peculiar to chemicals	278	62	401	7.50	9.50	6.00- 9.49	8.00-12.99	405	14.0	16.0	11.0-16.9	13.0-22.9
General occupations not peculiar to chemicals	128	15	402	11.50	13.50	8.00-14.49	11.50-16.99	406	17.0	23.0	14.0-25.9	19.0-28.9
All occupations	475	115	403	8.00	10.50	7.50-11.99	9.00-14.49	407	15.0	18.0	13.0-20.9	15.0-24.9
Pacific states—												
Chemical workers	134	29	400	13.50	13.50	13.50-17.99	13.50-15.49	404	25.0	22.0	22.0-28.9	22.0-25.9
General hands, helpers, and laborers	164	88	401	12.00	12.00	12.00-13.99	12.00-17.99	405	20.0	20.0	20.0-25.9	20.0-20.9
All other occupations peculiar to chemicals	45	67	402	13.50	12.00	12.00-15.49	10.50-13.99	406	22.0	20.0	20.0-25.9	17.0-22.9
General occupations not peculiar to chemicals	199	21	403	18.00	15.00	13.50-19.99	12.00-18.49	407	30.0	20.0	22.0-32.9	16.0-30.9
All occupations	557	213	403	13.50	12.00	12.00-17.99	12.00-15.49	407	25.0	20.0	20.0-28.9	20.0-22.9
All sections—												
Chemical workers	849	477	400	10.00	10.50	9.50-12.49	10.00-11.49	404	18.0	14.0	17.0-20.9	14.0-15.9
Foremen	126	113	401	15.50	16.50	14.00-21.49	13.00-20.49	405	27.0	25.0	22.0-36.9	20.0-31.9
General hands, helpers, and laborers	2,043	1,356	401	9.00	8.50	8.00-10.99	8.00- 9.99	405	14.0	14.0	13.0-15.9	13.0-15.9
All other occupations peculiar to chemicals	1,011	446	402	9.50	9.50	8.50-10.99	8.00-11.99	406	17.0	14.0	15.0-18.9	14.0-17.9
General occupations not peculiar to chemicals	1,519	915	403	11.00	11.50	9.00-13.99	8.50-13.99	407	19.0	16.0	15.0-23.9	14.0-22.9
All occupations	5,548	3,307	403	9.50	9.50	8.00-12.49	8.00-12.49	407	16.0	14.0	14.0-20.9	14.0-17.9

The returns for this industry are from factories in the Middle, Central, and Pacific states. The normal working time for the different establishments and even for different departments in the same factory differs considerably at each period, moreover there has been a very general reduction of hours. In establishments in the Middle states, employing 69 per cent in 1890 and 77 per cent in 1900 of all the male employees reported, the normal time was reduced by an amount varying from 3 to 28 hours per week; in the Central states, the normal time for all men was reduced 3 hours; and in the Pacific states, establishments with 39 per cent of the returns for men in that section in 1890 and 33 per cent in 1900, reported a reduction of 12 hours per week for a part of the force. These great changes in the working time are the primary cause of the wide differences in the showings made by the tables of week and hour rates.

In this industry nearly all the employees are males 16 and over; for the few females reported the wages are nearly always returned as earnings without a statement of the exact working time, and no tables for this class are, therefore, presented.

The products of the establishments included in this industry are of considerable variety, ranging from pharmaceutical preparations to fertilizers, and including paints, varnishes, acids, soda, explosives, etc. This diversity of product is not suggested by the wage tables of rates, for the occupations as reported are usually designated by the product operated upon, and are, therefore, too numerous and the numbers in each too few to admit of separate tabulation. All such employees, therefore, as were clearly operatives engaged in a process involving a chemical change are grouped together as "chemical workers," and the other operatives are classified as in other industries.

The following conclusions are drawn from the statistics presented, but must be read in the light of the cautions given above:

RATES.

Males 16 and over—Middle states.—No general change can be observed in the week rates for "all occupations" combined, but the rates per hour show a decided increase. There is a decided decrease in the week rates for "chemical workers" and as decided an increase in the hour rates. The rates for "foremen" show the same difference, but in a less degree. "General hands, helpers, and laborers" show a small increase in both scales.

Central states.—The numbers are too disproportionate to warrant general conclusions, although apparently there is a considerable decrease in rates; this is due principally to the fact that the establishments increasing in size have taken on more employees at the low than at the high rates. Most of the products in this section are pharmaceutical preparations and the greater part of the labor employed is engaged in tending the various machines.

Pacific states.—Both week and hour rates show a decided increase. The numbers reported both in the total and for "chemical workers" are so much larger in 1900 than in 1890 as to be scarcely comparable. "General hands, helpers, and laborers" show a considerable decrease in rates per week, while in the hour rates the movement is obscured by the fact that there is an increase in rates above 20 cents per hour and a decrease in rates below that.

All sections combined.—In 1890 the Middle states furnished 90 per cent of the total returns for the industry, and 81 per cent in 1900. The proportion formed by the Pacific states, where wages are highest, is 6 per cent in 1890 and 10 per cent in 1900. In the total for "all occupations" in all the sections reported, there is very little change in rates per week and a decided increase in rates per hour. "Chemical workers" show a small decrease in week rates and a decided increase in hour rates; the Middle states, where there is also a decrease per week and an increase per hour, form 90 per cent of the total in 1890 and 80 per cent in 1900. "Foremen" show no decided change in week rates, but a considerable increase in hour rates; the Middle states, the only section separately presented, contribute 77 per cent of the total returns in 1890 and 65 per cent in 1900, and show a decrease in rates per week contrasted with an increase in rates per hour. "General hands, helpers, and laborers" show a small increase in both week and hour rates, in all sections combined as well as in the Middle states, from which come 94 per cent of the total returns in 1890 and 92 per cent in 1900.

CIGARS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Cigar-makers	171	192	408	18.00	16.50	15.00–19.99	14.00–19.99	414	40.0	35.0	33.0–43.9	29.0–41.9
All other occupations	42	18	409	6.00	6.00	4.00–10.49	4.00– 8.49	415	13.0	12.0	8.0–22.9	8.0–17.9
All occupations	225	223	410	17.00	16.00	13.50–19.99	13.50–19.99	416	38.0	35.0	30.0–43.9	29.0–41.9
Middle states—												
Cigar-makers	319	174	408	11.00	10.50	9.00–13.49	8.00–13.49	414	22.0	18.0	17.0–27.9	14.0–25.9
Packers	28	13	409	15.00	12.50	13.00–19.99	8.50–14.99	415	31.0	22.0	27.0–40.9	17.0–21.9
Rollers	87	34	409	9.00	7.00	7.50–10.99	5.50– 8.49	415	18.0	14.0	15.0–21.9	11.0–16.9
Strippers	49	28	409	6.00	5.00	4.50– 7.99	4.50– 6.49	415	12.0	10.0	8.0–15.9	8.0–11.9
All other occupations	51	59	410	7.50	7.00	5.00–10.49	5.00– 9.49	416	14.0	12.0	10.0–16.9	9.0–16.9
All occupations	538	313	410	10.00	8.50	8.00–12.99	6.50–12.49	416	20.0	16.0	15.0–26.9	12.0–21.9
Southern states—												
Cigar-makers	37	40	408	10.50	11.00	9.00–12.49	9.50–12.99	414	19.0	20.0	16.0–21.9	17.0–23.9
All occupations	64	69	411	9.50	9.50	6.00–12.49	6.50–12.99	417	17.0	17.0	10.0–21.9	11.0–22.9
Central states—												
Cigar-makers	164	51	408	13.50	12.00	12.00–15.49	10.00–16.49	414	28.0	26.0	25.0–31.9	21.0–33.9
All other occupations	64	23	410	5.50	8.00	4.00–10.49	3.50–12.49	416	9.0	13.0	7.0–16.9	6.0–21.9
All occupations	238	92	411	12.50	10.50	7.50–15.49	6.00–15.49	417	26.0	21.0	15.0–31.9	12.0–31.9
All sections—												
Cigar-makers	691	457	408	13.00	13.00	10.50–16.49	10.00–16.99	414	27.0	26.0	20.0–33.9	18.0–35.9
Packers	47	32	409	18.50	16.50	14.00–24.99	10.50–29.99	415	40.0	37.0	28.0–62.9	19.0–63.9
Strippers	68	57	409	5.50	5.00	4.00– 7.99	4.50– 5.99	415	10.0	9.0	7.0–14.9	7.0–10.9
All other occupations	172	117	410	6.50	7.50	4.50–10.49	5.00–10.49	416	12.0	12.0	8.0–20.9	9.0–18.9
All occupations	1,065	697	411	11.50	11.00	8.00–15.49	7.50–16.49	417	23.0	21.0	16.0–31.9	14.0–32.9
Females 16 and over:												
New England states—												
Strippers	117	68	412	6.00	5.50	6.00– 6.99	4.50– 6.49	418	13.0	11.0	13.0–14.9	10.0–13.9
All occupations	140	69	413	6.00	5.50	5.50– 6.49	4.50– 6.49	419	13.0	11.0	12.0–14.9	10.0–13.9
Middle states—												
Strippers	47	43	412	3.50	6.00	2.50– 6.49	5.00– 7.49	418	6.0	10.0	5.0–10.9	8.0–11.9
All occupations	97	66	413	4.00	6.00	3.00– 6.49	5.00– 6.99	419	8.0	10.0	6.0–10.9	9.0–11.9
Central states—												
Bunch-makers	73	31	411	5.00	6.00	5.00– 6.49	5.00– 7.99	417	12.0	14.0	11.0–14.9	11.0–17.9
Rollers	147	48	412	6.00	6.00	5.00– 8.49	5.00– 7.99	418	14.0	14.0	11.0–18.9	11.0–17.9
Strippers	24	21	412	5.00	5.50	4.50– 6.49	5.00– 6.99	418	12.0	13.0	10.0–13.9	11.0–15.9
All occupations	333	117	413	5.50	6.00	4.50– 7.49	5.00– 7.99	419	12.0	14.0	10.0–15.9	11.0–17.9
All sections—												
Packers	30	15	411	8.00	7.50	3.50–10.99	6.50– 8.99	417	18.0	17.0	7.0–23.9	13.0–19.9
Rollers	186	61	412	6.00	5.50	5.00– 7.99	4.50– 7.49	418	13.0	12.0	10.0–16.9	10.0–16.9
Strippers	188	132	413	6.00	5.50	4.50– 6.49	5.00– 6.99	419	13.0	11.0	10.0–13.9	9.0–12.9
All other occupations	96	15	413	3.00	5.50	(1) – 4.99	3.50– 7.99	419	5.0	9.0	(2) – 8.9	5.0–13.9
All occupations	573	254	413	5.50	6.00	4.00– 6.99	5.00– 7.49	419	12.0	11.0	9.0–14.9	10.0–14.9

[1] Less than $2.00.

[2] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Cigar-makers	577	259	420	17.00	15.00	15.00-20.49	12.50-18.49
Packers	44	18	421	27.50	28.00	25.00-30.49	14.00-30.49
All occupations	631	290	423	18.00	15.00	15.00-20.99	12.50-18.99
Middle states—							
Bunch-makers	57	82	420	9.00	8.50	6.50-12.49	6.50-12.49
Cigar-makers	358	262	420	10.50	10.00	8.50-13.49	8.00-12.99
Packers	89	64	421	14.50	12.50	11.50-16.99	9.00-15.99
Rollers	226	133	422	8.50	5.50	7.00-10.49	3.00- 8.49
Strippers	48	26	422	6.00	5.00	4.00- 7.99	4.50- 6.49
All other occupations	43	39	423	7.00	6.00	4.50-12.49	4.00- 9.49
All occupations	821	606	423	9.50	8.50	7.50-12.99	6.00-12.49
Southern states—							
Cigar-makers	37	40	420	9.00	10.50	7.00-12.49	8.50-12.99
All occupations	57	68	423	8.50	9.00	4.50-11.49	7.00-12.99
Central states—							
Cigar-makers	220	93	421	13.00	12.00	11.00-15.49	9.50-14.99
Rollers	18	52	422	7.50	7.50	6.00- 8.99	6.50- 9.99
All occupations	253	166	424	12.50	9.50	9.50-15.49	6.50-13.99
All sections—							
Bunch-makers	63	91	420	8.50	8.00	6.00-11.99	6.50-11.99
Cigar-makers	1,192	654	421	14.00	12.50	10.50-17.99	9.00-16.49
Packers	139	88	421	17.00	14.00	13.00-26.49	10.00-18.49
Rollers	251	194	422	8.50	6.50	7.00-10.49	3.50- 8.49
Strippers	57	47	422	5.50	5.00	3.50- 7.99	4.00- 5.99
All other occupations	60	56	423	8.00	6.00	5.00-13.49	4.50- 9.49
All occupations	1,762	1,130	424	12.50	10.00	9.00-16.99	7.00-14.49
Females 16 and over:							
New England states—							
Strippers	131	72	425	5.00	5.00	4.00- 6.49	4.00- 6.49
All occupations	131	72	427	5.00	5.00	4.00- 6.49	4.00- 6.49
Middle states—							
Bunch-makers	142	103	424	8.00	6.50	6.50-10.49	4.50- 9.99
Rollers	295	236	425	7.50	6.50	6.00-10.49	4.50- 9 49
Strippers	140	125	425	4.00	3.50	3.50- 5.49	3.00- 4.99
All occupations	591	478	427	7.00	5.50	4.50- 9.49	3.50- 8.49
Southern states—							
All occupations	30	24	427	4.50	4.50	3.50- 6.49	3.50- 5.99
Central states—							
Bunch-makers	94	64	424	5.00	6.00	4.50- 6.99	5.00- 7.99
Rollers	453	136	425	5.50	5.50	4.50- 6.99	4.50- 7.49
Strippers	37	28	426	4.50	5.00	4.00- 6.49	4.00- 6.99
All other occupations	109	75	426	5.00	4.00	3.00- 6.49	3.00- 5.49
All occupations	738	316	427	5.00	5.00	4.00- 6.99	4.00- 7.49
All sections—							
Bunch-makers	243	173	424	7.00	6.00	5.00- 8.99	4.50- 8.49
Packers	53	20	425	8.00	7.50	6.50- 9.99	6.50- 8.99
Rollers	766	386	425	6.00	6.00	4.50- 7.99	4.50- 8.49
Strippers	310	228	426	4.50	4.00	3.50- 5.99	3.50- 6.49
All other occupations	118	83	426	5.00	4.00	3.00- 6.49	3.00- 5.49
All occupations	1,490	890	427	5.50	5.00	4.50- 7.99	4.00- 7.49

Four sections of the United States are represented in the returns for this industry—the New England, Middle, Southern, and Central states. In about two-thirds of the establishments the normal working time remained the same for the decade, in the others it decreased from 2 to 7 hours. The highest normal working time in any establishment was 62 hours per week, the lowest, 44. The changes in wages as shown by tables for week and hour rates differ somewhat, but the difference is in degree only, being in no case so marked as to constitute a difference in the direction of the change. The proportion of males to all employees in the establishments considered was 56 per cent in 1890 and 51 per cent in 1900. Unless specially noted, the proportions which the various specified occupations form of the total, "all occupations," changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—"All occupations" combined show little change in rates for the decade. "Cigar-makers," the only specified occupation presented, show a decided increase.

Middle states.—"All occupations" combined and also the specified occupations, "cigar-makers" and "rollers" show decided increases. The returns for "packers" and "strippers" are too small to justify inferences. In each of the specified occupations there is a wide disparity between the numbers returned at the two periods.

Southern states.—The few returns indicate a slight decrease in rates both for "all occupations" combined and for "cigar-makers."

Central states.—The returns are very disproportionate in numbers. Those for "all occupations" combined show a decided increase in rates; those for "cigar-makers," little change.

All sections combined.—Because of the disparity in the number of returns already referred to, the proportions which the various sections form of the total for "all occupations" differ considerably at the two periods. The New England states formed 32 per cent of the total in 1890 and 21 per cent in 1900; the Middle states, 45 per cent and 51 per cent; the Southern states, 10 per cent and 6 per cent; and the Central states, 13 per cent and 22 per cent at the respective periods. There is much difference between the rates for the various sections, those for the New England states being much the highest, and those for the Southern states the lowest. Some of the difference is due to the character of the goods manufactured—thus, for example, the rates paid in New England are for the manufacture of high-priced cigars, while those in some factories in the other sections are for a lower-grade product. As a result of the differences in proportions and wages, the total for all sections combined shows little change in rates, although the Middle and Central states show decided increases.

The changes in the combined rates for the specific occupations are likewise the result of the marked differences in the proportions and rates represented by the different sections. "Strippers" indicate a decided increase, and "cigar-makers" and "packers," little change.

Females 16 and over.—As is the case for males 16 and over nearly every occupation shows a wide disparity between the numbers returned at the two periods. The rates for "all occupations" combined and for "strippers" show decided increases in the New England states and decided decreases in the Middle states. In the Central states "all occupations" and "bunch-makers" show decided decreases; "rollers," a slight increase; only a few "strippers" are returned.

There is not much difference between the rates in the different sections, but there are some changes in the proportions which the various sections form of the total at the two periods. The results for all sections combined are as follows: "Rollers" show a slight increase in rates; "strippers," little change; only a few returns are presented for "packers;" "all occupations" combined show a slight decrease.

EARNINGS.

The returns of earnings are much more numerous than those of rates, and in this respect are more representative; for several of the specified occupations only earnings are shown. In many of the occupations, there is a great disproportion between the numbers returned at the two periods. To some extent the tabulation of earnings and that of rates for "all occupations" combined includes different persons and occupations, or includes the same occupations in widely different proportions, and consequently the results shown by the two sets of tabulations do not always agree.

Males 16 and over.—In the New England states there is a decided increase in earnings for "all occupations" combined, and a slight increase in those for "cigar-makers." In the Middle states the tabulated earnings for "all occupations" combined and for "packers" and "rollers" show decided increases; those for "bunch-makers" and "cigar-makers," slight increases. In the Southern states decided decreases are shown for "all occupations" combined and for "cigar-makers." In the Central states both "all occupations" combined and "cigar-makers" indicate decided increases in earnings. In all sections combined the earnings for "all occupations," "cigar-makers," "packers," and "rollers," show decided increases; those for "bunch-makers," a slight increase; and for "strippers," little change. The proportions which the various sections form of the "all occupations" total change somewhat for the decade.

Females 16 and over.—In the New England states the earnings for "strippers" show a slight decrease as compared with a decided increase shown by the rates; the "all occupations" total is identical with that of "strippers." In the Middle states the earnings for "all occupations," "bunch-makers," "rollers," and "strippers" show decided increases, while the rates for "strippers" show a decided decrease. Only a few earnings are shown for the Southern states. In the Central states the earnings for "all occupations" combined show little change, those for "bunch-makers," a decided, and for "rollers," a slight decrease. The rates for the latter indicate a slight increase. The returns of earnings for "strippers" are few. In all sections combined the earnings for "all occupations" combined show a slight increase, those for "bunch-makers," a decided increase, those for "strippers," a slight increase, and those for "rollers" little change. The returns for "packers" are few. The proportions which the various sections form of the "all occupations" total change considerably for the decade.

GENERAL SUMMARY.

Since for a part of the employees reported only earnings can be obtained, and for a part only rates, no single tabulation for the entire industry can be made; it is evident, however, that the wages for males 16 and over increased in the New England, Middle, and Central states, and decreased in the Southern states. No definite conclusion can be drawn in regard to wages of females 16 and over.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a number of persons for whom both rates and earnings were obtained, because the exact time worked is stated, and who therefore enter the general tables both of rates and of earnings. The following is a summary of the tables for such identical persons, shown in detail on page 1156:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—1,028 PERSONS.[1]				1890—624 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	0.2	1.9	.....	1.7	.....	2.4	.....	2.4
2.50 to 4.99	4.2	6.0	.....	1.8	5.4	6.9	.....	1.5
5.00 to 7.49	9.4	9.9	.....	0.5	14.7	14.6	0.1	.....
7.50 to 9.99	21.2	21.0	0.2	.....	17.9	17.5	0.4	.....
10.00 to 12.49	19.9	19.2	0.7	.....	14.9	13.1	1.8	.....
12.50 to 14.99	16.9	15.0	1.9	.....	15.9	15.5	0.4	.....
15.00 to 17.49	13.6	12.7	0.9	.....	11.5	11.0	0.5	.....
17.50 to 19.99	7.3	7.1	0.2	.....	9.1	8.8	0.3	.....
20.00 to 22.49	3.0	3.0	.....	.....	3.4	3.4	.....	.....
22.50 to 24.99	2.0	1.9	0.1	.....	3.4	3.0	0.4	.....
25.00 and over	2.3	2.3	.....	.....	3.8	3.8	.....	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

Rates and earnings of identical females 16 and over.[1]

DOLLARS PER WEEK.	1900—583 PERSONS.[2]			
	Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....
Less than 2.50	5.4	9.1	.....	3.7
2.50 to 4.99	36.4	37.4	.....	1.0
5.00 to 7.49	39.4	36.2	3.2	.....
7.50 to 9.99	15.9	14.7	1.2	.....
10.00 to 12.49	2.7	2.4	0.3	.....
12.50 to 14.99	0.2	0.2	.....	.....

[1] The number of females reported for 1890 is not sufficient to justify tabulation.

[2] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

CLOTHING.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	38	36	431	14.00	13.00	12.00-18.49	11.00-15.49	439	24.0	22.0	20.0-31.9	18.0-25.9
Middle states—												
Bushelers	50	40	428	10.00	10.00	10.00-12.49	10.00-12.49	436	18.0	18.0	16.0-20.9	18.0-22.9
Cutters	232	169	428	17.00	18.00	12.00-18.49	15.00-20.49	436	31.0	33.0	22.0-33.9	27.0-37.9
Foremen	26	21	429	24.00	20.00	18.00-30.49	18.00-26.49	437	41.0	33.0	30.0-54.9	30.0-43.9
General hands, helpers, and laborers	198	89	429	4.50	6.00	3.00- 7.99	4.00- 8.49	437	7.0	10.0	5.0-14.9	6.0-14.9
Sewing-machine operators	167	98	430	7.00	7.00	4.50- 9.49	4.50-10.49	438	11.0	11.0	7.0-15.9	7.0-18.9
All other occupations peculiar to clothing	111	70	430	10.00	11.00	7.50-12.49	7.00-12.49	438	20.0	20.0	13.0-24.9	13.0-22.9
General occupations not peculiar to clothing	40	25	430	9.00	9.00	8.00-12.49	8.00-12.49	438	15.0	15.0	12.0-20.9	13.0-20.9
All occupations	824	512	431	9.00	11.00	5.50-14.49	7.00-16.49	439	16.0	18.0	9.0-25.9	11.0-29.9
Southern states—												
Bushelers	32	29	428	10.00	10.00	9.50-10.49	9.00-10.49	436	16.0	16.0	15.0-16.9	15.0-16.9
Cutters	12	11	428	16.00	18.00	12.00-17.99	13.00-18.49	436	26.0	30.0	20.0-30.9	21.0-30.9
All occupations	62	60	431	10.00	10.00	9.00-12.49	9.00-15.49	439	16.0	16.0	15.0-21.9	15.0-25.9
Central states—												
General hands, helpers, and laborers	27	27	429	11.50	11.50	11.50-11.99	7.00-11.99	437	21.0	19.0	21.0-21.9	12.0-19.9
All other occupations peculiar to clothing	24	20	430	12.00	12.00	12.00-12.49	10.00-12.49	438	22.0	20.0	22.0-22.9	18.0-20.9
All occupations	106	92	431	12.00	12.00	11.50-18.49	11.50-18.49	439	22.0	20.0	21.0-33.9	19.0-30.9
Pacific states—												
Cutters	27	28	428	9.00	14.00	6.00-14.49	10.50-18.49	436	16.0	26.0	11.0-26.9	19.0-33.9
All occupations	64	37	431	9.00	14.00	6.00-15.49	8.50-18.49	439	16.0	26.0	11.0-27.9	15.0-33.9
All sections—												
Bushelers	84	71	428	10.00	10.00	9.50-12.49	10.00-12.49	436	16.0	18.0	16.0-20.9	16.0-20.9
Cutters	812	248	429	17.00	18.00	11.00-18.49	15.00-20.49	437	31.0	30.0	20.0-33.9	26.0-36.9
Foremen	41	33	429	25.00	24.00	20.00-30.49	19.00-30.49	437	46.0	40.0	33.0-55.9	33.0-53.9
General hands, helpers, and laborers	258	127	429	5.50	7.00	3.50- 9.49	5.00-10.49	437	9.0	12.0	5.0-15.9	8.0-16.9
Sewing-machine operators	185	108	430	7.00	8.00	4.50-11.49	5.00-12.49	438	11.0	13.0	7.0-18.9	8.0-21.9
All other occupations peculiar to clothing	166	121	430	11.00	11.00	7.50-12.49	8.00-12.49	438	20.0	18.0	14.0-23.9	14.0-22.9
All occupations	1,094	787	431	10.00	11.50	6.50-15.49	8.00-17.49	439	17.0	20.0	11.0-27.9	14.0-30.9
Females 16 and over:												
New England states—												
All other occupations	22	26	434	7.00	7.00	7.00- 7.49	7.00- 7.49	442	12.0	11.0	12.0-12.9	11.0-11.9
All occupations	33	36	435	7.00	7.00	7.00- 7.49	7.00- 8.49	443	12.0	11.0	12.0-12.9	11.0-13.9
Middle states—												
General hands, helpers, and laborers	278	144	432	3.50	3.50	3.00- 5.49	3.00- 4.99	440	5.0	5.0	5.0- 8.9	5.0- 7.9
Seamers	22	23	432	6.00	6.00	5.00- 7.49	5.00- 6.49	440	11.0	11.0	9.0-13.9	9.0-11.9
Sewing-machine operators	1,416	710	433	4.00	4.00	2.50- 5.99	2.50- 5.99	441	6.0	6.0	(1)- 9.9	(1)- 9.9
All other occupations	83	40	434	6.00	6.00	4.50- 7.99	4.00- 6.49	442	10.0	10.0	8.0-12.9	7.0-11.9
All occupations	1,826	939	435	4.00	4.00	3.00- 5.99	3.00- 5.99	443	6.0	6.0	5.0- 9.9	5.0- 9.9
Southern states—												
Finishers	23	29	432	4.00	3.50	3.00- 4.99	3.00- 4.99	440	7.0	6.0	6.0- 8.9	5.0- 8.9
Seamers	41	32	433	5.50	5.50	4.50- 5.99	5.00- 5.99	441	9.0	9.0	7.0- 9.9	8.0- 9.9
Sewing-machine operators	61	143	433	5.00	5.00	4.00- 5.99	4.00- 6.99	441	9.0	10.0	8.0-11.9	8.0-13.9
All other occupations	25	22	434	4.50	5.00	3.50- 6.99	3.50- 7.99	442	8.0	9.0	6.0-12.9	6.0-14.9
All occupations	173	244	435	4.50	5.00	3.50- 5.99	3.50- 6.49	443	8.0	9.0	6.0- 9.9	7.0-11.9
All sections—												
Basters	33	27	432	5.00	5.00	3.50- 6.49	3.00- 6.49	440	8.0	8.0	5.0-10.9	5.0-10.9
Finishers	43	52	432	4.50	4.00	3.50- 6.49	3.00- 6.49	440	9.0	6.0	7.0-11.9	5.0-10.9
Seamers	63	55	433	5.50	5.50	4.50- 5.99	5.00- 5.99	441	9.0	9.0	7.0- 9.9	8.0- 9.9
Sewing-machine operators	1,488	863	433	4.00	4.00	3.00- 5.99	3.00- 5.99	441	6.0	7.0	5.0- 9.9	5.0-10.9
All other occupations	139	119	434	6.00	6.00	5.00- 7.49	5.00- 7.49	442	11.0	11.0	8.0-12.9	8.0-12.9
All occupations	2,051	1,263	435	4.00	4.50	3.00- 5.99	3.00- 6.49	443	6.0	7.0	5.0- 9.9	5.0-10.9
Females under 16:												
All sections—												
All occupations	290	160	435	(2)	(2)	(2)- 2.49	(2)- 2.49	443	(1)	(1)	(1)	(1)

[1] Less than 5 cents.

[2] Less than $2.00.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Females 16 and over:							
New England states—							
Basters	23	65	444	6.50	6.00	5.50-9.49	5.50- 7.99
Finishers	70	86	444	6.00	6.00	4.50-8.49	5.00- 7.99
All other occupations	22	20	446	7.00	6.50	7.00-7.49	6.00- 7.49
All occupations	117	176	446	6.50	6.00	5.50-8.49	5.00- 7.99
Middle states—							
Basters	56	27	444	5.00	4.00	4.00-6.99	3.50- 6.49
Sewing-machine operators	147	40	445	6.00	6.00	5.00-7.49	5.00- 8.49
All other occupations	28	27	446	5.00	4.00	4.00-6.99	3.00- 7.49
All occupations	238	99	447	5.50	5.00	4.50-7.49	4.00- 7.49
Southern states—							
Sewing-machine operators	61	143	445	5.00	5.00	4.00-5.99	4.00- 6.99
All occupations	69	151	447	5.00	5.50	4.00-6.49	4.00- 7.49
Central states—							
Finishers	44	66	444	4.50	4.00	3.50-6.99	2.50- 5.99
Sewing-machine operators	274	234	445	5.00	4.00	3.50-6.99	3.00- 5.99
All occupations	318	300	447	5.00	4.00	3.50-6.99	3.00- 5.99
Pacific states—							
Sewing-machine operators	399	179	445	5.50	5.50	4.00-7.49	4.50- 7.49
All other occupations	99	81	446	6.00	4.50	4.50-7.99	3.00-10.49
All occupations	498	260	447	5.50	5.50	4.00-7.99	3.50- 8.49
All sections—							
Finishers	121	157	444	5.50	5.00	4.50-7.99	3.50- 6.99
Sewing-machine operators	883	601	445	5.50	5.00	4.00-7.49	3.50- 6.99
All other occupations	157	136	446	6.50	6.00	4.50-7.99	3.00- 9.49
All occupations	1,240	986	447	5.50	5.00	4.00-7.49	3.50- 7.49

The New England, Middle, Southern, Central, and Pacific states are represented in the returns for this industry, but the numbers are very meager for all but the Middle states. The goods produced by the factories reporting were of a diverse character, such as men's clothing, sportsmen's suits, women's clothing and underwear. The practice of having parts of the work done by contract has taken away from the industry of clothing manufacture the unity it at one time possessed. The normal working time decreased in several entire establishments, and for some occupations in others; the lowest number of hours normally worked was 9 per day, 52 per week; the highest, 10 per day, 60 per week.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The returns for "all occupations" combined show a decided increase.

Middle states.—A marked fall in rates took place for "all occupations," "cutters," and "general hands, helpers, and laborers." For "bushelers" there was a slight decrease in rates per week and a more marked decrease in rates per hour. The rates for "foremen" increased. There was a slight falling off for "sewing-machine operators."

Southern states.—Rates for "all occupations" combined show little change; the actual numbers for "cutters" are too small for analysis; little or no change is perceptible in rates for "bushelers."

Central states.—A considerable rise took place in the hour rates for "all occupations," but there is practically no change in rates per week. The very few returns for "general hands, helpers, and laborers" indicate an increase which is slight in rates per week, but more marked in rates per hour.

Pacific states.—Here the returns are too few to show conditions for the entire section, but so far as they go they indicate a fall in rates.

All sections combined.—A decided decrease took place in the rates of pay for "all occupations." The proportion of the total number contributed by the Middle states increased from 69 per cent in 1890 to 75 per cent in 1900; the differences in the proportions returned by the other sections are slight. Rates for "bushelers" and "sewing-machine operators" decreased slightly; the falling off for "cutters" is more marked in rates per week than in rates per hour. "Foremen" show a slight rise. For "general hands, helpers, and laborers" there was a sharp decline in rates per week and a less marked decline in rates per hour.

Females 16 and over—New England states.—No positive conclusions concerning the situation in the entire section can be drawn from returns so meager, but the returns shown indicate little or no change.

Middle states.—Rates for "all occupations" remain about the same, and so do rates for "sewing-machine operators" and "seamers," though the numbers of the latter are almost too small for definite conclusions. Something of an increase appears for "general hands, helpers, and laborers."

Southern states.—"All occupations" combined show a decline in wages more marked in the hour rates than in the week rates. Little change is apparent in the week rates for "finishers" but considerable increase

in the hour rates; the returns are too few to permit definite and complete conclusions. Rates for "seamers" show a slight, and those for "sewing-machine operators," a decided decrease.

All sections combined.—A small decrease is seen in "all occupations" and in "sewing-machine operators." "Finishers" show an increase. Rates per week for "seamers" are a little lower in 1900 than in 1890, but there is little change in rates per hour. The few returns for "sorters" indicate a slight increase.

Females under 16.—"All occupations" show practically no change.

EARNINGS.

The prevalence of piecework among the women operatives, and the impossibility of ascertaining precisely the actual time worked by each makes it necessary to present the statistics for this class of wage-earners in earnings as well as in rates tables.

Females 16 and over—New England states.—A slight rise appears in "all occupations" and in "finishers"; a more marked increase is indicated in the earnings of "basters."

Middle states.—"All occupations" combined disclose a slight and "basters," a decided increase. There is little change in "sewing-machine operators."

Southern states.—Slight decreases are noticeable for "all occupations" and "sewing-machine operators."

Central states.—"All occupations," "finishers," and "sewing-machine operators" show decided increases.

Pacific states.—A slight increase is shown for "all occupations" and a slight falling off in "sewing-machine operators."

All sections combined.—An increase is perceptible in "all occupations" and in "sewing-machine operators," and a more marked one in "basters" and "finishers."

GENERAL SUMMARY.

The returns for men are presented in the form of rates, those for women include both rates and earnings, but for the most part the persons whose earnings are shown are different from those represented in the tables of rates. The rates for men decrease considerably in all sections combined, as well as in the Middle states (whence come the bulk of the returns), and in the Pacific states; in the New England states the few returns indicate considerable increase; the Southern states show little change; and the Central states, an increase in hour rates only. The rates tabulated for women indicate some decrease, while the earnings show a slight increase. The returns from the Central and Pacific states appear only under earnings, constituting the largest part of the total; in both sections earnings have increased, hence the increase for all sections combined, as contrasted with the decrease in the tables of rates. The Southern states show decreased wages for women in both tables, while the New England and Middle states show little change in rates and a slight increase in earnings.

COLLARS AND CUFFS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
Middle states—												
All occupations	252	198	449	6.00	5.00	4.50-9.49	4.00-8.49	451	10.0	8.0	7.0-15.9	6.0-13.9
Females under 16:												
Middle states—												
All occupations	118	73	449	2.50	3.00	2.50-3.49	3.00-3.99	451	(1)	5.0	(1)- 5.9	5.0- 6.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Females 16 and over:							
Middle states—							
Ironers	214	108	452	8.00	5.50	7.00- 9.99	4.00- 7.49
Pasters	160	143	453	4.00	6.00	3.00- 6.49	5.00- 8.49
Sewing-machine operators	2,222	1,254	453	8.00	8.00	6.00-10.49	6.00-10.49
Starchers	145	62	453	13.00	5.00	11.00-15.99	4.50- 6.49
Turners	741	601	453	6.00	6.00	4.00- 7.99	4.50- 7.49
All other occupations	208	47	453	5.00	5.00	4.00- 7.49	3.00- 7.49
All occupations	3,690	2,215	453	7.00	7.00	5.00-10.49	5.00- 9.49

The following conclusions are drawn from the statistics presented for "collars and cuffs":

RATES.

Most of the employees in this industry are women and girls. As the returns for male operatives are few and incomparable, the numbers are shown in the general tables without cumulative percentages and no analysis is attempted here. "All occupations" for females 16 and over show some increase in rates, but for females under 16 a decrease. The normal working time did not change during the decade.

EARNINGS.

Females 16 and over.—An increase is perceptible in "all occupations" and is rather marked in the case of "ironers" and "starchers." "Sewing-machine operators" show practically no change, and little variation took place in "turners." Earnings for "pasters" decreased decidedly.

DISTILLERIES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
All sections—												
General hands, helpers, and laborers	93	46	454	10.00	9.00	9.00-10.99	7.50-10.49	455	14.0	15.0	12.0-16.9	12.0-16.9
All other occupations peculiar to distilleries	13	11	454	12.00	12.00	10.50-15.49	9.50-15.49	455	20.0	20.0	14.0-25.9	13.0-25.9
General occupations not peculiar to distilleries	36	21	454	12.50	12.00	12.00-14.49	10.50-13.49	455	22.0	16.0	17.0-22.9	13.0-20.9
All occupations	191	123	454	10.50	10.50	9.00-12.49	9.00-12.49	455	15.0	15.0	13.0-20.9	13.0-17.9

Returns for this industry were received from only two states, Kentucky and Ohio, and only 191 persons in all were reported for 1900 and 123 for 1890; the tabulation is given for the two states combined. The employees are all males 16 and over, and the returns are all in the form of rates. The normal working time, even for the same occupation, varied considerably in the several establishments, the number of hours worked ranging at each period from 54 to 84 per week; in no establishment, however, was there any change during the decade in the number of hours in any of the occupations.

The tabulation of "all occupations" combined shows a slight increase both in week and hour rates. Separate tabulations are also presented for "general hands, helpers, and laborers," and show a slight increase in the week rates, while the rates per hour show practically no change.

FLOUR MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
General hands, helpers, and laborers[1]	49	43	456	9.00	9.00	8.00- 9.49	8.00- 9.49	462	15.0	15.0	13.0-15.9	13.0-15.9
Millers	27	30	457	12.50	13.00	11.00-16.49	11.00-15.49	463	21.0	21.0	18.0-26.9	18.0-25.9
Packers	23	30	458	10.00	10.00	9.50-10.49	10.00-10.49	464	16.0	16.0	15.0-16.9	16.0-16.9
General occupations not peculiar to flour mills	43	37	459	10.00	10.00	10.00-12.49	10.00-12.49	465	16.0	16.0	16.0-20.9	16.0-16.9
All occupations[1]	144	142	460	10.00	10.00	9.00-11.49	9.00-11.49	466	16.0	16.0	15.0-18.9	15.0-18.9
Southern states—												
All occupations[1]	27	25	461	6.00	6.00	6.00- 7.99	6.00- 7.99	467	8.0	8.0	8.0-10.9	8.0-10.9
Central states—												
General hands, helpers, and laborers[1]	387	225	456	10.50	10.50	9.00-10.99	9.00-10.99	462	17.0	15.0	15.0-17.9	14.0-17.9
Machine hands	28	19	457	12.00	12.00	10.00-14.49	9.00-15.49	463	19.0	20.0	16.0-19.9	15.0-20.9
Millers	58	60	457	18.00	18.00	15.00-18.49	15.00-18.49	463	25.0	25.0	22.0-25.9	20.0-25.9
Packers	240	106	458	12.00	12.00	12.00-15.49	12.00-15.49	464	20.0	20.0	20.0-25.9	17.0-25.9
General occupations not peculiar to flour mills	182	147	460	12.00	13.50	12.00-15.49	10.50-16.99	466	20.0	20.0	16.0-25.9	16.0-25.9
All occupations[1]	963	598	461	12.00	12.00	10.50-13.99	10.00-15.49	467	17.0	17.0	16.0-20.9	15.0-22.9
Pacific states—												
General hands, helpers, and laborers[1]	149	154	456	12.00	12.00	12.00-13.99	12.00-15.49	462	20.0	20.0	20.0-22.9	20.0-25.9
Millers	22	25	457	17.50	22.50	15.00-23.49	18.00-24.49	463	28.0	37.0	25.0-35.9	28.0-40.9
Packers	25	16	458	15.00	15.00	13.50-15.49	15.00-18.49	464	25.0	25.0	22.0-25.9	25.0-30.9
General occupations not peculiar to flour mills	55	58	460	15.50	16.00	13.50-18.49	13.50-20.49	466	22.0	25.0	20.0-27.9	20.0-30.9
All occupations[1]	260	261	461	13.50	15.00	12.00-15.49	12.00-16.49	467	21.0	22.0	20.0-25.9	20.0-25.9
All sections—												
Foremen	19	15	456	15.00	16.50	12.00-21.49	12.00-21.49	462	25.0	23.0	20.0-35.9	20.0-35.9
General hands, helpers, and laborers[1]	592	427	456	10.50	10.50	9.00-12.49	9.00-12.49	462	17.0	17.0	15.0-19.9	15.0-20.9
Millers	109	117	457	17.00	17.00	13.00-18.49	15.00-18.49	463	25.0	25.0	21.0-28.9	20.0-30.0
Packers	294	158	459	12.00	12.00	12.00-15.49	10.00-13.99	465	20.0	20.0	18.0-25.9	16.0-25.9
Smutters	25	15	459	12.00	12.00	12.00-13.99	10.50-13.99	465	18.0	17.0	16.0-20.9	16.0-18.9
All other occupations peculiar to flour mills	35	21	459	11.00	12.00	10.50-16.99	10.50-18.49	465	18.0	20.0	17.0-27.9	17.0-30.0
General occupations not peculiar to flour mills	290	252	460	12.00	13.50	10.50-15.99	10.00-16.99	466	20.0	20.0	16.0-25.9	16.0-25.9
All occupations[1]	1,394	1,026	461	12.50	12.00	10.50-14.49	10.00-15.49	467	18.0	20.0	16.0-22.9	16.0-25.9

[1] Includes males under 16.

Returns for this industry were received from four sections—the Middle, Southern, Central, and Pacific states—more than half coming from the Central states; the number from the Southern states is too small to represent adequately the conditions of the industry in that section. The normal working hours range from 10 per day, 60 per week, to 12 per day, 72 per week, but in no establishment has the number of hours per day or week changed for the same occupation. Practically all the employees were males 16 and over.

The returns are almost exclusively in the form of rates, so no earnings presentation is necessary. The product of the establishments represented is flour; the returns for the cereal industry, which has developed largely since 1890, are separately presented in supplementary tables on pages 710 and 711.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—There is practically no change in the rates for "all occupations." But few returns are shown for the specified occupations, and the changes in rates for "general hands, helpers, and laborers," "millers," and "packers" are slight.

Southern states.—The returns tabulated under "all occupations" show little or no change, but are too few to be accepted as representative.

Central states.—Any change that may have taken place in the rates for "all occupations" is very small. Something of an increase occurred in the rates for "millers," "general hands, helpers, and laborers," and "packers," and a slight change is noticeable in the rates for "machine hands." The actual numbers of "general hands, helpers, and laborers" and "packers" increased considerably, those for the other occupations changing but little.

Pacific states.—A slight falling off is noticeable in the rates for "all occupations," likewise, for "general hands, helpers, and laborers," "millers," and "packers."

All sections combined.—Each section enters into the occupations for all sections combined in proportions which vary little between the two periods. Little change occurred in the week rates for "all occupations" but the hour rates show a definite though not a great decrease. Considerable increase took place in the rates for "packers;" there is slight variation in those for "foremen" and "general hands, helpers, and laborers;" rates for "millers" decreased somewhat; "smutters" show little change in week rates, but a slight increase in hour rates.

GLASS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Middle states—												
Blowers	267	167	468	23.50	24.50	22.00-25.99	22.00-28.99	476	50.0	52.0	48.0-55.9	47.0-59.9
Cutters	30	20	469	13.50	14.00	10.50-27.49	9.50-32.49	477	20.0	24.0	17.0-50.9	13.0-60.9
Finishers	52	46	469	15.00	15.50	13.50-17.99	14.00-17.49	477	30.0	29.0	27.0-34.9	26.0-32.9
Foremen	55	38	469	15.50	16.50	14.50-23.49	14.50-22.49	477	25.0	29.0	24.0-38.9	24.0-38.9
Gatherers	287	211	470	12.50	12.50	11.50-14.49	9.00-13.99	478	27.0	25.0	23.0-29.9	16.0-28.9
General hands, helpers, and laborers	917	594	470	7.00	8.00	5.00- 9.49	5.00- 9.49	478	13.0	13.0	9.0-15.9	9.0-15.9
Mixers, batch	39	42	471	12.00	10.00	10.50-14.49	9.00-14.49	479	17.0	20.0	14.0-20.9	13.0-21.9
Packers	109	103	471	11.00	11.00	11.00-11.49	10.00-11.99	479	18.0	18.0	18.0-18.9	16.0-19.9
Pressers	33	34	472	19.00	20.50	17.00-21.99	18.50-22.99	480	38.0	39.0	34.0-43.9	36.0-43.9
All other occupations peculiar to glass	765	507	472	7.00	9.00	4.50-10.99	6.00-12.99	480	15.0	17.0	8.0-18.9	10.0-21.9
General occupations not peculiar to glass	210	187	473	12.50	11.50	10.50-15.49	8.50-13.99	481	20.0	18.0	15.0-25.9	14.0-22.9
All occupations	2,764	1,949	473	10.00	10.50	6.00-14.49	7.50-14.99	481	17.0	17.0	11.0-26.9	12.0-25.9
Southern states—												
Blowers	38	27	468	24.50	25.00	21.00-28.49	21.00-31.49	476	50.0	47.0	41.0-52.9	42.0-59.9
General hands, helpers, and laborers	101	49	470	5.00	4.50	4.50- 6.49	4.00- 5.49	478	10.0	10.0	8.0-10.9	7.0-10.9
All other occupations peculiar to glass	168	69	472	10.00	9.00	6.50-18.49	6.50-15.49	480	18.0	17.0	11.0-30.9	10.0-25.9
All occupations	422	245	474	10.50	11.50	6.00-18.49	7.50-18.49	482	17.0	19.0	10.0-32.9	12.0-33.9
Central states—												
Blowers	130	59	468	26.50	24.00	22.50-30.49	19.50-28.49	476	49.0	44.0	44.0-56.9	36.0-52.9
Gatherers	193	78	470	15.50	13.00	12.00-22.49	11.00-15.49	478	30.0	25.0	24.0-41.9	21.0-28.9
General hands, helpers, and laborers	363	160	470	9.00	9.00	7.50- 9.49	7.50-10.49	478	15.0	15.0	12.0-15.9	12.0-15.9
Packers	33	29	471	9.00	9.00	9.00-15.49	7.50-14.99	479	15.0	15.0	15.0-25.9	12.0-24.9
Pressers	130	56	472	30.50	20.00	18.00-32.99	18.00-21.99	480	56.0	38.0	37.0-60.9	35.0-40.9
All other occupations peculiar to glass	289	127	473	7.50	5.50	5.00-12.49	4.00-10.99	481	13.0	10.0	9.0-16.9	6.0-17.9
General occupations not peculiar to glass	89	32	473	12.00	12.00	9.50-14.49	10.50-15.49	481	19.0	17.0	15.0-22.9	12.0-25.9
All occupations	1,293	580	474	10.50	11.00	8.00-18.49	7.50-16.49	482	17.0	17.0	13.0-34.9	12.0-29.9
All sections—												
Blowers	435	253	468	24.00	24.50	22.00-27.99	21.50-28.99	476	50.0	51.0	44.0-55.9	42.0-57.9
Cutters	42	29	469	13.00	12.00	11.50-15.99	9.50-29.49	477	20.0	20.0	18.0-25.9	15.0-53.9
Finishers	87	67	469	14.50	15.00	9.50-17.49	13.50-17.99	477	28.0	29.0	20.0-34.9	25.0-33.9
Foremen	82	60	469	16.50	17.00	14.50-25.49	14.50-25.49	477	28.0	29.0	22.0-39.9	24.0-41.9
Gatherers	497	308	470	13.00	12.50	11.50-16.99	11.00-13.99	478	28.0	25.0	24.0-32.9	21.0-28.9
General hands, helpers, and laborers	1,381	803	471	7.50	8.50	5.00- 9.49	5.00- 9.49	479	13.0	13.0	9.0-15.9	9.0-15.9
Mixers, batch	66	64	471	11.00	10.00	9.50-12.49	9.00-12.49	479	16.0	17.0	14.0-20.9	13.0-20.9
Packers	164	145	471	11.00	11.00	10.50-11.49	10.00-12.49	479	18.0	18.0	17.0-20.9	16.0-20.9
Pressers	181	105	472	28.50	19.50	18.00-32.49	18.00-21.99	480	46.0	38.0	36.0-59.9	35.0-41.9
All other occupations peculiar to glass	1,222	708	473	7.50	8.50	5.00-11.99	5.00-12.49	481	14.0	16.0	9.0-19.9	9.0-20.9
General occupations not peculiar to glass	322	237	473	12.00	12.00	10.00-15.49	9.00-13.99	481	19.0	17.0	15.0-25.9	14.0-22.9
All occupations	4,479	2,774	474	10.00	10.50	7.00-15.49	7.50-15.49	482	17.0	17.0	12.0-28.9	12.0-27.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
Middle states—												
All occupations	228	118	474	4.50	4.50	4.00- 5.49	4.00- 5.49	482	7.0	7.0	6.0- 8.9	6.0- 9.9
Southern states—												
All occupations	107	41	474	4.00	3.00	3.00- 6.49	3.00- 3.99	482	6.0	5.0	5.0-10.9	5.0- 6.9
Central states—												
All occupations	117	29	475	4.00	3.00	3.50- 4.49	3.00- 3.49	483	6.0	5.0	5.0- 7.9	5.0- 5.9
All sections—												
All occupations	452	188	475	4.50	4.00	3.50- 5.49	3.00- 5.49	483	7.0	6.0	6.0- 8.9	5.0- 8.9
Males under 16:												
Middle states—												
All occupations	996	1,039	475	3.50	3.00	3.00- 4.99	2.50- 4.99	483	7.0	6.0	6.0-10.9	5.0- 8.9
Southern states—												
All occupations	24	34	475	4.00	3.50	4.00- 4.49	3.00- 4.49	483	7.0	6.0	6.0- 7.9	5.0- 7.9
Central states—												
All occupations	197	198	475	4.00	4.00	3.50- 5.49	3.50- 5.49	483	8.0	8.0	7.0-11.9	7.0- 9.9
All sections—												
All occupations	1,217	1,271	475	4.00	3.50	3.00- 5.49	3.00- 4.99	483	7.0	6.0	6.0-10.9	5.0- 8.9

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
Middle states—							
Blowers	560	403	484	27.00	27.00	21.50-33.99	19.50-33.99
Gatherers	388	258	485	13.00	12.50	11.00-24.99	8.50-15.99
Pressers	41	41	485	18.50	19.50	16.00-22.99	16.00-22.49
All other occupations	495	444	488	26.50	25.50	21.50-32.99	19.00-31.49
All occupations	1,484	1,146	489	24.50	22.50	15.00-31.99	14.00-30.49
Southern states—							
Blowers	38	27	484	24.50	25.00	21.00-28.49	20.50-31.49
All occupations	78	62	489	22.00	18.50	15.50-26.49	14.50-24.99
Central states—							
Blowers	214	76	484	26.50	22.50	21.50-30.49	15.00-29.49
Gatherers	193	78	485	12.00	12.00	8.00-18.99	9.50-14.49
Pressers	131	60	485	21.50	17.50	14.00-29.49	14.00-20.99
All other occupations	43	51	488	12.00	5.00	7.50-15.49	3.50- 6.99
All occupations	581	265	489	20.00	13.50	11.50-27.99	7.50-20.99
All sections—							
Blowers	812	506	484	26.50	26.00	21.50-32.99	19.00-32.99
Gatherers	598	356	485	13.00	12.00	10.50-19.49	9.00-14.99
Pressers	190	116	485	21.00	18.50	14.00-27.99	16.00-20.99
All other occupations	538	495	488	25.50	24.50	19.00-32.49	17.50-30.99
All occupations	2,138	1,473	489	23.00	20.50	14.00-29.99	13.00-29.49

Three sections of the United States are represented in the returns for this industry—the Middle, Southern, and Central states. The establishments differ considerably in the nature of product, window and plate glass, flint glassware, pressed ware, etc., being manufactured by different factories. Although the nomenclature of the occupations is about the same, yet the nature of the work and the grade of skill required for the different kinds of products vary greatly. This explains the wide variation of wages often shown in a single occupation as tabulated.

In nearly all the factories the normal working time varies in different occupations; often the time was reported as so many turns or blowings, and these had to be reduced to hours. It is impossible to determine definitely what changes have taken place in the normal working time during the decade, but it is evident that in several factories there was a slight reduction in the working time for some occupations. The following list of different normal working hours reported as worked in one establishment at each period, illustrates the difficulty in determining the changes for the decade: 44, 48, 53, 54, 55, 60, 72, and 84 hours per week. The changes in wages as shown by the tables for week and hour rates differ to some extent, but except where specially noted in the text, the differences are not marked. In the establishments considered the proportion of males to all employees is 96 per cent in 1890 and 93 per cent in 1900. Unless specially noted the proportions of the various specified occupations to the totals for "all occupations" combined changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Middle states.—The rates for "all occupations" combined show a slight decrease; the returns for the specified occupations, except "blowers," "gatherers," "general hands, helpers, and laborers," and "packers," are few. "Gatherers" show a decided increase in rates; "finishers," "foremen," and "packers," little change; "general hands, helpers, and laborers," and "pressers," slight decreases; and "blowers," a heavy decrease. The week rates for "mixers, batch" indicate a slight increase; the hour rates, a slight decrease. But few returns are shown for "cutters."

Southern states.—The rates for "all occupations" combined show a slight decrease; this is also true for "blowers." The returns for "general hands, helpers, and laborers," much fewer in 1890 than in 1900, show a heavy increase in the week rates and little change in the hour rates.

Central states.—In nearly every tabulation the number of returns for 1900 is much larger than for 1890. The rates for "all occupations" combined show a slight increase. Of the specified occupations, "blowers," "gatherers," "packers," and "pressers" show decided increases, and "general hands, helpers, and laborers," a slight decrease.

All sections combined.—The proportions which the three sections form of the total for "all occupations" combined are as follows: Middle states, 70 per cent in 1890 and 62 per cent in 1900; Southern states, 9 per cent at each period; and Central states, 21 per cent in 1890 and 29 per cent in 1900. The rates shown for each section are about the same. As has been stated, there is a slight decrease in the Middle and Southern states, and a slight increase in the Central states. The rates for the three sections combined indicate little change.

For the specified occupations, as a rule, rates in the Central states are highest. In all sections combined, "gatherers" and "pressers" show decided increases in rates; "cutters," "foremen," and "packers," little change; and "blowers," "finishers," and "general hands, helpers, and laborers," slight decreases. As in the Middle states, the week and hour rates for "mixers, batch," in all sections combined differ, the week rates indicating a decided increase, and the hour rates, little change.

Females 16 and over.—Statistics are presented only for "all occupations" combined. In every section the returns show great disproportion in numbers, and the value of the tables for comparison is much lessened thereby. In the table for the Middle states, in which section the returns are least disproportionate, a slight decrease is shown. For all sections combined a decided increase is indicated.

Males under 16.—In this industry the returns include a large number of males under 16 forming in 1890 about 26 per cent of all males in the establishments reported, and 19 per cent in 1900. Moreover, many males under 16 were incorrectly reported as over that age, owing to the ambiguity of the pay rolls in regard to age.

Rates are presented only for "all occupations" combined. The returns from the Middle states form about four-fifths of the total. In the Middle states a considerable, and in the Central states a slight increase is shown; there were few returns for the Southern states. For all sections combined a decided increase is indicated.

EARNINGS.

A large number of the returns in the form of earnings, though for the same occupations as the rates, are for entirely different persons and often for a very different grade of work. As a result there may be important differences between rates and earnings tabulated for the same occupation, as is the case with "blowers" in the Middle states. The tabulations which represent a combination of several occupations differ so widely in their composition that there is no relation between rates and earnings. This is seen from the tabulations of "all occupations" combined for the Middle states; the earnings are more than twice as high as the rates. Considerable light on the relation of rates to earnings is shown by the presentation below of the rates and earnings of the same persons.

Males 16 and over.—In the Middle states the earnings for "blowers" show a slight increase while the rates show a decided decrease. The returns in the form of earnings greatly outnumber those of rates and are also somewhat higher. This statement is true of "gatherers" also, an occupation in which both rates and earnings show a decided increase. In the earnings as in the rates tabulation there are but few returns for "pressers."

In the Southern states there are but few earnings reported, and these throw little additional light on the wages of the section.

In the Central states, except for "blowers," the number of persons for whom earnings are reported differs very little from the number for whom rates are returned; for "blowers" the greater portion of the returns are in the form of earnings. Although the changes indicated by the two classes of returns are about the same, there is considerable difference between the height of earnings and of rates.

Owing to the differences in the proportions which the different sections form of the totals and also to the fact that the two tabulations to a considerable extent include different persons, the earnings and rates as tabulated for all sections combined do not always show the same changes.

GENERAL SUMMARY.

No single tabulation can be made for the entire industry, since for a part of the employees only earnings can be obtained, and for a part only rates. In the Middle states probably not much change took place in the wages of men, considered as a class; the wages of women decreased slightly, and those of males under 16 increased considerably. In the Southern states a slight decrease took place for men, the returns for the other classes being of little importance. In the Central states there was evidently an increase for males of all ages.

RATES AND EARNINGS OF SAME EMPLOYEES.

As previously stated, there were a number of persons for whom both rates and earnings were obtained, because the exact time worked was stated, and who therefore enter into both tabulations in the general tables. The following is a summary of the tables for such identical persons, shown in detail on pages 1157 and 1158:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—1,581 PERSONS.[1]				1890—1,025 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	1.3	.....	1.3	.....	0.8	.....	0.8
2.50 to 4.99	3.0	5.1	.....	2.1	2.3	4.1	.....	1.8
5.00 to 7.49	3.6	4.9	.....	1.3	8.3	8.5	.....	0.2
7.50 to 9.99	7.5	9.9	.....	2.4	4.2	9.0	.....	4.8
10.00 to 12.49	12.3	13.9	.....	1.6	14.8	14.7	0.1	.....
12.50 to 14.99	13.0	13.3	.....	0.3	17.8	17.0	0.8	.....
15.00 to 17.49	9.3	7.5	1.8	.....	7.9	10.3	.....	2.4
17.50 to 19.99	7.1	7.8	.....	0.7	11.2	9.3	1.9	.....
20.00 to 22.49	9.7	10.2	.....	0.5	9.9	6.6	3.3	.....
22.50 to 24.99	11.4	8.5	2.9	.....	6.2	5.1	1.1	.....
25.00 to 27.49	7.3	6.8	0.5	.....	3.8	3.7	0.1	.....
27.50 to 29.99	5.1	5.0	0.1	.....	7.2	5.4	1.8	.....
30.00 to 32.49	4.6	2.3	2.3	.....	2.2	2.9	.....	0.7
32.50 to 34.99	3.0	1.3	1.7	.....	2.0	1.1	0.9	.....
35.00 and over	3.1	2.2	0.9	.....	2.2	1.5	0.7	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

In addition to the statistics for "all occupations," on which the above tables are based, the detailed tables show separately, on pages 1159 and 1160, the rates and earnings of identical persons in the occupation of "blowers."

PAPER MILLS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Back tenders	36	29	492	10.50	9.00	9.00-10.99	9.00- 9.49	500	14.0	12.0	12.0-14.9	12.0-12.9
Beatermen	33	29	492	12.00	10.50	10.50-15.49	10.50-13.99	500	16.0	14.0	14.0-20.9	14.0-18.9
General hands, helpers, and laborers	196	169	493	9.00	8.00	8.00- 9.49	8.00- 9.49	501	14.0	12.0	12.0-15.9	12.0-15.9
Paper-machine tenders	38	31	494	18.00	16.50	16.50-18.49	15.00-18.49	502	25.0	22.0	22.0-25.9	20.0-25.9
All other occupations peculiar to paper mills	103	77	495	8.00	9.00	6.50-10.99	5.00-10.99	503	13.0	13.0	11.0-17.9	9.0-17.9
General occupations not peculiar to paper mills	66	50	496	12.00	12.00	12.00-15.49	10.50-15.49	504	20.0	16.0	16.0-20.9	14.0-20.9
All occupations	490	400	497	9.00	9.00	8.00-12.49	8.00-10.99	505	15.0	14.0	12.0-18.9	12.0-16.9
Middle states—												
Back tenders	31	20	492	9.50	9.50	9.00-11.49	8.00-10.49	500	14.0	13.0	12.0-14.9	11.0-13.9
Beatermen	39	33	493	9.00	9.00	9.00- 9.99	8.00- 9.49	501	12.0	12.0	12.0-12.9	11.0-12.9
General hands, helpers, and laborers	192	117	493	9.00	8.50	8.00- 9.49	8.00- 9.49	501	13.0	13.0	12.0-14.9	13.0-15.9
Paper-machine tenders	32	20	494	16.50	16.50	15.00-19.49	15.00-16.99	502	25.0	22.0	20.0-29.9	20.0-22.9
All other occupations peculiar to paper mills	123	83	495	9.00	10.50	8.00-10.99	9.00-12.49	503	13.0	15.0	12.0-15.9	12.0-18.9
General occupations not peculiar to paper mills	137	94	496	9.00	12.00	8.00-12.49	8.50-15.49	504	15.0	16.0	13.0-20.9	14.0-20.9
All occupations	570	382	497	9.00	9.00	8.00-10.99	8.00-12.49	505	13.0	14.0	12.0-15.9	12.0-17.9
Central states—												
General hands, helpers, and laborers	90	42	494	8.00	8.00	7.00- 9.49	7.50- 9.49	502	12.0	12.0	11.0-12.9	12.0-13.9
All other occupations peculiar to paper mills	65	32	495	9.00	9.00	9.00- 9.99	7.50-10.99	503	15.0	15.0	13.0-15.9	12.0-15.9
General occupations not peculiar to paper mills	30	15	496	10.50	10.50	9.00-12.49	9.00-15.49	504	15.0	15.0	12.0-20.9	13.0-20.9
All occupations	225	115	497	9.00	9.00	8.00-10.49	8.00-10.99	505	13.0	13.0	12.0-15.9	12.0-16.9
All sections—												
Back tenders	77	55	492	9.50	9.00	9.00-10.99	9.00-10.49	500	14.0	12.0	12.0-14.9	12.0-13.9
Beatermen	85	72	493	10.50	10.50	9.00-12.49	9.00-10.99	501	14.0	14.0	12.0-16.9	12.0-15.9
Foremen	41	34	493	13.50	13.50	10.50-20.49	12.00-18.49	501	20.0	22.0	17.0-30.9	19.0-28.9
General hands, helpers, and laborers	478	328	494	9.00	8.50	8.00- 9.49	8.00- 9.49	502	12.0	13.0	12.0-15.9	12.0-15.9
Paper-machine tenders	80	57	495	18.00	16.50	16.50-18.49	15.00-18.49	503	25.0	22.0	22.0-25.9	20.0-25.9
All other occupations peculiar to paper mills	291	192	495	9.00	9.00	8.00-10.99	8.00-11.49	503	13.0	15.0	12.0-16.9	11.0-17.9
General occupations not peculiar to paper mills	233	159	496	10.50	12.00	9.00-13.99	9.00-15.49	504	16.0	16.0	13.0-20.9	14.0-20.9
All occupations	1,285	897	497	9.00	9.00	8.00-10.99	8.00-12.49	505	14.0	14.0	12.0-16.9	12.0-16.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
New England states—												
Sorters	106	95	497	4.50	4.50	4.50- 4.99	4.50- 4.99	505	7.0	7.0	7.0- 8.9	7.0- 8.9
All other occupations	50	43	498	6.00	6.00	6.00- 6.49	6.00- 6.49	506	10.0	10.0	10.0-10.9	10.0-10.9
All occupations	156	138	499	4.50	4.50	4.50- 6.49	4.50- 6.49	507	8.0	8.0	7.0-10.9	7.0-10.9
Middle states—												
All other occupations	40	41	498	6.00	6.50	5.00- 6.49	6.50- 6.99	506	8.0	9.0	8.0- 8.9	9.0- 9.9
All occupations	40	41	499	6.00	6.50	5.00- 6.49	6.50- 6.99	507	8.0	9.0	8.0- 8.9	9.0- 9.9
Central states—												
All other occupations	51	32	498	4.50	4.50	4.50- 4.99	4.50- 5.49	506	7.0	7.0	7.0- 7.9	7.0- 8.9
All occupations	88	45	499	4.50	4.50	4.50- 5.49	4.50- 5.49	507	7.0	7.0	7.0- 8.9	7.0- 8.9
All sections—												
Sorters	143	108	497	4.50	4.50	4.50- 4.99	4.50- 4.99	505	7.0	7.0	7.0- 8.9	7.0- 8.9
All other occupations	141	116	498	5.00	6.00	4.50- 6.49	4.50- 6.99	506	8.0	9.0	7.0-10.9	8.0-10.9
All occupations	284	224	499	4.50	4.50	4.50- 6.49	4.50- 6.49	507	7.0	8.0	7.0- 8.9	7.0- 9.9

Three sections of the United States are represented in the returns for this industry, viz, the New England, Middle, and Central states. The normal working time in the various establishments, although definitely reported for the different individual employees, does not admit of a general summarization, for the reason that in most of them the different departments do not work the same number of hours, even at the same period. In one establishment, for example, the normal hours per week in the different occupations were 60, 70, 72, 75, and 84; in another establishment the hours were 54, 59, 60, 66, 72, 78, and 84. In many mills the paper-making machinery, and sometimes other departments also, are run 24 hours each day, the employees working in shifts, or, as it is technically called, "doing tour duty." The shifts are usually 11 and 13 hours a day in alternate weeks, nightmen working the greater number of hours. In making its return, one establishment explained this feature of paper-mill work as follows:

"Tour duty in this mill means that both the paper and the pulp departments are run 24 hours a day; one crew works from 7 a. m. to 5.30 p. m. and another crew from 5.30 p. m. to 7 a. m., for one week; the succeeding week the day crew works nights and the night crew, days. The wage paid is the same for both night and day work, which averages 12 hours per day or 72 hours per week."

The working time in the same occupations varied little during the decade, what change there was being usually a reduction of hours. In one case, that of "general hands, helpers, and laborers" in the Middle states, the returns show a slight increase in rates per week, but a slight decrease in rates per hour. This is caused partly by the difference between the scale for week rates and that for rates per hour, and partly by the fact that in 1900 a larger number of common laborers worked at tour duty with its long hours.

In 1890 the males 16 and over formed 77 per cent of all the employees reported and 79 per cent in 1900. Unless specially noted the proportions of the various specified occupations to the total for "all occupations" changed little for the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates for "all occupations" combined show a slight increase during the decade. For "paper-machine tenders" and "back tenders" there are considerable, and for "beatermen," and "general hands, helpers, and laborers," small, increases.

Middle states.—A slight decrease appears in the total for "all occupations"; "back tenders," "beatermen," and "paper-machine tenders" show increases, but the numbers reported in these occupations are small. For "general hands, helpers, and laborers" the week rates show a slight increase and the hour rates a slight decrease.

Central states.—The rates for "all occupations" combined are slightly lower in 1900 than in 1890. "General hands, helpers, and laborers"—the only occupation shown separately—decreased slightly in week rates and more markedly in hour rates. This decrease is due to the fact that in 1900 a number of boys were reported as helpers in the dry room at low rates who were, nevertheless, over 16 years of age.

All sections combined.—The proportion of the total represented by each section differs little in 1900 from that in 1890. At the end of the decade the New England states furnish 38 per cent of the total for "all occupations" combined, the Middle states 44 per cent, and the Central states 18 per cent; in 1890 the proportions were 45, 42, and 13 per cent, respectively. In general, wages do not differ much in the different sections, although they are slightly higher in the New England states than elsewhere. As already stated, the rates in the New England states increased slightly; in the Middle and Central states they decreased a little. The total for all sections combined changed very little,

showing opposite tendencies at different points in the scale, but none strongly marked. Of the occupations separately tabulated, "back tenders" and "paper-machine tenders" show decided increases in rates; "beatermen" a smaller increase. There is a slight decrease in the hour rates for "general hands, helpers, and laborers," while the week rates changed little. For "foremen" no decided change is manifest.

"General hands, helpers, and laborers" and "paper-machine tenders" are the only occupations in which the movements of wages in different sections are in opposite directions. Of the former, 51 per cent in 1890 and 41 per cent in 1900 are in the New England states, 36 per cent in 1890 and 40 per cent in 1900 in the Middle states, and 13 per cent in 1890 and 19 per cent in 1900 in the Central states; there is not much difference in wages in the different sections. Of the "paper-machine tenders" 54 per cent in 1890 and 48 per cent in 1900 are in the New England states, and 35 and 40 per cent in the Middle states, leaving only 11 and 12 per cent, respectively, in the Central states. The wages for this occupation are about the same in the different sections in 1890; in 1900 they are on the whole highest in the New England states.

Females 16 and over.—In the New England states the rates for "all occupations" combined and also for "sorters"—the only occupation separately tabulated—are practically unchanged. In the Middle states the few returns indicate a slight decrease in rates. There is apparently a slight decrease in the Central states, caused by the fact that with the increase in numbers more women were added at the low than at the high rates. In all sections combined the total for "all occupations" shows a slight decrease; that for "sorters," a small increase.

GENERAL SUMMARY.

The industry as a whole shows little change in the rates for men and a slight decrease for women. The rates for males in the New England states appear to have increased slightly, while in the Middle and Central states there is a slight decrease. The rates for women disclose no change in the New England and a slight decrease in the Middle states; in the Central states there is practically no change in week and a slight decrease in hour rates.

In some groups of occupations, particularly that of "all other occupations" and those for females generally, decreases appear. Correspondence with the reporting establishments elicited the information that these decreases are mainly due to changes in the goods made, wood pulp having largely superseded rags as a material. It was sometimes stated that the business has been systematized so that it requires fewer foremen at high wages, and again that the machines have been increased in size and are run at a higher speed, so that fewer skilled employees in proportion to the total are needed.

POTTERIES AND BRICKYARDS.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
POTTERIES.												
Males 16 and over:												
Middle states—												
General hands, helpers, and laborers	29	47	508	7.50	7.50	6.00– 7.99	5.50– 7.99	512	12.0	12.0	10.0–12.9	9.0–12.9
All other occupations	30	37	509	10.00	12.00	8.00–13.99	10.00–15.49	513	15.0	18.0	12.0–22.9	15.0–25.9
All occupations	62	86	510	8.00	7.50	7.50–12.49	7.50–12.49	514	13.0	12.0	12.0–20.9	12.0–18.9
Central states—												
Decorators	34	20	508	18.50	18.00	14.00–20.49	14.50–21.49	512	35.0	34.0	24.0–37.9	24.0–39.9
Dish-makers	49	37	508	21.50	20.00	18.00–26.49	15.50–24.49	512	40.0	37.0	32.0–49.9	26.0–44.9
General hands, helpers, and laborers	234	113	508	9.00	9.00	7.50–10.99	7.50–10.99	512	16.0	15.0	13.0–17.9	12.0–19.9
Kilnmen	112	60	509	16.50	17.00	12.50–18.99	13.00–18.99	513	30.0	31.0	25.0–35.9	29.0–34.9
Pressers	50	41	509	18.00	16.00	16.00–21.49	15.00–18.49	513	34.0	30.0	28.0–38.9	27.0–33.9
All other occupations	93	71	509	13.50	13.50	10.00–21.99	9.00–18.49	513	24.0	25.0	18.0–40.9	15.0–34.9
All occupations	572	342	510	12.50	13.00	9.00–18.99	9.00–18.49	514	23.0	24.0	15.0–34.9	16.0–33.9
All sections—												
General hands, helpers, and laborers	263	160	508	8.00	7.50	7.50–10.99	7.00– 9.99	512	15.0	13.0	12.0–17.9	11.0–16.9
All other occupations	123	108	509	12.50	12.00	9.00–21.49	9.00–18.49	513	22.0	22.0	15.0–37.9	15.0–33.9
All occupations	634	428	510	12.00	12.00	8.50–18.49	7.50–17.99	514	22.0	22.0	15.0–33.9	13.0–33.9
Females all ages:												
Middle states—												
All occupations	31	37	511	4.50	4.00	3.50– 7.49	4.00– 5.49	515	8.0	6.0	6.0–11.9	6.0– 8.9
Central states—												
General hands, helpers, and laborers	47	24	511	6.00	7.50	5.00– 7.99	6.00– 7.99	515	11.0	13.0	9.0–13.9	11.0–13.9
All other occupations	67	37	511	5.00	5.00	5.00– 5.49	5.00– 5.49	515	9.0	9.0	9.0– 9.9	9.0– 9.9
All occupations	195	100	511	5.00	5.00	5.00– 7.99	5.00– 7.99	515	9.0	9.0	9.0–13.9	9.0–13.9
All sections—												
Decorators	53	26	510	7.50	7.50	6.00– 7.99	6.00– 7.99	514	13.0	13.0	11.0–13.9	11.0–13.9
Dressers, ware	48	31	510	5.00	5.00	5.00– 5.49	5.00– 5.49	514	9.0	9.0	9.0– 9.9	8.0– 9.9
All other occupations	77	55	511	5.00	5.00	5.00– 5.49	4.00– 5.49	515	9.0	9.0	8.0– 9.9	7.0– 9.9
All occupations	226	137	512	5.00	5.00	5.00– 7.99	4.50– 7.99	515	9.0	9.0	9.0–12.9	8.0–12.9
BRICKYARDS.												
Males 16 and over:												
Middle states—												
All occupations	175	263	516	9.50	12.00	9.00–11.49	9.00–13.99	516	17.0	20.0	16.0–22.9	17.0–29.9

Potteries.

Two sections of the country furnish returns for this industry—the Middle and Central states. The nature of the product has undergone no radical change during the decade, and the normal working hours have remained the same in identical establishments, though some variety appears as between the different plants. The number of hours for certain operatives run as low as 7 hours per day, 42 per week, and for others as high as 10 per day, 60 per week.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over.—The returns for the Middle states are so meager that definite conclusions are hardly warranted. In the Central states little change has taken place in the rates for "all occupations," "decorators," and "general hands, helpers, and laborers;" decided increases are shown for "dish-makers" and "pressers;" a slight decrease may be seen in the rates for "kilnmen." In all sections combined little change is seen in the total for "all occupations" while "general hands, helpers, and laborers" show a slight increase.

Females all ages.—The returns from the Middle states are too small to consider in this connection. In the Central states and in all sections combined little or no change is shown.

Brickyards.

The only comparable returns are those from the Middle states, which indicate a decrease. The normal working time remained the same throughout the decade for the same yards, though the different occupations present a variety of hours from 7 per day, 42 per week, to 10 per day, 60 per week. All kinds of machine and handmade brick were produced.

PRINTING.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

Class and selected occupation.	Number of employees.		Rates per week (dollars).					Rates per hour (cents).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Compositors, hand	70	85	518	15.50	16.00	15.00–17.49	15.00–17.49	532	27.0	25.0	27.0–30.9	25.0–28.9
Foremen	23	19	521	25.00	26.00	22.00–30.49	22.00–30.49	535	44.0	44.0	35.0–55.9	38.0–50.9
General hands, helpers, and laborers	54	58	522	10.00	9.00	7.00–12.49	7.00–10.49	536	18.0	15.0	12.0–22.9	12.0–16.9
Pressmen	39	33	523	15.00	15.00	13.50–18.49	13.00–18.49	537	27.0	26.0	25.0–33.9	22.0–30.9
All occupations	249	266	526	15.00	15.00	12.00–18.49	10.00–18.49	540	27.0	25.0	22.0–33.9	16.0–30.9
Middle states—												
Compositors, hand	283	720	519	21.00	20.00	15.00–27.49	16.00–24.99	533	40.0	40.0	27.0–56.9	32.0–50.9
Engravers	33	24	520	18.00	19.00	15.00–20.49	12.00–21.49	534	33.0	35.0	29.0–40.9	24.0–39.9
Foremen	42	41	521	25.00	25.00	20.00–42.49	20.00–30.49	535	50.0	44.0	37.0–71.9	33.0–59.9
Foremen, assistant	34	27	522	25.00	18.00	19.00–30.49	14.00–27.99	536	46.0	30.0	37.0–57.9	23.0–49.9
General hands, helpers, and laborers	223	148	522	8.00	6.00	6.00–11.99	4.50– 8.49	536	14.0	10.0	11.0–21.9	8.0–16.9
Pressmen	129	86	523	15.00	14.50	10.00–18.49	11.50–15.49	537	27.0	25.0	18.0–32.9	19.0–28.9
Stereotypers	43	27	524	20.00	18.00	15.00–28.99	15.00–22.49	538	37.0	33.0	31.0–57.9	30.0–36.9
All other occupations peculiar to printing	56	41	525	12.00	10.00	10.00–16.49	9.00–18.49	539	22.0	17.0	18.0–31.9	16.0–35.9
All occupations	943	1,201	526	15.00	18.00	10.00–24.49	14.00–23.99	540	27.0	35.0	18.0–44.9	25.0–46.9
Southern states—												
Compositors, hand	77	102	519	16.00	18.00	12.00–18.49	14.00–23.99	533	28.0	35.0	20.0–33.9	24.0–46.9
Foremen	22	20	521	25.00	25.00	20.00–35.99	20.00–27.99	535	46.0	42.0	33.0–59.9	34.0–46.9
General hands, helpers, and laborers	24	22	523	7.00	6.00	6.00– 8.49	6.00– 8.49	537	11.0	10.0	10.0–13.9	10.0–13.9
Pressmen	31	32	524	12.00	9.00	7.50–15.49	6.00–11.49	538	20.0	15.0	13.0–26.9	10.0–18.9
All occupations	216	222	527	14.50	15.00	9.00–18.49	9.00–22.99	541	25.0	25.0	15.0–33.9	15.0–43.9
Central states—												
Apprentices	52	50	518	6.00	4.00	5.00– 8.49	3.00– 7.49	532	11.0	7.0	9.0–14.9	5.0–11.9
Binders	160	127	518	15.00	14.00	12.00–16.99	10.00–15.49	532	27.0	23.0	22.0–30.9	17.0–25.9
Compositors, hand	415	577	519	18.00	18.00	16.50–25.49	16.00–26.49	533	33.0	30.0	31.0–52.9	27.0–51.9
Electrotypers	37	28	520	18.00	18.00	12.00–21.49	12.00–21.49	534	33.0	30.0	22.0–38.9	20.0–35.9
Foremen	70	57	521	25.00	24.00	23.00–30.49	20.00–30.49	535	50.0	40.0	42.0–63.9	33.0–50.9
General hands, helpers, and laborers	496	286	523	9.00	8.00	6.50–11.99	5.00– 9.49	537	16.0	13.0	11.0–21.9	8.0–16.9
Pressmen	158	119	524	16.50	15.00	18.00–20.49	12.00–20.49	538	30.0	25.0	25.0–37.9	20.0–33.9
Stereotypers	23	20	525	18.00	14.00	16.00–21.49	11.50–16.49	539	39.0	28.0	33.0–44.9	21.0–33.9
All other occupations peculiar to printing	44	33	525	14.00	10.00	11.00–24.49	8.50–19.49	539	26.0	16.0	21.0–45.9	14.0–31.9
General occupations not peculiar to printing	61	28	526	14.00	14.00	10.00–19.49	12.50–18.49	540	25.0	25.0	16.0–33.9	20.0–30.9
All occupations	1,559	1,347	527	14.00	15.00	10.00–18.49	9.00–21.49	541	27.0	25.0	18.0–33.9	16.0–36.9
Pacific states—												
Compositors, hand	33	29	519	22.50	22.00	18.00–24.49	19.00–24.99	533	41.0	41.0	30.0–44.9	35.0–46.9
All occupations	66	46	527	20.50	20.00	15.00–22.99	16.50–23.49	541	35.0	36.0	25.0–41.9	30.0–42.9
All sections—												
Apprentices	86	86	518	6.00	4.00	5.00– 8.49	3.00– 6.49	532	11.0	7.0	9.0–14.9	5.0–10.9
Binders	207	164	518	15.00	14.00	12.00–16.99	10.00–15.49	532	27.0	23.0	22.0–30.9	17.0–25.9
Compositors, hand	878	1,513	519	18.00	19.00	15.00–24.49	16.00–25.49	533	33.0	37.0	28.0–47.9	27.0–49.9
Compositors, machine	42	56	519	30.00	25.00	24.00–30.49	21.00–25.49	533	62.0	46.0	42.0–63.9	38.0–46.9
Electrotypers	47	36	520	18.00	15.00	12.00–19.49	12.00–20.49	534	32.0	25.0	22.0–35.9	20.0–33.9
Engravers	65	37	520	18.00	18.00	14.00–22.49	12.00–21.99	534	36.0	32.0	28.0–46.9	23.0–39.9
Foremen	160	139	521	25.00	25.00	20.00–32.49	20.00–30.49	535	46.0	41.0	37.0–61.9	33.0–50.9
Foremen, assistant	58	48	522	25.00	22.00	20.00–30.49	16.00–25.49	536	48.0	40.0	37.0–57.9	28.0–46.9
General hands, helpers, and laborers	809	519	523	9.00	7.00	6.00–11.99	5.00– 9.49	537	16.0	12.0	11.0–21.9	8.0–16.9
Pressmen	370	278	524	15.00	15.00	12.00–19.49	11.00–18.49	538	27.0	25.0	23.0–35.9	20.0–30.9
Stereotypers	81	57	525	19.50	15.00	15.00–22.49	12.00–18.49	539	37.0	30.0	31.0–45.9	21.0–35.9
All other occupations peculiar to printing	115	90	525	13.00	12.00	10.00–18.49	9.00–19.49	539	24.0	20.0	20.0–35.9	16.0–35.9
General occupations not peculiar to printing	115	59	526	14.00	14.00	10.00–18.49	11.00–18.49	540	25.0	22.0	16.0–33.9	16.0–29.9
All occupations	3,033	3,082	527	15.00	16.00	10.00–20.49	10.00–22.49	541	27.0	29.0	18.0–37.9	17.0–42.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Females 16 and over:												
New England states—												
All occupations	24	20	530	7.00	8.00	6.00- 9.49	6.00- 9.49	544	13.0	13.0	11.0-16.9	10.0-15.9
Middle states—												
Binders	67	48	528	5.50	4.50	4.50- 6.49	4.00- 5.49	542	10.0	7.0	8.0-11.9	6.0- 8.9
General hands, helpers, and laborers	61	49	529	4.50	4.00	4.00- 4.99	4.00- 4.49	543	8.0	6.0	7.0- 8.9	6.0- 6.9
All occupations	143	106	530	4.50	4.00	4.00- 6.49	4.00- 4.99	544	8.0	6.0	7.0-11.9	6.0- 8.9
Southern states—												
Binders	54	28	528	6.00	5.00	4.00- 6.99	4.50- 6.49	542	10.0	8.0	6.0-11.9	7.0-10.9
All occupations	72	43	530	6.00	6.00	4.50- 6.99	4.50- 6.99	544	10.0	10 0	7.0-11 9	7.0-11.9
Central states—												
Binders	276	165	528	5.00	4.50	4.00- 5.99	3.50- 5.99	542	9.0	8.0	7.0-10.9	6.0- 9.9
General hands, helpers, and laborers	51	35	529	6.00	6.00	4.00- 6.99	6.00- 6.99	543	11.0	10.0	7.0-12.9	10.0-11.9
All occupations	333	205	531	5.00	5.50	4.00- 6.49	3.50- 6.49	545	10.0	9.0	7.0-11.9	6.0-10.9
All sections—												
Binders	409	251	528	5.00	4.50	4.00- 6.49	4.00- 5.99	542	10.0	8.0	7.0-11.9	6.0- 9.9
General hands, helpers, and laborers	127	96	529	4.50	4.50	4.00- 6.49	4.00- 6.49	543	8.0	7.0	7.0-11.9	6.0-10.9
All other occupations	36	27	529	9.00	9.00	3.00-13.49	7.00-12.49	543	16.0	15.0	14.0-23.9	11.0-20.9
All occupations	572	374	531	5.00	5.00	4.00- 6.49	4.00- 6.49	545	10.0	8.0	7.0-11.9	6.0-10.9
Males under 16:												
Southern states—												
All occupations	30	30	531	3.50	3.50	3.00- 4.99	2.50- 5.49	545	5.0	5.0	5.0- 7.9	(1)- 9.9
Central states—												
All occupations	59	61	531	3.00	3.00	3.00- 3.49	2.50- 3.99	545	5.0	5.0	5.0- 5.9	(1)- 5.9
All sections—												
All occupations	111	131	531	3.00	3.00	3.00- 3.99	2.50- 3.99	545	5.0	5.0	5.0- 6.9	(1)- 6.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Compositors, hand	27	56	546	14.50	16.00	10.00-18.49	10.00-20.49
Middle states—							
Compositors, hand	216	712	546	20.00	16.00	14.00-25.99	13.00-21.99
Southern states—							
Compositors, hand	23	67	546	14.50	22.50	9.00-24.49	15.50-24.49
Central states—							
Compositors, hand	168	343	547	12.00	17.50	7.50-17.99	12.50-22.99
All sections—							
Compositors, hand	434	1,178	547	15.00	17.00	10.50-22.99	13.00-22.49
Females 16 and over:							
Middle states—							
Binders	109	137	547	4.50	4.00	3.50- 6.49	3.00- 5.49
Central states—							
Binders	127	89	547	6.00	6.00	5.00- 8.49	5.00- 7.99
All sections—							
Binders	239	235	547	5.50	4.50	4.00- 7.49	3.50- 6.49

Five sections of the United States are represented in the returns for this industry—the New England, Middle, Southern, Central, and Pacific states. Most of the establishments published daily newspapers and, incidentally, did job work; a number, however, are included which did nothing but job work.

In most instances there are differences in the normal working time for different occupations in the same establishment, making it difficult to trace changes in the normal hours for the decade; it is evident from the returns, however, that in a large number of establishments the working time for some occupations was reduced by from 1 to 5 hours per week. Except where especially noted in the text, there is no marked contrast between the changes shown by week and hour rates. In the establishments considered the proportion of males to all employees was 84 per cent in 1890 and 82 per cent in 1900.

In this industry a radical change took place in the character and manner of the work performed by compositors; in 1890 most of this work was done by hand, the use of typesetting machines being confined to a few establishments. In 1900 the machines are found in nearly all the establishments, requiring a large force of "machine compositors" to operate them. "Hand compositors" are still employed in all the establishments,

usually on a class of work for which the machines are not suitable; for this reason the returns for "compositors, hand" are not affected by the discarding to secure comparability of occupations in each establishment. But, on the other hand, since there are but few establishments which employed "compositors, machine" in 1890, most of the returns for this occupation had to be excluded from the tabulation of 1900—the 42 persons retained comprising all those in establishments which used machines in 1890 as well as in 1900—although the total number of "compositors, machine" returned in 1900 is 462. (See Table 120 of the 1900 total on page 726.) As this class of labor is skilled and highly paid, its necessary exclusion on the basis of incomparability takes away much of the value of the "all occupations" tabulations; for, while the returns for 1890 furnish some idea of wages for the industry in general at that period, those for 1900 are incomplete and can not be depended upon to show changes for the decade. This does not apply, however, to the tables for the specified occupations, except in so far as the nature of the work done by "compositors, hand" has changed during the decade.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—The rates for "general hands, helpers, and laborers" and for "pressmen" show decided increases. The week rates for "compositors, hand" show little change, the hour rates, a decided increase. For "foremen" few returns are presented.

Middle states.—The rates for "foremen," "foremen, assistant," "general hands, helpers, and laborers," "pressmen," and "stereotypers" show increases, generally more marked in the hour than in the week rates. "Compositors, hand" and "engravers" show little change.

The "all occupations" tables for this section furnish a striking example of the effect of changes in the proportions which the several occupations form of the total. Each of the component tabulations indicates a more or less decided increase in rates, or else little change. But the total for "all occupations" combined indicates a heavy decrease. Obviously, could the high-paid "compositors, machine" who displaced many of the high-paid "compositors, hand" have been retained in the 1900 tabulation, the "all occupations" tabulation would have shown a change more in accordance with the actual facts for the industry.

Southern states.—The rates for "compositors, hand" show a decided decrease, those for "pressmen," a decided increase. There are few returns presented for "foremen" and "general hands, helpers, and laborers."

Central states.—"Apprentices," "binders," "foremen," "general hands, helpers, and laborers," and "pressmen" show heavy increases in rates; "compositors, hand," little change. "Electrotypers" indicate a much heavier increase in the hour than in the week rates. The returns for "stereotypers" are too few to justify inferences.

Pacific states.—The few returns for "compositors, hand" indicate little change.

All sections combined.—The following specified occupations show marked increases in rates when the returns for all sections combined are considered: "Apprentices," "binders," "compositors, machine," "electrotypers," "foremen, assistant," "general hands, helpers, and laborers," and "stereotypers." Of these occupations, "apprentices," "binders," and "electrotypers," are separately presented only for the Central states; for "compositors, machine" the returns are too few to justify presentation by sections. The rates in the various sections differ widely in some instances, but in each section, as in the total for all sections, a more or less marked increase is indicated.

"Engravers," "foremen," and "pressmen" show heavier increases in the hour than in the week rates. The large majority of the returns are from the Middle and Central states, and the proportions which each of these sections form of the total remain nearly the same. The returns for "engravers" presented in the Middle states show little change in rates, those for "foremen" and "pressmen" in each section presented indicate some increase. Rates for "foremen" are about the same in the various sections, but the rates for "pressmen" vary somewhat, being considerably lower in the Southern states than in the other sections.

The combined rates for "compositors, hand," show little change. About 80 per cent of the total returns at each period comes from the Middle and Central states, the former section furnishing 47 per cent of the total in 1890 and 32 per cent in 1900, the latter 38 per cent in 1890 and 47 per cent in 1900. The rates are highest in the Middle states and lowest in the New England states. Neither section shows much change in rates per week.

Females 16 and over.—The returns from the New England and Southern states are so few that no definite conclusions regarding changes can be drawn. In the Middle states the returns for "binders" show a marked increase in both hour and week rates, while for "general hands, helpers, and laborers" the increase is more decided in the hour than in the week rates. In the Central states the increase in the hour rates for "binders" is much more decided than in the week rates, while in the rates for "general hands, helpers, and laborers" there is little change. In each section, and for each occupation, the returns are more numerous in 1900 than in 1890.

In all sections combined the hour rates for both "binders" and "general hands, helpers, and laborers" show marked increases, while the increases indicated by

the week rates are but slight. The bulk of the returns are from the Middle and Central states. For "binders," rates in these two sections are about the same and are slightly lower than in the Southern states. In the Central states rates for "general hands, helpers, and laborers" are somewhat higher than in the Middle states. The change from "compositors, hand," to "compositors, machine," which renders the 1900 tabulations of "all occupations" combined of little value in the case of males 16 and over, does not affect the tables for females 16 and over; the latter show very little change in the week rates and a decided increase in the hour rates; the conclusions drawn from the tables for the various sections generally conform to this.

Males under 16.—The few returns for "all occupations" combined indicate a slight decrease in the Southern, some increase in the Central states, and a slight increase for all sections combined.

EARNINGS.

Earnings are presented only for "compositors, hand," males 16 and over; and for "binders," females 16 and over.

Males 16 and over.—The wide differences between the height of rates and of earnings for the same section and period are due partly to the fact that the persons included in the two tables are to some extent different, and partly to the peculiar conditions in regard to the time worked in some occupations. As is clearly indicated by the table of identicals for "compositors, hand," presented later, the amount of lost time in this occupation is very great, because the nature of the employment requires much irregularity in hours. The returns of earnings for the New England and Southern states are too few in 1900 to justify any conclusions as to change. Those presented for the Middle states show a decided increase, while the rates for this section show little change; but for the Central states the earnings show a decided decrease, while rates show a decided increase.

Females 16 and over.—Earnings for "binders" in the Middle states are more numerous than rates, and like them show a decided increase. In the Central states there are fewer earnings than rates, the earnings indicate little change while the rates show some increase.

GENERAL SUMMARY.

Since for some persons only earnings were obtained, and for others only rates, and furthermore since returns for an important occupation, "compositors, machine," are largely omitted from the presentation in 1900 because of incomparability for the decade, no single tabulation can be made for the entire industry. But in view of the fact that in each of the sections there has been either little change or a more or less decided increase in the rates of males 16 and over, for nearly every occupation presented, and of the further fact that the returns omitted in 1900 relate to an occupation in which wages are very high, it is safe to conclude that wages have increased during the decade for males 16 and over in all the sections. This conclusion applies also to wages of females 16 and over.

RATES AND EARNINGS OF SAME EMPLOYEES.

There are a number of "compositors, hand," for whom both rates and earnings were obtained, because the exact time worked was stated, and who therefore enter the general tables both of rates and of earnings. The following is a summary of the tables for such identical persons, shown in detail on pages 1162 and 1163:

Rates and earnings of identical males 16 and over.

DOLLARS PER WEEK.	1900—333 PERSONS.[1]				1890—880 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	1.9	.....	1.9	.....	0.3	.....	0.3
2.50 to 4.99	0.4	4.8	.....	4.4	0.1	3.2	.....	3.1
5.00 to 7.49	0.6	2.7	.....	2.1	0.1	3.1	.....	3.0
7.50 to 9.99	2.4	6.6	.....	4.2	0.8	5.8	.....	5.0
10.00 to 12.49	4.8	12.3	.....	7.5	4.0	7.1	.....	3.1
12.50 to 14.99	9.6	12.0	.....	2.4	9.4	12.0	.....	2.6
15.00 to 17.49	11.1	11.1	.....	.....	15.0	14.3	0.7	.....
17.50 to 19.99	6.6	9.9	.....	3.3	11.7	13.4	.....	1.7
20.00 to 22.49	8.7	7.5	1.2	.....	11.9	11.4	0.5	.....
22.50 to 24.99	8.4	9.9	.....	1.5	16.2	10.6	5.6	.....
25.00 to 27.49	18.3	8.1	10.2	.....	15.2	8.7	6.5	.....
27.50 to 29.99	9.9	6.0	3.9	.....	8.1	5.0	3.1	.....
30.00 to 32.49	11.1	5.7	5.4	.....	4.1	2.8	1.3	.....
32.50 to 34.99	5.7	0.6	5.1	.....	1.8	1.3	0.5	.....
35.00 and over	2.4	0.9	1.5	.....	1.6	1.0	0.6	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix. The fact that the proportion of higher wages under rates is much larger than it is under earnings shows that a large number of persons in the occupation worked less than the normal time.

RUBBER.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
All occupations	857	737	548	9.00	9.00	9.00-11.49	8.00-11.49	550	15.0	15.0	15.0-18.9	13.0-18.9
Middle states—												
All occupations	98	44	548	9.00	10.00	7.50-11.49	9.00-10.49	550	15.0	16.0	12.0-18.9	15.0-16.9
Central states—												
All occupations	431	214	548	8.00	9.00	7.50- 9.99	6.50- 9.99	550	13.0	13.0	12.0-16.9	11.0-16.9
All sections—												
All occupations	1,386	995	549	9.00	9.00	7.50-11.49	8.00-10.99	551	15.0	15.0	12.0-17.9	13.0-17.9
Females 16 and over:												
New England states—												
All occupations	95	54	549	7.00	7.00	5.00-10.99	6.50- 8.49	551	11.0	11.0	8.0-17.9	11.0-13.9
Central states—												
All occupations	187	45	549	5.50	4.00	4.50- 6.99	3.50- 6.99	551	9.0	7.0	8.0-11.9	6.0-11.9
All sections—												
All occupations	282	99	549	6.00	6.50	4.50- 7.49	4.00- 7.99	551	10.0	11.0	8.0-12.9	6.0-12.9

The returns for this industry are from the New England, Middle, and Central states, and are all in the form of rates. The normal working time remained unchanged during the decade, in the several establishments the number of hours being 59 and 60 per week at each period. In the New England states the establishments are engaged in the production of rubber boots and shoes, while in the Middle and Central states mechanical rubber goods are produced. Owing to the difference in product and also to the unsatisfactory classification of the employees, the same name being frequently given to occupations differing considerably in their nature, tabulations are presented only for "all occupations" combined.

With the above qualifications, the following statements are made on the basis of the figures presented: Rates are somewhat lower at each period in the Central states than in the New England or Middle states, and for both sexes the returns for the Central states form a larger proportion of the total in 1900 than in 1890. In New England the rates show very little change either for men or women; in the Middle states returns are presented only for men and show a decrease in rates; in the Central states a slight increase is shown for men and a decided increase for women. The tabulation of the figures for all sections combined shows practically no change in rates for either men or women.

SHOES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Bottom finishers	62	18	552	9.00	10.50	7.00-10.99	6.00-13.99	562	15.0	17.0	12.0-17.9	10.0-22.9
Cutters, sole-leather	103	49	553	12.00	12.00	10.50-13.99	9.00-13.99	563	20.0	20.0	17.0-22.9	15.0-22.9
Cutters, upper	300	189	553	14.50	13.50	11.50-15.49	10.00-15.49	563	25.0	22.0	20.0-25.9	16.0-25.9
Edgers	38	47	554	15.00	15.00	9.00-16.99	12.00-18.49	564	25.0	25.0	15.0-28.9	20.0-30.9
Foremen	54	48	555	20.00	19.00	17.50-23.49	18.00-21.49	565	33.0	32.0	30.0-39.9	30.0-35.9
General hands, helpers, and laborers	207	65	555	7.50	7.50	6.00-10.49	5.00-10.99	565	12.0	12.0	10.0-16.9	8.0-17.9
Packers	41	25	557	11.50	10.00	8.50-12.49	9.00-12.49	567	20.0	16.0	15.0-20.9	15.0-20.9
All other occupations	364	178	557	12.00	13.50	9.00-15.49	9.00-15.49	567	20.0	22.0	15.0-25.9	15.0-25.9
All occupations	1,210	684	558	12.00	13.00	9.00-15.49	9.00-15.49	568	20.0	22.0	15.0-25.9	15.0-25.9
Middle states—												
Bottomers	181	83	552	11.50	10.00	9.00-14.99	5.50-15.49	562	19.0	16.0	15.0-25.9	9.0-26.9
Cutters, sole-leather	47	48	553	9.50	8.50	7.00-12.49	6.50-12.49	563	15.0	14.0	11.0-20.9	10.0-20.9
Cutters, upper	139	96	553	10.00	10.00	7.50-14.99	8.00-12.99	563	16.0	17.0	12.0-24.9	13.0-21.9
Foremen	28	27	555	23.00	18.00	15.00-29.99	16.00-23.49	565	38.0	33.0	25.0-50.9	26.0-38.9
General hands, helpers, and laborers	47	45	555	3.50	3.50	3.50- 4.99	3.50- 4.99	565	5.0	6.0	5.0- 8.9	6.0- 7.9
All occupations	511	341	558	10.50	9.00	7.00-14.49	6.00-13.49	568	17.0	15.0	11.0-24.9	10.0-22.9
Southern states—												
All occupations	52	58	558	8.50	9.50	6.00-11.49	6.50-11.99	568	14.0	15.0	10.0-18.9	11.0-19.9
Central states—												
Cutters, sole-leather	35	40	553	12.00	8.50	9.00-15.49	7.50-12.49	563	20.0	14.0	16.0-25.9	12.0-20.9
Cutters, upper	111	87	554	13.00	10.00	8.00-15.49	6.50-14.49	564	22.0	16.0	14.0-25.9	11.0-23.9
General hands, helpers, and laborers	42	40	556	4.50	4.50	3.50- 7.49	3.50- 5.99	566	8.0	8.0	6.0-12.9	6.0- 9.9
Lasters	42	23	556	13.00	6.50	10.50-17.49	5.00-15.49	566	23.0	11.0	18.0-28.9	8.0-25.9
All other occupations	76	33	557	8.00	12.50	5.00-12.49	7.50-15.49	567	14.0	20.0	8.0-20.9	12.0-25.9
All occupations	404	289	558	10.50	9.00	6.50-15.49	5.50-14.49	568	18.0	15.0	11.0-25.9	9.0-23.9

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over—Continued.												
All sections—												
Bottomers	209	101	552	12.00	10.00	9.00-15.49	5.50-14.49	562	20.0	17.0	15.0-25.9	9.0-23.9
Bottom finishers	99	41	552	8.50	9.00	5.00-10.99	6.00-12.49	562	15.0	15.0	9.0-17.9	10.0-20.9
Cutters, sole-leather	190	142	553	12.00	9.50	9.50-13.49	7.50-12.49	563	20.0	16.0	16.0-22.9	12.0-20.9
Cutters, upper	556	378	554	13.50	12.00	9.00-15.49	7.50-15.49	564	22.0	20.0	15.0-25.9	12.0-25.9
Edgers	64	62	554	15.00	15.00	11.50-16.99	12.00-18.49	564	25.0	25.0	20.0-28.9	20.0-30.9
Foremen	101	90	555	20.00	18.00	17.50-25.49	17.00-21.49	565	33.0	32.0	30.0-41.9	30.0-35.9
General hands, helpers, and laborers	305	153	556	6.00	4.50	4.50- 9.49	3.50- 8.49	566	10.0	8.0	7.0-15.9	6.0-13.9
Lasters	76	85	556	13.00	11.00	9.00-15.49	7.50-14.99	566	22.0	18.0	15.0-25.9	13.0-25.9
Stock fitters	53	46	557	10.50	10.00	9.00-13.99	6.50-15.49	567	17.0	16.0	15.0-22.9	11.0-25.9
All other occupations	477	246	557	11.50	12.50	8.00-14.99	9.00-15.49	567	20.0	21.0	13.0-25.9	15.0-25.9
All occupations	2,177	1,372	558	11.50	11.00	8.00-15.49	7.00-15.49	568	20.0	19.0	13.0-25.9	11.0-25.9
Females 16 and over:												
New England states—												
General hands, helpers, and laborers	54	52	559	7.50	9.00	6.00- 9.49	6.00-12.49	569	12.0	15.0	10.0-15.9	10.0-20.9
All other occupations	126	93	560	7.00	6.00	5.50- 8.99	4.00- 9.49	570	12.0	10.0	10.0-15.9	6.0-15.9
All occupations	196	202	560	7.00	9.00	6.00- 9.49	5.00-12.49	570	12.0	15.0	10.0-15.9	8.0-20.9
Middle states—												
Stitchers, upper	48	62	559	6.00	6.00	4.50- 7.49	4.50- 7.49	569	10.0	10.0	8.0-12.9	8.0-12.9
All occupations	119	103	560	5.00	5.50	4.00- 7.49	4.00- 7.49	570	8.0	9.0	6.0-11.9	6.0-12.9
Central states—												
Stitchers, upper	36	41	559	5.50	4.00	3.50- 8.99	3.00- 6.49	569	9.0	7.0	5.0-14.9	5.0-10.9
All occupations	98	51	560	4.50	4.00	3.50- 6.49	3.50- 7.49	570	8.0	7.0	5.0-11.9	6.0-12.9
All sections—												
General hands, helpers, and laborers	63	79	559	7.50	6.00	6.00- 9.49	4.00-11.99	569	12.0	10.0	10.0-15.9	6.0-10.9
Stitchers, upper	106	165	559	5.50	6.00	4.50- 8.49	4.50- 9.49	569	9.0	10.0	7.0-13.9	7.0-15.9
All other occupations	252	118	560	5.50	6.00	4.00- 7.99	4.00-10.49	570	10.0	10.0	6.0-12.9	6.0-16.9
All occupations	421	362	561	6.00	6.00	4.00- 8.49	4.00- 9.99	571	10.0	10.0	7.0-13.9	7.0-16.9
Males under 16:												
Middle states—												
All occupations	105	95	561	3.00	2.50	2.50- 3.49	2.00- 3.49	571	5.0	(1)	(1)- 5.9	(1)- 5.9
Central states—												
All occupations	31	30	561	3.00	3.00	2.50- 3.99	2.50- 3.99	571	5.0	5.0	5.0- 5.9	(1)- 5.9
All sections—												
All occupations	154	139	561	3.00	2.50	2.50- 3.49	2.00- 3.49	571	5.0	(1)	(1)- 5.9	(1)- 5.9
Females under 16:												
Middle states—												
All occupations	71	77	561	2.50	2.50	2.00- 2.99	2.00- 2.99	571	(1)	(1)	(1)	(1)- 5.9
All sections—												
All occupations	136	90	561	2.50	2.00	2.00- 2.99	2.00- 2.99	571	(1)	(1)	(1)	(1)

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
Bottom finishers	140	60	572	14.50	15.00	12.50-18.99	12.00-19.49
Edgers	219	110	573	17.00	18.00	13.50-21.49	14.50-20.99
Finishers	79	60	574	13.50	15.50	12.00-14.99	13.00-16.49
Lasters	301	204	575	12.00	13.50	10.50-14.49	11.50-15.99
Stitchers, upper	69	28	575	14.00	11.00	11.50-16.99	9.00-12.49
All other occupations	417	175	576	16.50	14.50	11.50-22.49	11.50-18.99
All occupations	1,279	659	577	14.00	14.50	11.50-18.49	12.00-18.49
Middle states—							
Bottomers	274	253	572	12.50	10.00	10.00-15.99	7.00-13.49
Cutters, sole-leather	25	36	573	9.00	8.50	8.00-10.49	6.50-11.99
Cutters, upper	94	67	573	10.00	9.00	7.00-14.49	6.00-12.49
Edgers	25	29	573	13.00	13.00	10.50-15.49	10.00-15.99
Lasters	107	93	575	12.00	11.00	9.50-14.49	8.00-14.99
All other occupations	33	89	576	10.00	8.50	7.00-17.99	3.50-16.49
All occupations	573	530	577	12.00	10.50	9.00-15.49	7.00-14.49
Southern states—							
All occupations	31	38	577	9.00	10.50	6.50-12.99	9.00-12.49
Central states—							
Edgers	28	28	574	16.50	15.00	14.00-20.49	13.00-21.99
Lasters	88	45	575	12.50	11.50	9.50-13.99	8.50-16.49
All other occupations	46	42	576	15.50	14.00	10.50-19.99	9.50-17.99
All occupations	209	197	577	13.00	12.00	10.50-15.99	9.00-16.49
All sections—							
Bottomers	296	310	572	12.50	10.50	10.00-16.49	7.00-13.49
Bottom finishers	157	71	572	14.00	13.50	12.00-18.99	11.00-18.99
Cutters, sole-leather	38	42	573	9.00	9.00	7.50-10.99	6.50-12.49
Cutters, upper	133	87	573	12.00	9.50	8.00-15.49	6.00-14.99
Edgers	274	170	574	16.00	16.50	13.00-20.99	13.00-20.49
Finishers	100	80	574	13.00	15.00	12.00-14.99	12.50-16.49
Lasters	511	356	575	12.00	13.00	10.00-14.49	10.00-15.49
All other occupations	506	271	576	16.00	14.00	11.00-21.49	10.00-17.99
All occupations	2,092	1,424	577	13.50	12.50	10.50-17.99	9.00-16.49

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK—Continued.

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Females 16 and over:							
New England states—							
General hands, helpers, and laborers	173	45	578	9.00	9.00	5.50-10.99	7.00-11.49
Stitchers, upper	330	214	578	10.50	10.00	8.00-12.49	8.00-13.49
All other occupations	232	87	579	9.00	7.50	7.00-12.49	5.00- 9.99
All occupations	735	346	579	9.50	9.00	7.50-12.49	7.00-12.49
Middle states—							
Stitchers, upper	367	328	578	7.00	6.50	5.50- 9.49	5.00- 8.99
All occupations	395	336	579	7.00	6.50	5.50- 8.99	5.00- 8.99
Central states—							
Stitchers, upper	163	225	578	9.00	7.00	7.00-10.99	5.50- 9.49
All occupations	204	249	579	8.00	7.00	6.00-10.99	5.00- 8.99
All sections—							
Stitchers, upper	860	767	578	8.50	7.50	6.50-10.99	5.50- 9.99
All other occupations	286	106	579	8.50	7.00	6.00-11.49	5.00- 9.49
All occupations	1,334	931	579	8.50	7.50	6.00-10.99	5.50- 9.99

The New England, Middle, Southern, and Central states are represented in the returns for this industry. The products range from cheap shoes and heavy working boots to fine dress footwear. In most of the factories the normal working time did not change during the decade. For 38 per cent of the males 16 and over reported in the New England states in 1900, 36 per cent of those reported in the Southern states, and 81 per cent of those reported in the Central states, the normal working time was diminished by one hour per week; in no establishment was the working time longer than in 1890. In no case is there a marked contrast between the changes shown by week and hour rates.

In 1890, 64 per cent of all the employees in the establishments considered in the comparison were males 16 and over; in 1900, 63 per cent. The proportions which the various specified occupations form of the total, "all occupations," vary considerably for different sections; and similarly the proportions which the various sections form of the total for all sections vary for different occupations. When such variations are marked they are noted in each case.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—"All occupations" combined show a slight decrease in rates. "Cutters, sole-leather," "cutters, upper," and "foremen" show slight increases; while for "bottom finishers," "edgers," "general hands, helpers, and laborers," and "packers" the returns are either too few or too disproportionate to justify conclusions.

Middle states.—For the total for "all occupations" combined there is a considerable increase in rates. "Bottomers," "cutters, sole-leather," and "foremen" show decided increases, although the number of the latter reported is too small to warrant general inferences. Little change is apparent in the rates for "cutters, upper" and "general hands, helpers, and laborers."

Southern states.—Only the total for "all occupations" is presented, and that shows a slight decrease in rates.

Central states.—"All occupations" combined show a decided increase in rates, as does each of the specified occupations, viz, "cutters, sole-leather," "cutters, upper," "general hands, helpers, and laborers," and "lasters."

All sections combined.—Of the total returns for "all occupations" the New England states furnish 50 per cent in 1890 and 56 per cent in 1900; the Middle states, 25 per cent in 1890 and 23 per cent in 1900; the Southern and Central states together, 25 per cent in 1890 and 21 per cent in 1900. Rates are highest in the New England states, lowest in the Southern states, and about equal in the Middle and Central states. As already stated, in the New England and Southern states rates decreased slightly, and in the Middle and Central states they increased considerably. The combined returns for all sections show little change.

"Bottomers," "cutters, sole-leather," "cutters, upper," "general hands, helpers, and laborers," and "lasters" show decided, and "foremen," slight increases when the returns for the various sections are combined. "Edgers" and "stock fitters" show little change, and "bottom finishers" show a slight decrease; "stock fitters" are shown only in the total. "Bottomers," "bottom finishers," "edgers," and "lasters" are presented separately only for a single section, and the section shows the same kind of a change as the total, except in the case of "edgers," for which the rates in the New England states, the section separately presented, show a slight decrease; the returns from this section form 76 per cent of the total in 1890 and 59 per cent in 1900, and as the increase in the proportion from

other sections is produced largely by additions at higher rates, there is, as already noted, little change for the total.

Rates for "foremen" increased in the New England and Central states, the two sections for which separate presentations are made, as well as for the total. "Cutters, sole-leather," "cutters, upper," and "general hands, helpers, and laborers"—occupations which, as previously noted, show decided increases in rates for the totals—are separately presented for all sections except the Southern states. "Cutters, sole-leather," show increases in all the sections; "cutters, upper," show little change in the Middle states, in which are included 25 per cent of the total returns at each period, and an increase in each of the other sections; "general hands, helpers, and laborers" show an increase in the Central states and little change in the other sections. The proportions which this general class of workmen form of the whole number are as follows: New England states, 42 per cent in 1890 and 68 per cent in 1900; Middle states, 29 per cent in 1890 and 15 per cent in 1900; and Central states, 26 per cent in 1890 and 14 per cent in 1900. In New England, which comprises a large and increasing proportion of the total returns, rates are higher than in other sections.

Females 16 and over.—The rates for "all occupations" combined show a slight decrease in the New England and Middle states, little change in the Central states, and a slight decrease in all sections combined. The New England states, where wages are highest, contribute 56 per cent of the total returns in 1890 and 46 per cent in 1900. The Middle states contribute 28 per cent at each period, and the Central states, 14 per cent in 1890 and 23 per cent in 1900. The rates for "stitchers, upper," show little change in the Middle states, an increase in the Central states, and a slight decrease in the total for all sections combined. "General hands, helpers, and laborers" show a slight decrease in the New England states and little change in the total for all sections combined.

Males under 16.—No specific occupations are separately presented. The rates for "all occupations" combined show a small increase in the Middle states and in the total for all sections, with little definite change in the Central states.

Females under 16.—In the Middle states and in all sections combined the week rates show slight increases which are less noticeable in the table of hour rates, because the wages are so largely comprised in the lowest group.

EARNINGS.

The presentation of earnings includes about the same number of men as are in the tables of rates, and a much larger number of women. The tables of rates are almost entirely for different persons from those in the tables of earnings, only about 12 per cent of the total returns for males 16 and over in 1890 and 8 per cent in 1900, being men whose working time was reported and who therefore appear in tables both of rates and of earnings. At each period the proportion of men for whom rates, time unknown, were returned is approximately equal to that in the form of earnings, time unknown. The returns for women are to an even greater extent in the form of earnings, and the proportions of those whose exact time was reported are only 6 per cent in 1890 and 7 per cent in 1900.

Males 16 and over—New England states.—The general trend of earnings is obscure. The numbers reported are nearly evenly distributed over a wide range, and while the lower half shows an apparent decrease, an increase is indicated for the remainder. For "bottom finishers" and "edgers" there was also little change on the whole, this being again the result of opposing tendencies at different points in the scale. The earnings for "finishers" and "lasters" decreased decidedly, while for "stitchers, upper," there was a marked increase.

Middle states.—A decided increase is disclosed in the earnings for "all occupations" combined. Of the specified occupations, "bottomers" and "cutters, upper," show large increases, and "lasters" a smaller but distinct increase. The numbers of "edgers" and "cutters, sole-leather," are too small to warrant inferences as to general change.

Southern states.—The number reported is too small to justify conclusions.

Central states.—In "all occupations" combined there is a considerable increase. The only occupations separately shown are "edgers" and "lasters"; of the former too few are reported to warrant general conclusions, and the latter as a whole show little change.

All sections combined.—Earnings for "all occupations" combined increased decidedly. Wages are highest in the New England states, and in this section, which reports 46 per cent of the total returns in 1890 and 61 per cent in 1900, the general direction of change in earnings is, as has been stated, obscure. In the Middle states, representing 37 per cent of the total returns in 1890 and 27 per cent in 1900, and in the Central states, representing 14 per cent in 1890 and 10 per cent in 1900, there was a decided increase; the Southern states constitute only 3 per cent of the total in 1890 and 2 per cent in 1900.

Of the specified occupations, "bottomers" and "cutters, upper," show decided increases in each section separately presented and also in their totals for all sections. "Finishers" show a decided decrease in the total, and in the section separately presented. "Lasters" show a slight decrease in the combined total for all sections; 57 per cent of the returns in 1890 and 59 per cent in 1900 are from the New England states. The totals for "bottom finishers" and "edgers" agree with the showing in the sections for which they are presented,

in exhibiting little change. "Cutters, sole-leather," are too few to warrant inferences.

Females 16 and over.—"All occupations" combined show a slight increase in earnings in the New England states, an increase somewhat more marked in the Middle states, and a decided increase in the Central states and in all sections combined. For "stitchers, upper," the only occupation separately shown in all the sections, there is little change in New England, an increase in the Middle states, and a decided increase in the Central states and in all sections combined. "General hands, helpers, and laborers" are separately presented in the New England states only; their earnings indicate a slight decrease, but the numbers returned at the two periods are very disproportionate.

GENERAL SUMMARY.

No single table can be made to show all employees, reported in this industry, since for a part no rates could be obtained, and for a part no earnings. It appears, however, that for males 16 and over there is, on the whole, a slight decrease in wages in the New England states, and decided increases in the Middle and Central states; making a considerable increase for the industry in general. With regard to females, no general conclusions can be drawn, since those shown in the tables of rates show general decreases, while for the larger number shown in the tables of earnings, wages have increased considerably.

RATES AND EARNINGS OF SAME EMPLOYEES.

As stated above, there were a number of persons whose exact working time was reported, and for whom, consequently, it was possible to obtain both rates and earnings. The returns for these persons enter into the general tables for both rates and earnings, but are separately tabulated on page 1161, a summary of which table is here presented:

Rates and earnings of identical males 16 and ever.

DOLLARS PER WEEK.	1900—421 PERSONS.[1]				1890—320 PERSONS.[1]			
	Per cent of total in each group.		Amount of group excess.		Per cent of total in each group.		Amount of group excess.	
	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.	Rates.	Earnings.
Total	100.0	100.0	.....	.....	100.0	100.0	.....	.....
Less than 2.50	.....	.....	.....	.....	.....	0.6	.....	0.6
2.50 to 4.99	8.0	8.6	.....	0.6	9.1	9.1	.....	.....
5.00 to 7.49	16.1	16.4	.....	0.3	20.8	22.2	.....	1.9
7.50 to 9.99	16.9	17.8	.....	0.9	22.2	21.6	0.6	.....
10.00 to 12.49	19.0	16.6	2.4	.....	22.2	20.6	1.6	.....
12.50 to 14.99	16.9	17.1	.....	0.2	9.4	9.1	0.3	.....
15.00 to 17.49	11.2	10.9	0.3	.....	9.7	9.4	0.3	.....
17.50 to 19.99	7.4	6.0	1.4	.....	4.7	5.0	.....	0.3
20.00 to 22.49	2.1	3.8	.....	1.7	1.5	1.5	.....	.....
22.50 to 24.99	1.0	1.4	.....	0.4	.....	.....	.....	.....
25.00 and over	1.4	1.4	.....	.....	0.9	0.9	.....	.....

[1] Some of the persons who appear in the tables of identicals were excluded from the general tabulations because of incomparability of the occupational returns in individual establishments.

A discussion of the interpretation of tables of this description will be found on page xxix.

SLAUGHTERING.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Central states—												
All occupations	8,588	9,003	580	10.50	10.50	9.50–12.49	10.50–12.49	581	17.0	17.0	16.0–20.9	17.0–20.9
Pacific states—												
All occupations	113	73	580	15.00	15.00	12.00–18.49	12.00–19.99	581	25.0	23.0	20.0–34.9	20.0–30.9
All sections—												
All occupations	8,701	9,076	580	10.50	10.50	9.50–12.49	10.50–12.49	581	17.0	17.0	16.0–20.9	17.0–20.9

The Central and Pacific states are represented in this industry, but the returns from the latter section form only about 1 per cent of the total at each period. As only 2 per cent of the total employees in 1890 and 8 per cent in 1900 were females, tabulations for this class were not made.

Specific occupations are not presented for this industry. There is a wide difference in the nature of the establishments; some are large packing houses, in which highly specialized occupations are found, and others are small with little subdivision of labor. Again, in some of the establishments where labor is highly specialized, each occupation is carefully returned by name; and in others the pay rolls do not show this information for many of their departments.

The week and hour rates for males 16 and over, the only class tabulated, show little change for the decade.

TANNERIES.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
New England states—												
Finishers	49	28	584	9.00	9.00	9.00- 9.49	9.00-10.99	594	15.0	15.0	15.0-15.9	15.0-17.9
General hands, helpers, and laborers	108	43	585	9.00	9.50	8.00- 9.49	9.00- 9.99	595	15.0	16.0	13.0-15.9	15.0-16.9
Machine operators	29	21	587	12.00	13.50	9.00-13.99	12.00-13.99	597	20.0	23.0	15.0-23.9	20.0-23.9
Tanners	91	23	588	9.00	10.00	9.00-10.49	10.00-10.49	598	15.0	16.0	15.0-16.9	16.0-17.9
All other occupations peculiar to tanneries	32	50	589	9.00	9.00	8.00-12.49	8.00-10.49	599	15.0	15.0	13.0-20.9	13.0-16.9
General occupations not peculiar to tanneries	27	20	589	12.00	12.00	10.00-14.49	10.00-14.49	599	20.0	20.0	16.0-23.9	16.0-23.9
All occupations	410	239	590	9.00	10.00	8.50-10.49	9.00-12.49	600	15.0	16.0	14.0-16.9	15.0-20.9
Middle states—												
Beamsters	123	77	582	10.00	11.00	9.00-11.49	10.00-13.49	592	16.0	18.0	15.0-18.9	16.0-21.9
Crutchers, perchers, and stakers	121	69	583	8.00	10.00	7.50- 8.49	4.50-10.49	593	13.0	16.0	12.0-13.9	7.0-16.9
General hands, helpers, and laborers	282	123	585	7.00	7.00	6.00- 8.49	5.00- 8.49	595	11.0	11.0	10.0-13.9	8.0-13.9
Jackers	130	62	586	9.00	4.50	9.00- 9.49	4.00- 5.49	596	15.0	7.0	15.0-15.9	6.0- 8.9
Machine operators	61	19	587	8.00	5.00	7.50-10.49	4.50- 8.49	597	13.0	8.0	12.0-16.9	7.0-13.9
Tanners	54	45	588	7.50	9.50	6.50- 8.99	7.50-10.49	598	12.0	15.0	10.0-14.9	12.0-16.9
All other occupations peculiar to tanneries	81	89	589	8.50	9.00	7.00- 9.49	8.00-10.49	599	14.0	15.0	11.0-15.9	13.0-16.9
All occupations	950	512	590	8.00	8.00	7.00- 9.49	5.00-10.49	600	13.0	13.0	11.0-15.9	8.0-16.9
Southern states—												
All occupations	70	63	591	6.50	7.00	6.00- 7.99	6.00- 8.49	601	10.0	11.0	10.0-12.9	10.0-13.9
Central states—												
Beamsters	150	143	582	10.00	11.00	10.00-11.49	11.00-11.49	592	16.0	18.0	16.0-18.9	18.0-20.9
Curriers	24	38	583	9.00	9.00	8.00- 9.49	8.00- 9.49	593	16.0	16.0	15.0-16.9	15.0-16.9
Finishers	63	51	584	8.00	10.00	6.50- 9.49	8.00-10.49	594	13.0	16.0	10.0-15.9	13.0-16.9
Foremen	82	48	585	14.00	15.00	11.50-16.99	12.00-18.49	595	25.0	25.0	20.0-30.9	20.0-27.9
General hands, helpers, and laborers	931	505	585	8.00	8.00	7.50- 8.99	7.50- 9.49	595	13.0	14.0	12.0-14.9	12.0-15.9
Machine operators	245	64	587	9.50	9.50	8.00-12.99	8.00-14.49	597	16.0	16.0	15.0-21.9	15.0-23.9
Setters-out	96	76	587	9.50	10.00	9.50- 9.99	9.50-10.99	597	15.0	16.0	15.0-15.9	15.0-17.9
Tanners	209	123	588	8.50	8.00	8.00- 9.49	8.00-10.49	598	14.0	15.0	14.0-15.9	14.0-18.9
All other occupations peculiar to tanneries	318	105	589	9.00	8.50	8.00- 9.99	7.50-10.99	599	16.0	14.0	15.0-17.9	12.0-18.9
General occupations not peculiar to tanneries	197	90	590	9.50	10.00	8.50-12.49	8.00-12.49	600	15.0	15.0	13.0-20.9	14.0-18.9
All occupations	2,427	1,261	591	8.50	9.00	8.00- 9.99	8.00-10.99	601	15.0	15.0	13.0-16.9	13.0-18.9
Pacific states—												
Beamsters	154	105	582	12.50	13.00	11.50-13.49	12.00-13.99	592	20.0	21.0	19.0-21.9	20.0-22.9
Curriers	70	40	583	12.00	15.00	12.00-13.99	13.50-15.49	593	20.0	25.0	20.0-22.9	22.0-25.9
Finishers	97	57	584	12.00	13.50	10.50-13.49	12.00-14.49	594	20.0	22.0	17.0-22.9	20.0-23.9
General hands, helpers, and laborers	116	41	586	10.50	10.50	10.50-12.49	9.00-12.49	596	17.0	18.0	17.0-20.9	15.0-20.9
Tanners	130	111	588	10.50	10.50	7.00-12.49	7.50-12.49	598	17.0	17.0	12.0-20.9	12.0-20.9
All other occupations peculiar to tanneries	71	50	589	9.00	12.00	7.50-10.99	9.00-12.49	599	15.0	20.0	12.0-18.9	15.0-20.9
General occupations not peculiar to tanneries	49	33	590	13.50	13.50	12.00-15.49	12.00-15.49	600	21.0	22.0	20.0-25.9	20.0-25.9
All occupations	727	471	591	12.00	12.00	10.50-13.49	10.50-14.49	601	20.0	20.0	17.0-21.9	17.0-23.9
All sections—												
Beamsters	459	369	582	10.00	11.00	10.00-12.49	10.00-12.99	592	17.0	19.0	16.0-20.9	16.0-21.9
Crutchers, perchers, and stakers	148	74	583	8.00	10.00	7.00- 9.49	6.00-10.49	593	13.0	16.0	11.0-15.9	10.0-16.9
Curriers	94	78	583	12.00	12.50	10.50-13.99	9.00-15.49	593	20.0	21.0	17.0-22.9	16.0-25.9
Finishers	229	151	584	9.00	10.50	8.00-11.49	9.00-13.49	594	15.0	17.0	13.0-19.9	15.0-21.9
Foremen	168	92	585	15.00	15.00	12.00-20.49	12.00-18.49	595	25.0	25.0	20.0-33.9	20.0-30.9
General hands, helpers, and laborers	1,439	714	586	8.00	8.00	7.50- 8.99	7.50- 9.49	596	13.0	14.0	12.0-14.9	12.0-15.9
Jackers	251	87	586	9.00	5.00	7.00- 9.49	4.00- 8.49	596	15.0	8.0	11.0-15.9	6.0-13.9
Machine operators	342	110	587	9.50	11.00	8.00-12.99	8.00-13.99	597	15.0	18.0	14.0-21.9	15.0-23.9
Setters-out	116	98	587	9.50	10.50	9.00-10.49	9.50-10.99	597	15.0	17.0	15.0-16.9	15.0-17.9
Tanners	502	313	588	8.50	9.50	7.50-10.49	8.00-10.49	598	15.0	15.0	12.0-16.9	13.0-18.9
All other occupations peculiar to tanneries	505	297	589	9.00	9.00	8.00- 9.99	8.00-11.49	599	15.0	15.0	13.0-17.9	13.0-18.9
General occupations not peculiar to tanneries	331	163	590	10.50	10.50	9.00-12.99	9.00-13.99	600	16.0	17.0	14.0-20.9	15.0-22.9
All occupations	4,584	2,546	591	9.00	9.00	8.00-10.49	8.00-11.49	601	15.0	15.0	13.0-17.9	13.0-19.9
Females 16 and over:												
Middle states—												
All occupations	67	18	591	6.00	4.00	5.00- 6.49	4.00- 4.49	601	10.0	6.0	8.0-10.9	6.0- 6.9
Males under 16:												
All sections—												
All occupations	20	17	591	3.50	3.50	3.00- 5.49	2.50- 4.49	601	5.0	5.0	5.0- 8.9	(1)- 7.9

[1] Less than 5 cents.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Males 16 and over:							
New England states—							
All other occupations	28	38	605	10.50	13.00	10.50-11.49	10.50-14.49
Middle states—							
Beamsters	36	32	602	12.00	15.00	12.00-15.99	13.00-16.49
Crutchers, perchers, and stakers	148	39	603	11.00	18.00	10.00-16.49	12.00-18.49
All other occupations	401	91	605	9.00	12.00	6.50-11.99	10.00-15.99
Central states—							
Beamsters	96	57	602	11.50	10.50	10.50-12.49	10.00-12.49
Machine operators	220	147	603	12.00	14.50	9.00-13.99	10.00-16.49
Setters-out	52	42	604	11.50	16.00	11.50-11.99	13.00-16.99
All other occupations	207	172	605	10.50	12.00	9.00-12.99	9.50-16.49
All sections—							
Beamsters	132	89	602	12.00	12.00	11.00-12.99	10.00-13.49
Crutchers, perchers, and stakers	158	42	603	10.50	18.00	10.00-16.49	12.00-18.49
Machine operators	243	162	603	12.50	14.50	9.50-14.49	10.50-16.49
Setters-out	103	71	604	11.50	12.50	10.50-11.99	11.50-16.99
All other occupations	640	303	605	10.00	12.00	8.00-11.99	9.50-15.99

Returns are presented for five sections—the New England, Middle, Southern, Central, and Pacific states; almost all of the employees are males 16 and over. There was very little change during the decade in the normal working time, but at each period the number of hours varied in the several establishments from 48 to 66 per week. Machinery has quite largely replaced skilled hand labor since 1890. There was also a change in several establishments from a sumac to a chrome tannage.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—New England states.—"All occupations" combined show a considerable decrease in rates. Of the occupations for which separate tabulations are presented, "machine operators" and "tanners" show decided decreases, and "finishers" and "general hands, helpers, and laborers," slight decreases. In all these occupations, however, the numbers are small and disproportionate.

Middle states.—"All occupations" combined show little change. Rates are much higher for "jackers," somewhat lower for "general hands, helpers, and laborers" and "crutchers, perchers, and stakers," and much lower for "beamsters" and "tanners." The figures for "machine operators" are not conclusive.

Southern states.—The figures are too small to justify presentation by occupations; there is a slight decrease for "all occupations" combined.

Central states.—Rates decreased somewhat for "all occupations" combined. "Foremen," "general hands, helpers, and laborers," and "machine operators" show slight decreases, and "beamsters," "finishers," and "setters-out," decided decreases. For "tanners" the hour rates are not conclusive, but the week rates show a considerable decrease. The figures for "curriers" are too small to justify any definite conclusion.

Pacific states.—The rates for "all occupations" combined show a slight decrease; rates have decreased in each of the specified occupations, except "general hands, helpers, and laborers," which shows practically no change.

All sections combined.—Rates for "all occupations" combined are somewhat higher in the New England and Pacific states than in the other sections, but there is very little difference in the proportions which the several sections form of the total at the two periods. In the Middle states rates are practically unchanged, but in each of the other sections there is a decrease. The tabulation for "all occupations" for all five sections combined shows a slight decrease.

Of the occupations for which separate tabulations are presented, "jackers" show a decided increase, "general hands, helpers, and laborers" and "machine operators," slight decreases, and "beamsters," "finishers," "setters-out," and "tanners," considerable decrease; for "crutchers, perchers, and stakers" there is little change. In each of these occupations the changes practically agree with those for the several sections. The rates for "foremen" for all sections combined show a slight increase; in the Central states, the only section for which a separate tabulation is presented, there is a slight decrease, but only about half of the total number of "foremen" are from that section. The figures for "curriers," in the combined tabulation, show little change. In the Pacific states there is a decided decrease, while in the Central states the figures are too small to justify any definite conclusion; the Pacific states, however, show much higher rates than the Central states and form a greater proportion of the total in 1900.

Females 16 and over and males under 16.—The returns are too few to justify any conclusion.

EARNINGS.

Earnings are presented for the New England, Middle, and Central states, and also for all sections combined. The returns are almost entirely for other persons than those for whom rates are shown, and except in two or three occupations are fragmentary.

Males 16 and over—New England states.—The returns are small and not conclusive.

Middle states.—"Beamsters" and "crutchers, perchers, and stakers" show a considerable decrease in earnings; the rates for these occupations are almost all for other persons, but the deductions made are about the same.

Central states.—There is a slight increase in earnings for "beamsters," but a considerable decrease for "machine operators" and "setters-out." The rates indicate the same movement, except in the case of "beamsters," for whom the rates show a considerable decrease.

All sections combined.—The combined tabulation of "beamsters" in the several sections indicates little change in earnings; the rates for this occupation, which are for other persons, are considerably lower in 1900 than in 1890. The combined tabulations for the remaining occupations show considerable decrease in earnings, and the same is noticeable in the rates for these occupations.

GENERAL SUMMARY.

The returns indicate considerable decrease in wages during the decade.

TOBACCO.

MEDIAN AND QUARTILES FOR WEEK AND HOUR RATES.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		RATES PER WEEK (DOLLARS).					RATES PER HOUR (CENTS).				
			Page.	Median.		Quartiles.		Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890		1900	1890	1900	1890
Males 16 and over:												
Southern states—												
Cappers and rollers	131	152	606	7.50	6.00	6.00- 9.49	5.00- 8.49	610	13.0	10.0	10.0-14.9	9.0-13.9
Classers and pickers	22	20	606	5.50	5.00	4.50- 7.99	4.00- 5.99	610	9.0	8.0	7.0-12.9	6.0- 9.9
Cutting-machine operators	31	53	606	4.00	4.00	4.00- 4.49	4.00- 4.49	610	7.0	7.0	7.0- 7.9	7.0- 7.9
Foremen	72	72	606	13.00	12.50	8.50-17.49	9.00-15.49	610	22.0	22.0	14.0-30.9	15.0-27.9
General hands, helpers, and laborers	523	347	607	4.50	5.00	3.50- 5.99	4.00- 6.49	611	7.0	8.0	6.0- 9.9	7.0-10.9
Packers	130	133	607	6.00	5.00	4.00- 9.49	3.50- 7.99	611	10.0	8.0	7.0-15.9	6.0-12.9
Prizer hands	220	212	607	6.00	5.50	4.00- 7.49	3.50- 7.49	611	10.0	10.0	6.0-12.9	6.0-11.9
Stemmers	72	49	607	4.50	4.50	3.00- 5.49	3.00- 4.99	611	7.0	7.0	5.0- 9.9	5.0- 7.9
All other occupations peculiar to tobacco	59	128	607	6.00	6.00	4.00- 7.49	4.50- 7.99	611	10.0	10.0	7.0-13.9	8.0-13.9
General occupations not peculiar to tobacco	71	66	608	8.00	7.50	6.00-10.49	5.00-10.49	612	11.0	12.0	9.0-16.9	9.0-18.9
All occupations	1,331	1,232	608	5.50	5.50	4.00- 7.49	4.00- 7.49	612	9.0	9.0	7.0-12.9	7.0-12.9
Females all ages:												
Southern states—												
Classers and pickers	43	45	608	3.00	3.00	2.50- 4.49	2.50- 3.99	612	5.0	5.0	(1)- 6.9	5.0- 6.9
Packers	31	27	608	4.50	4.50	2.00- 5.49	4.50- 4.99	612	8.0	7.0	(1)- 8.9	7.0- 8.9
Stemmers	218	181	608	3.00	2.50	(2)- 3.99	(2)- 3.49	612	5.0	(1)	(1)- 6.9	(1)- 5.9
All other occupations	32	25	609	3.00	5.00	2.50- 5.99	3.00- 7.49	613	5.0	8.0	(1)- 9.9	5.0-11.9
All occupations	324	278	609	3.00	3.00	2.00- 3.99	(2)- 3.99	613	5.0	5.0	(1)- 6.9	(1)- 6.9
Males under 16:												
Southern states—												
General hands, helpers, and laborers	68	81	609	(2)	(2)	(2)	(2)	613	(1)	(1)	(1)	(1)
Stemmers	41	28	609	2.00	(2)	(2)- 2.49	(2)	613	(1)	(1)	(1)	(1)
All occupations	136	215	609	(2)	2.00	(2)- 2.49	(2)- 2.99	613	(1)	(1)	(1)	(1)

[1] Less than 5 cents. [2] Less than $2.00.

MEDIAN AND QUARTILES FOR EARNINGS IN A WEEK.

[Under "median" only the lower limit of the group is stated; under "quartiles" is shown the range of wages for persons in and between the groups respectively one-quarter and three-quarters up the series of employees, arranged according to the scale of wages.]

CLASS AND SELECTED OCCUPATION.	NUMBER OF EMPLOYEES.		EARNINGS IN A WEEK (DOLLARS).				
			Page.	Median.		Quartiles.	
	1900	1890		1900	1890	1900	1890
Females all ages:							
Southern states—							
Packers	33	27	614	3.00	3.50	2.50-4.49	3.50-4.49
Stemmers	340	234	614	2.50	2.00	2.00-3.49	(1)-3.49
All other occupations	71	72	614	5.00	5.00	3.50-6.49	3.00-5.99
All occupations	444	333	614	2.50	2.50	2.00-3.99	2.00-3.99

[1] Less than $2.00.

Returns are presented only for the Southern states. For males they are all in the form of rates; for females both rates and earnings are presented. The work done by females under 16 is very nearly the same as that done by females 16 and over, and the rates are also practically the same; the age distinction is, therefore, of little importance and no separate presentation is made.

The normal working time in the several establishments varied at each period from 55 to 65 hours per week, but except for "engineers," "watchmen," and other occupations not peculiar to the industry, there was no change during the decade in the number of hours worked. Machinery has quite largely taken the place of hand work in this industry since 1890.

The following conclusions are drawn from the statistics presented:

RATES.

Males 16 and over—Southern states.—The tabulation of "all occupations" combined shows practically no change in rates. Of the occupations for which separate tabulations are presented, "cappers and rollers," "classers and pickers," and "packers" show decided increases, and "cutting-machine operators," "foremen," "prizer hands," and "stemmers," slight increases; there is a slight decrease for "general hands, helpers, and laborers."

Females all ages.—The tabulation of "all occupations" combined shows practically no change in rates. There is an increase for "stemmers"; the figures for "classers and pickers" and "packers" are small and not conclusive.

Males under 16.—A large portion of the males under 16 receive less than $2 a week, and the variations in their rates do not, therefore, appear in the tables.

EARNINGS.

Earnings are presented only for female employees, and are nearly all for different persons than those for

whom rates are shown. The tabulation of "all occupations" combined shows practically no change. There is an increase for "stemmers" and a decrease for "packers."

GENERAL SUMMARY.

On the whole, the returns indicate very little change in wages during the decade, either for men or for women.

GENERAL SUMMARY.

New England states.—The wages of males 16 and over increased in three of the textile industries—"cotton mills," "dyeing and finishing textiles," and "woolen mills"—and changed little in the "carpet" and "knitting mills"; those of females 16 and over increased in "cotton," "knitting," and "woolen mills," and changed little in "dyeing and finishing textiles." In "woolen mills" an increase is shown for children of both sexes. In the metal-working industries, little change is shown in the wages of males 16 and over in "foundries and metal working"; in "shipyards" there is a decrease. "Cigars," "paper mills," and "printing" show increases in the wages of males 16 and over; "bakeries" and "rubber" little change; and "shoes" and "tanneries" decreases. For females 16 and over, increases are shown in "clothing" and "printing," and little change in "paper mills."

Middle states.—In the textile industries the wages of males 16 and over show little change in "carpet," "cotton," "knitting," and "woolen mills," and some decrease in "dyeing and finishing textiles"; those of females 16 and over changed little in "carpet," "knitting," and "woolen mills," and increased in "cotton mills." Wages increased for boys in "cotton mills," and for both boys and girls in "woolen mills." In the woodworking industries wages of males 16 and over increased in "pianos" and "wagons and carriages," changed little in "agricultural implements" and "lumber and planing mills," and decreased in "furniture"; in the metal-working industries there was an increase in wages in "shipyards," little change in "foundries and metal working," and "iron and steel mills," and a decrease in "car and railroad shops." In the miscellaneous group increases are shown in the wages of males 16 and over in "bakeries," "breweries," "chemicals," "cigars," "shoes," and "printing;" little change in "flour mills," "glass," and "tanneries;" and decreases in "clothing," "paper mills," and "brickyards." Wages of females 16 and over increased in "printing" and decreased in "glass." In "candy," the returns show the sex of the employees, but no division is made on the basis of age as being over or under 16; little change is indicated for males, and an increase for females. In "shoes," males under 16 show an increase in wages.

Southern states.—Returns for "cotton mills"—the only textile industry in this section for which many returns are presented—indicate little change in wages for males 16 and over, but an increase for females 16 and over; the wages for boys show little change, and those for girls, an increase. In "lumber and planing mills" wages for males 16 and over show little change. In the metal-working industries an increase is indicated for males 16 and over in "car and railroad shops," little change in "iron and steel mills," and a decrease in "foundries and metal working." Of the miscellaneous industries, "printing" shows an increase, "tobacco," little change, and "cigars" and "glass," decreases in the wages of males 16 and over. For females 16 and over an increase took place in "printing" and a decrease in "clothing." In "tobacco," females of all ages are presented together, little change in wages being shown for the decade.

Central states.—An increase is shown in wages of both males and females 16 and over in "knitting mills," the only textile industry presenting returns of much size. In the woodworking industries wages of males 16 and over show decided increases in "agricultural implements," "pianos," and "lumber and planing mills," and little change in "furniture" and "wagons and carriages." In the metal-working industries the wages of males 16 and over show increases in "foundries and metal working" and "shipyards;" little change in "iron and steel mills;" and decreases in "car and railroad shops." An increase is also shown for females 16 and over and for boys in "foundries and metal working."

In the miscellaneous industries, the wages of males 16 and over show increases in "breweries," "cigars," "distilleries," "glass," "printing," "rubber," and "shoes;" little change in "bakeries," "flour mills," "potteries," and "slaughtering;" and decreases in "paper mills" and "tanneries." For females 16 and over increases are shown in "clothing" and "printing," and a decrease in "bakeries." Wages decreased for males and increased for females in "candy," and indicate little change for females in "breweries" and "potteries." In "glass" there was an increase in wages of males under 16.

Pacific states.—In the textile industries the returns are too few to be considered. Two of the woodworking industries—"agricultural implements" and "lumber and planing mills"—are represented, and in each the returns show a decrease in wages of males 16 and over. In the metal-working industries an increase in wages of males 16 and over is shown in "car and railroad shops;" little change in "foundries and metal working;" and decreases in "iron and steel mills" and "shipyards." Of the industries of the miscellaneous group, "chemicals" and "printing" show increases; "slaughtering" little change; and "flour mills" and "tanneries" decreases in wages of males 16 and over; and "clothing" and "printing" indicate increases for females 16 and over.

CHAPTER III.

THE 1900 TOTAL.

The tables on pages 615 to 768 include all persons in the specified industries for whom rates were obtained in 1900. Accordingly they include, in addition to the persons already tabulated in the occupational comparison, all persons on the 1900 pay rolls of establishments for which no 1890 returns could be secured, and also all persons who, as already explained (page xxi), were discarded in tabulating for the comparison because of noncomparability. There is thus secured a broader basis for future comparison than is afforded by the 1900 figures in the comparative tables.

The wages shown in the tables for the 1900 total are found to differ in some cases from those shown in the 1900 comparison. Sometimes the persons discarded in tabulating for the comparison were at relatively low and sometimes at relatively high rates, and the same may be said of the employees in establishments for which no 1890 pay roll was secured. It is not deemed necessary, however, to discuss the 1900 total tables as fully as the comparative tables, and in the following notes only those cases are mentioned which show considerable deviation from the 1900 figures for the same industry as tabulated in the occupational comparison. The deviation is measured by comparing the position of the median wage in the two sets of tables, and unless the median differs by more than one group, i. e., by more than 50 cents in the week-rate, or more than 1 cent in the hour-rate scale, the variation is, as a rule, not noted. But sometimes, where there is a difference of two groups or more in one scale, a difference of only one group in the other may be noted; thus, mention may be made of a difference of only 50 cents in the median for week rates, if there is a difference of 2 cents, or more, in the median for hour rates.

The most frequent causes of difference between the two sets of statistics are: First, the inclusion in the 1900 total of single pay rolls, which could not enter the comparison because there was no report for 1890; and second, the restoration of discards. When either of these two causes is operative, it is obvious that the statistics in the 1900 total can not be used in comparison with those for 1890, except in the most general way, but it is sometimes found that the total returns for an occupation, as shown in the 1900 total, are more representative of actual conditions than the figures presented for 1900 in the occupational comparisons. The influence of the 55 complete pay rolls added is probably greater in most cases, where active at all, than the restoration of persons excluded from the occupational comparison because of occupational noncomparability within the establishments.

In the following table, which presents the number of employees and the medians for the comparison and for the total, the reasons for the differences are briefly referred to in the accompanying notes. It will be seen that the medians of "all other occupations peculiar" and "general occupations not peculiar" frequently exhibit differences of more than one group. Of these variations very little explanation can be made; these classes may each include occupations so widely discrete in their nature that the rates of pay may differ greatly, and the mere fact that the 1900 total includes a larger number of individuals is often sufficient to account for the difference noted. Persons included in the total, but not in the comparison, are commonly designated as "additionals." As already explained, "additionals" are either employees in establishments for which no 1890 pay roll was available, or employees excluded from the comparison tables because of noncomparability of the returns; the latter are referred to as "discards."

NUMBER OF EMPLOYEES, WITH MEDIAN OF WEEK AND HOUR RATES, FOR TABULATIONS SHOWING A DIFFERENCE OF MORE THAN ONE GROUP BETWEEN EITHER THE WEEK OR HOUR MEDIANS OF THE 1900 COMPARISON AND THE 1900 TOTAL.

[Under "median" only the lower limit of the median group is given.]

INDUSTRY, SEX, OCCUPATION, AND SECTION.	NUMBER TABULATED.		MEDIAN.				Explanation of difference.
			Rates per week (dollars).		Rates per hour (cents).		
	Comparison.	Total.	Comparison.	Total.	Comparison.	Total.	
Cotton mills:							
Males 16 and over—							
All occupations—							
Middle states	580	1,340	7.00	6.50	12.0	10.0	The total includes a large establishment for which no rates could be obtained for 1890.
Woolen mills:							
Males 16 and over—							
Dresser tenders and beamers—							
New England states	62	81	8.00	10.00	14.0	17.0	Difference is due partly to the inclusion in the total of an establishment for which no 1890 returns were obtainable and partly to discards.
All occupations—							
Pacific states	131	247	11.50	9.50	18.0	15.0	Difference due entirely to discards, the employees discarded forming almost half of the total number and consisting largely of those at low rates.
Females 16 and over—							
Comb tenders—							
All sections	75	115	5.50	6.00	9.0	10.0	Total includes an establishment for which 1890 rates could not be obtained.
All other occupations—							
Pacific states	25	55	5.50	7.50	9.0	12.0	Total includes 30 "wool sorters" in 1 establishment receiving $1.25 per day, excluded from the comparison because in 1890 wool sorting was done by males.
All occupations—							
Central states	76	102	4.50	3.50	9.0	7.0	The total includes 26 women, at rates from $3.00 to $4.49, discarded from the comparison because of noncomparability.
Pacific states	55	103	5.00	6.00	8.0	10.0	Difference due to the inclusion in the total of the 30 "wool sorters" referred to above under "all other occupations."
Furniture:							
Males 16 and over—							
Apprentices—							
All sections	81	90	5.00	6.00	9.0	11.0	Difference due to discarding.
Fitters—							
Central states	44	91	12.00	10.50	22.0	17.0	The employees discarded received from $6.50 to $10.50 per week.
General occupations not peculiar to furniture—							
Middle states	47	62	12.00	14.00	20.0	23.0	The discards comprise 10 men at $18.00 per week and are practically all at rates above the median of the comparison.
Wagons and carriages:							
Males 16 and over—							
Carriage and wagon blacksmiths—							
Middle states	104	194	15.00	14.00	25.0	25.0	Difference due partly to the inclusion in the total of an establishment for which 1890 rates could not be obtained, but mainly to discarding.
Central states	129	150	10.50	11.00	18.0	20.0	Difference due to discarding.
All sections	253	368	12.00	13.00	22.0	22.0	Difference due to the shifting of the proportions which the returns from the sections form of the total. In the comparison the Middle states have 104 returns with median at $15.00; and the Central states 129, with median at $10.50. In the total the Middle states have 194, with median at $14.00; and the Central states 150, with median at $11.00.
Finishers—							
Middle states	50	113	10.00	9.00	16.0	16.0	Total includes an additional establishment in which the "finishers" mostly received $9.00 and $10.00 per week; the discards represent rates both above and below that amount, but the number receiving from $9.00 to $10.00 was enough to bring down the median.
Foremen—							
Central states	43	62	18.00	15.00	30.0	27.0	Total includes an additional establishment which reported 12 "foremen," with wages running from $10.00 to $16.00 per week and averaging a little over $13.00; of the 7 discards restored in the total only 2 are at rates above the median of the comparison.
All sections	75	108	18.00	18.00	33.0	30.0	Difference due partly to causes specified above for Central states, and partly to change in proportions which the several sections form of the total.
General hands, helpers, and laborers—							
Middle states	94	170	10.00	9.00	18.0	15.0	The additionals are mainly employees receiving $1.00, $1.25, or $1.50 per day, and most of them are discards.
Machine hands, wood—							
Central states	143	279	8.00	7.50	15.0	13.0	Total includes a large number of discards at 7 and 12 cents per hour.
Trimmers—							
Central states	61	115	12.00	10.00	20.0	17.0	In this occupation there were only 7 discards for the entire section. In 1 establishment, with no 1890 pay roll, the separation between rates and earnings is very poorly drawn; but of the wages returned which were considered as rates, 26 were below $10.00, 9 from $10.00 to $12.00, and 12 over $12.00 per week. The earnings appear in almost inverse order, i. e., 9 were under $10.00, 12 from $10.00 to $12.00, and 21 over $12.00. Thus for "trimmers," in this establishment alone, the median of the rates would be under $10.00, and for earnings it would be over $12.00 because the earnings are for high-paid pieceworkers. In the 1900 comparison the median group for rates is determined by 50.8 per cent of the total number. In the next 4 lower groups there are only 5 persons, bringing the cumulative percentage up to 59, so that the single additional establishment considerably affected the median of the total.
All sections	136	217	13.00	12.50	24.0	22.0	See above statement concerning "trimmers" in the Central states.
Woodworkers, hand—							
Middle states	109	202	15.00	15.00	27.0	25.0	Difference exists only in hour rates.
All other occupations peculiar to wagons and carriages—							
Central states	41	82	8.00	9.00	16.0	15.0	The occupations included under this classification are not sufficiently homogeneous to admit of a simple explanation of the difference between the two tabulations.

NUMBER OF EMPLOYEES, WITH MEDIAN OF WEEK AND HOUR RATES, FOR TABULATIONS SHOWING A DIFFERENCE OF MORE THAN ONE GROUP BETWEEN EITHER THE WEEK OR HOUR MEDIANS OF THE 1900 COMPARISON AND THE 1900 TOTAL—Continued.

INDUSTRY, SEX, OCCUPATION, AND SECTION.	NUMBER TABULATED.		MEDIAN.				Explanation of difference.
			Rates per week (dollars).		Rates per hour (cents).		
	Comparison.	Total.	Comparison.	Total.	Comparison.	Total.	
Wagons and carriages—Continued.							
Males 16 and over—Continued.							
General occupations not peculiar to wagons and carriages—							
Central states	82	110	9.50	10.50	15.0	17.0	The additionals comprise widely distributed rates.
All sections	107	198	10.50	10.50	16.0	18.0	Difference is only in hour rates.
All occupations—							
New England states	48	77	11.50	10.50	20.0	18.0	The returns for this section are so few that no occupations could be shown separately; the figures can not therefore be analyzed.
Middle states	700	1,229	13.50	12.50	23.0	22.0	The principal factors producing the difference are shown above under the several occupations.
Foundries and metal working:							
Males 16 and over—							
All occupations—							
Pacific states	1,537	2,488	15.00	13.50	25.0	22.0	The number of discards is 265. The difference is due principally, however, to the inclusion in the total of an additional establishment with 686 employees, of whom 117 are "apprentices" and boys receiving less than $10.00 per week, and 284 are "helpers" of various sorts, the remainder being made up of more skilled workmen.
Shipyards:							
Males 16 and over—							
All occupations—							
Middle states	4,794	6,779	13.00	12.00	22.0	20.0	The discards are very few, and the difference results mainly from the inclusion in the total of 1 additional establishment having over 1,900 employees.
Bakeries:							
Males 16 and over—							
All occupations—							
New England states	168	207	11.00	12.00	(1)	(1)	Total includes 1 additional establishment, with 28 employees, 14 of whom receive $12.00 per week, while 8 receive higher rates. Since 48.8 per cent of the employees included in the comparison table receive $12.00 or more per week, the inclusion of these 22 additional men in the total raises the median two groups.
Breweries:							
Males 16 and over—							
Cellarmen—							
Central states	136	253	14.00	14.00	23.0	25.0	Difference is only in hour rates.
Foremen—							
All sections	85	131	20.00	18.50	33.0	33.0	In this industry there are 5 establishments without 1890 pay rolls: 3 in the Central states, and 1 each in the Middle and Pacific states; they report 30 "foremen"; there are also 16 discards. These 46 additionals are widely distributed over the range of wages.
Washhouse men—							
Central states	119	265	13.00	14.00	21.0	24.0	One establishment, with no 1890 pay roll, employed 32 "washhouse men" at $13.00 per week; but there was a sufficiently large number of discards at $14.00 per week to raise the median in the total.
All other occupations peculiar to breweries—							
Central states	483	545	11.00	11.50	17.0	20.0	The occupations included under this classification are not sufficiently homogeneous to admit of any simple explanation of the difference between the two tabulations.
General occupations not peculiar to breweries—							
Middle states	242	269	15.00	16.00	26.0	26.0	Practically all the additionals are from an establishment with no 1890 pay roll. They include 11 "carpenters" at $16.50 to $19.50 per week; 3 "engineers" at $16.80 to $21.00; 10 "firemen" at $15.00; 1 "saddler" at $12.00; and 1 "watchman" at $16.00. Thus 15 are above the median of the comparison, 10 come within the median group, and only 1 is below it.
Cigars:							
Males 16 and over—							
Packers—							
Middle states	28	41	15.00	14.00	31.0	27.0	The difference is due principally to discarding. There are 7 discards: 1 at $22.50, the others from $7.50 to $13.00.
All sections	47	71	18.50	14.50	40.0	30.0	The difference is due to 10 additionals in the Central states and 1 in the Pacific states, besides those in the Middle states just mentioned. The 1 in the Pacific states is a boy at $3.00 in an establishment with no 1890 pay roll; the 10 in the Central states are all discards ranging from $9.50 to $19.00, but mostly at $12.00 and $13.00.
Females 16 and over—							
Strippers—							
Central states	24	53	5.00	4.50	12.0	8.0	The additionals are all discards and their rates range from $2.50 to $6.00; 19 of them being below $4.00 per week.
All occupations—							
Central states	333	450	5.50	5.00	12.0	10.0	The change is due entirely to discards, the total number of which is 117.
Clothing:							
Males 16 and over—							
All occupations—							
New England states	38	54	14.00	13.00	24.0	22.0	Difference due to discarding. The rates of the men discarded range from $9.00 to $18.00, 5 being at $15.00 to $18.00, 8 at $12.00 to $14.50, and 3 at $9.00 to $11.00.
Central states	106	268	12.00	14.00	22.0	28.0	The difference is due entirely to the inclusion in the total of employees from establishments with no 1890 pay rolls.
All sections	1,094	1,360	10.00	11.00	17.0	20.0	The difference is caused by the additionals in the Central states and a considerable number of discards in the Middle states, which were also influential in raising the median for that section one group above that of the comparison.
Flour mills:							
Males 16 and over—							
Millers—							
Pacific states	22	38	17.50	21.00	28.0	29.0	In establishments with no 1890 pay rolls there are 12 "millers" at rates ranging from $18.00 to over $40.00 per week. There are also 4 discards: 2 at $15.00 and 2 at $21.00.
All sections	109	148	17.00	18.00	25.0	25.0	The difference is partly due to the conditions in the Pacific states described above, and partly to the inclusion in the total of an establishment in the Central states with no 1890 pay roll.

[1] No tabulation for hour rates made.

NUMBER OF EMPLOYEES, WITH MEDIAN OF WEEK AND HOUR RATES, FOR TABULATIONS SHOWING A DIFFERENCE OF MORE THAN ONE GROUP BETWEEN EITHER THE WEEK OR HOUR MEDIANS OF THE 1900 COMPARISON AND THE 1900 TOTAL—Continued.

INDUSTRY, SEX, OCCUPATION, AND SECTION.	NUMBER TABULATED.		MEDIAN.				Explanation of difference.
			Rates per week (dollars).		Rates per hour (cents).		
	Comparison.	Total.	Comparison.	Total.	Comparison.	Total.	
Flour mills—Continued.							
Males 16 and over—Continued.							
All other occupations peculiar to flour mills—							
All sections	35	46	11.00	12.00	18.0	20.0	The occupations included under this classification are not sufficiently homogeneous to admit of a simple explanation of the difference between the two tabulations.
General occupations not peculiar to flour mills—							
Central states	182	253	12.00	12.00	20.0	18.0	Difference only in hour rates.
All occupations—							
Central states	963	1,202	12.00	11.00	17.0	17.0	The additionals are principally "general hands, helpers, and laborers," or employees grouped under "general occupations not peculiar to flour mills."
Pacific states	260	402	13.50	15.00	21.0	22.0	There are 114 men in establishments with no pay rolls for 1890.
Paper mills:							
Males 16 and over—							
Paper-machine tenders—							
Middle states	32	52	16.50	16.50	25.0	22.0	Difference only in hour rates.
All sections	80	115	18.00	16.50	25.0	22.0	There are 4 mills for which there are no 1890 pay rolls. None of the rates for "machine tenders" in these establishments are higher than $16.50, and some are as low as $13.50 per week.
General occupations not peculiar to paper mills—							
Middle states	137	205	9.00	10.00	15.0	15.0	Difference only in week rates.
Central states	30	96	10.50	9.00	15.0	12.0	The occupations included under this classification are not sufficiently homogeneous to admit of a simple explanation of the difference between the two tabulations.
All occupations—							
Central states	225	502	9.00	8.00	13.0	12.0	In 1 establishment, with no 1890 pay roll, there are 81 men, but the difference is due principally to the discards, of which there are 277.
Females 16 and over—							
All other occupations—							
Middle states	40	68	6.00	5.00	8.0	8.0	Difference due to the inclusion in the 1900 total of women from an establishment with no 1890 pay roll.
All occupations—							
Middle states	40	179	6.00	4.50	8.0	7.0	In 2 establishments, with no 1890 pay rolls, there are 139 women. Of these, 111 are "sorters," an occupation not represented in the comparable establishments in this section.
Printing:							
Males 16 and over—							
Compositors, hand—							
Middle states	288	301	21.00	20.00	40.0	39.0	The additionals are all discards.
Southern states	77	91	16.00	15.00	28.0	25.0	The median in the total is lowered by the inclusion of 14 discards: 6 at $3.00, 1 at $8.00, 3 at $10.00, 1 at $12.00, 1 at $13.50, 1 at $15.00, and 1 at $18.00 per week.
Compositors, machine—							
All sections	42	462	30.00	25.50	62.0	51.0	"Compositors, machine," are not shown by sections in the comparison, as the numbers are too small.
Engravers—							
Middle states	33	38	18.00	16.00	33.0	31.0	The additionals consist of 5 discards: 3 at $9.00, 1 at $12.00, and 1 at $14.00 per week.
General hands, helpers, and laborers—							
Middle states	223	252	8.00	7.00	14.0	14.0	Difference only in week rates.
Stereotypers—							
Middle states	43	53	20.00	17.50	37.0	36.0	The additionals are discards and their rates are as follows: 1 at $6.00, 1 at $10.00, 7 at $15.00, and 1 at $20.00 per week.
Central states	28	33	18.00	16.50	39.0	37.0	Difference due to 10 discards.
All sections	81	109	19.50	17.50	37.0	37.0	Difference only in week rates.
All other occupations peculiar to printing—							
Central states	44	52	14.00	13.00	26.0	24.0	This class is not sufficiently homogeneous to admit of a simple explanation of the difference.
General occupations not peculiar to printing—							
All sections	115	147	14.00	15.00	25.0	25.0	Difference only in week rates.
All occupations—							
Middle states	948	1,260	15.00	17.50	27.0	31.0	The total includes 317 additionals discarded from the comparison either for occupational noncomparability within establishments, or for noncomparability in form of returns, that is, rates, time unknown, at one period, and earnings, time unknown, at the other period. The greater part of the additionals are "compositors, machine," a high-paid occupation; of these the comparison includes 26 and the total 234. The 26 included in the comparison are all in 1 establishment, the only one in which the occupation existed in 1890. The inclusion of these additional "compositors, machine," makes the median much higher for the total than for the comparison, although in many of the individual occupations, the median for the total is the lower.
Central states	1,559	1,851	14.00	15.00	27.0	28.0	Nearly half of the persons added are "compositors, machine," and the higher median of the total is due entirely to the relatively high wages paid in that occupation.
Pacific states	66	171	20.50	22.50	35.0	41.0	The additionals are largely from an establishment for which no 1890 returns were obtainable; in the constituent occupations there is not much difference between the total and the comparison.
All sections	3,033	3,828	15.00	15.00	27.0	29.0	Difference, which is only in hour rates, due mainly to inclusion of "compositors, machine," in the total, the normal working time in that occupation being shorter in many cases than in others.
Females 16 and over—							
All other occupations—							
All sections	36	68	9.00	8.00	16.0	14.0	This class includes women whose occupations are too diverse to admit of analysis.

NUMBER OF EMPLOYEES, WITH MEDIAN OF WEEK AND HOUR RATES, FOR TABULATIONS SHOWING A DIFFERENCE OF MORE THAN ONE GROUP BETWEEN EITHER THE WEEK OR HOUR MEDIANS OF THE 1900 COMPARISON AND THE 1900 TOTAL—Continued.

INDUSTRY, SEX, OCCUPATION, AND SECTION.	NUMBER TABULATED.		MEDIAN.				Explanation of difference.
			Rates per week (dollars).		Rates per hour (cents).		
	Comparison.	Total.	Comparison.	Total.	Comparison.	Total.	
Shoes:							
Males 16 and over—							
Cutters, sole-leather—							
Central states	35	69	12.00	10.50	20.0	17.0	The additionals are all in 3 establishments returning no pay rolls for 1890.
Cutters, upper—							
Central states	111	279	13.00	11.50	22.0	20.0	The additionals are all from establishments with no 1890 pay rolls.
Edgers—							
All sections	64	121	15.00	13.50	25.0	23.0	Difference is due mainly to the addition of employees from establishments with no 1890 pay rolls.
General hands, helpers, and laborers—							
Central states	42	132	4.50	3.50	8.0	6.0	The additionals, which are partly discards, represent very low rates.
Packers—							
New England states	41	53	11.50	10.00	20.0	16.0	Most of the additionals are from 1 establishment which did not report for 1890.
All occupations—							
Central states	404	1,015	10.50	10.00	18.0	16.0	See comments upon specific occupations. It should be noted that the principal difference is in rates per hour.
All sections	2,177	3,026	11.50	11.00	20.0	18.0	See comments on individual occupations and sections.
Tanneries:							
Males 16 and over—							
Machine operators—							
New England states	29	95	12.00	9.00	20.0	15.0	The difference is mainly due to the inclusion in the total of an establishment, with no 1890 pay roll, employing 314 men. The total number of discards in this section for "all occupations" is only about 60.
All other occupations peculiar to tanneries—							
New England states	32	92	9.00	10.50	15.0	17.0	See above comment on "machine operators" in this section.
Middle states	81	242	8.50	7.50	14.0	12.0	The additionals are all discards at rates ranging from $3.50 to $22.50 per week, but mostly at the lower rates.
Pacific states	71	146	9.00	12.00	15.0	20.0	The additionals are all discards, evidently consisting mostly of the more highly paid men.
All occupations—							
Southern states	70	131	6.50	7.50	10.0	12.0	The additionals are in a tannery, for which no 1890 pay roll could be secured as the establishment began business in 1896.
Females 16 and over—							
All occupations—							
Middle states	67	441	6.00	5.00	10.0	8.0	The additionals consist of "seasoners" and "jackers" reported in 1900 by establishments which employed males in these occupations in 1890.

CHAPTER IV.

ANALYSIS OF ESTABLISHMENT COMPARISON.

I.

COMPARISON OF WAGES IN INDIVIDUAL ESTABLISHMENTS.

1. *Special object and value.*—The special object of the study of wages in individual establishments is the determination of the character of the changes which have taken place between 1890 and 1900, as, for example, the change in the relative amount of skilled and unskilled labor employed, or substitution of employees of one sex or age class for those of another. In the figures for individual establishments, where conditions are simple and homogeneous, it is especially easy to detect a change in rates, or in the class of employees, and to understand what its effect will be upon the general course of wages. But when we consider the combined returns for a number of establishments in which there have been at work many forces widely divergent in their tendencies, having no relation one to another, and often counteracting or overshadowing one another, the analysis is obscured. If the number of "machinists" in a single establishment decreases, while the number of "machinists' helpers" in the same establishment increases, it is easy to realize how such a change may affect wages in general. But if the returns for an establishment in which such a change has taken place are combined with those for one in which there has been an increase in the number of "machinists" sufficient to offset the decrease in the first establishment, together with a very large increase in the number of "machinists' helpers" under the name of "laborers," the real facts are disguised. By the use of tabulations for individual establishments, the confusion, caused by the combination under one classification of employees who are reported under the same occupation, although their work often differs materially, is almost entirely avoided.

Such tabulations are of too minute a character to be undertaken on a large scale by any statistical bureau, but a few are here included, both to illustrate the method and to supplement the tabulation by occupations. They must, however, be regarded as secondary in importance, to be used as an aid in the interpretation of the occupational returns.

There are, in all, 296 establishment tabulations, of which 270 are rate tabulations and 26 earnings tabulations. As the data afforded by earnings for a single week are not sufficient to justify definite conclusions, the returns of these 26 establishments are not included in the following analysis. Since the children employed in these factories form so unimportant a part of the whole, and the age distinctions in the original returns are uncertain, no special analysis has been made for employees under 16 years of age. In only 13 establishments is the number of either boys or girls as large as 50, and in all cases the wages of this class are low, showing variations too slight to be measured by the scale adopted for the tabulations.

2. *Employees and establishments.*—The number of employees 16 years of age and over included in the establishments for which comparisons of rates are made, is as follows:

Number of establishments and number of employees represented in the establishment comparison: 1900 and 1890.

SEX.	Number of establishments.	NUMBER OF EMPLOYEES.	
		1900	1890
Total	270	64,252	47,236
Males 16 and over	270	53,730	38,175
Females 16 and over	[1] 60	10,522	9,061

[1] These establishments are included in the 270 establishments in which males are found.

The geographic distribution of the 270 establishments is as follows:

Number of establishments and number of employees represented in the establishment comparison, by geographic divisions: 1900 and 1890.

GEOGRAPHIC DIVISIONS.	Number of establishments.	NUMBER OF EMPLOYEES.			
		Males 16 and over.		Females 16 and over.	
		1900	1890	1900	1890
Total	270	53,730	38,175	10,522	9,061
New England states	30	9,781	7,770	6,405	6,013
Middle states	107	19,580	13,906	1,956	1,492
Southern states	34	4,170	3,219	1,214	1,021
Central states	68	17,840	11,514	947	535
Pacific states	31	2,359	1,766	.....	.....

The distribution of these establishments by industries is shown in the following table:

Number of establishments and number of employees represented in the establishment comparison, by industries: 1900 and 1890.

INDUSTRIES.	Number of establishments.	NUMBER OF EMPLOYEES.			
		Males 16 and over.		Females 16 and over.	
		1900	1890	1900	1890
Total	270	53,730	38,175	10,522	9,061
Textile:					
Cotton mills	9	2,954	2,066	3,182	3,257
Dyeing and finishing textiles	3	1,211	1,170	222	188
Knitting mills	1	41	38	48	80
Silk mills	3	1,273	891	1,312	1,104
Woolen mills	11	3,546	2,572	3,623	3,052
Woodworking:					
Agricultural implements	7	2,613	1,260	.....	.....
Furniture	12	1,583	1,428	15	24
Lumber and planing mills	8	1,277	1,389	.....	.....
Wagons and carriages	7	703	634	.....	.....
Metal working:					
Car and railroad shops	7	4,489	2,938	.....	.....
Foundries and metal working	63	18,966	11,914	134	134
Shipyards	9	2,172	1,618	.....	.....
Miscellaneous:					
Bakeries	16	861	652	47	17
Breweries	23	2,320	2,103	.....	.....
Brickyards	1	109	92	.....	.....
Candy	1	37	24	67	52
Chemicals	6	1,091	902	43	41
Cigars	9	1,023	660	466	193
Clothing	7	365	287	184	257
Flour mills	15	600	551	.....	.....
Glass	3	261	210	.....	.....
Paper mills	11	1,341	1,048	218	216
Potteries	1	151	103	99	53
Printing	14	1,676	1,527	274	161
Rubber	1	98	44	.....	.....
Shoes	3	232	150	100	67
Tanneries	14	1,983	1,255	265	11
Tobacco	5	754	649	223	154

In the following table the number of employees in the establishment and occupational tabulations for each industry are compared:

Comparison of number of employees represented in the rate tables of the occupational and establishment tabulations, by industries: 1900 and 1890.

INDUSTRIES.	Year.	MALES 16 AND OVER.		FEMALES 16 AND OVER.	
		Occupational comparison.	Establishment comparison.	Occupational comparison.	Establishment comparison.
Total	1900	160,692	53,730	17,151	10,522
	1890	105,453	38,175	13,327	9,061
Textile:					
Carpet mills	1900	846	.....	308	.....
	1890	763	.....	272	.....
Cotton mills	1900	4,138	2,954	4,056	3,182
	1890	2,880	2,066	3,877	3,257
Dyeing and finishing textiles	1900	2,342	1,211	264	222
	1890	1,777	1,170	213	188
Knitting mills	1900	458	41	210	48
	1890	280	38	284	80
Silk mills	1900	.....	1,273	.....	1,312
	1890	.....	891	.....	1,104
Woolen mills	1900	4,608	3,546	4,343	3,623
	1890	3,585	2,572	3,639	3,052

Comparison of number of employees represented in the rate tables of the occupational and establishment tabulations, by industries: 1900 and 1890—Continued.

INDUSTRIES.	Year.	MALES 16 AND OVER.		FEMALES 16 AND OVER.	
		Occupational comparison.	Establishment comparison.	Occupational comparison.	Establishment comparison.
Woodworking:					
Agricultural implements	1900	11,962	2,613	.....	.....
	1890	4,093	1,260	.....	.....
Furniture	1900	3,695	1,583	.....	15
	1890	2,936	1,428	.....	24
Lumber and planing mills	1900	2,492	1,277	.....	.....
	1890	2,227	1,389	.....	.....
Pianos	1900	1,646	.....	.....	.....
	1890	825	.....	.....	.....
Wagons and carriages	1900	2,093	703	.....	.....
	1890	2,056	634	.....	.....
Metal working:					
Car and railroad shops	1900	10,960	4,489	.....	.....
	1890	6,131	2,938	.....	.....
Foundries and metal working	1900	38,889	18,966	727	134
	1890	23,170	11,914	617	134
Iron and steel	1900	25,354	.....	62	.....
	1890	16,835	.....	37	.....
Shipyards	1900	8,201	2,172	.....	.....
	1890	4,691	1,618	.....	.....
Miscellaneous:					
Bakeries	1900	1,446	861	439	47
	1890	1,037	652	109	17
Breweries	1900	3,663	2,320	[1] 412	.....
	1890	3,123	2,103	[1] 311	.....
Brickyards	1900	175	109	.....	.....
	1890	263	92	.....	.....
Candy	1900	[2] 572	37	[1] 826	67
	1890	[2] 375	24	[1] 573	52
Chemicals	1900	5,548	1,091	.....	43
	1890	3,307	902	.....	41
Cigars	1900	1,065	1,023	573	466
	1890	697	660	254	193
Clothing	1900	1,094	365	2,051	184
	1890	737	287	1,263	257
Collars and cuffs	1900	250	.....	252	.....
	1890	114	.....	198	.....
Distilleries	1900	191	.....	.....	.....
	1890	123	.....	.....	.....
Flour mills	1900	[2] 1,394	600	.....	.....
	1890	[2] 1,026	551	.....	.....
Glass	1900	4,479	261	452	.....
	1890	2,774	210	188	.....
Paper mills	1900	1,285	1,341	284	218
	1890	897	1,048	224	216
Potteries	1900	634	151	[1] 226	99
	1890	428	103	[1] 137	53
Printing	1900	3,033	1,676	572	274
	1890	3,082	1,527	374	161
Rubber	1900	1,386	98	282	.....
	1890	995	44	99	.....
Shoes	1900	2,177	232	421	100
	1890	1,372	150	362	67
Slaughtering	1900	8,701	.....	.....	.....
	1890	9,076	.....	.....	.....
Tanneries	1900	4,584	1,983	67	265
	1890	2,546	1,255	18	11
Tobacco	1900	1,331	754	[1] 324	223
	1890	1,232	649	[1] 278	154

[1] Includes females under 16. [2] Includes males under 16.

As shown by the foregoing table, six industries—"carpet mills," "collars and cuffs," "distilleries," "iron and steel," "pianos," and "slaughtering"—are included in

the occupational tabulation but not in the establishment tabulation. In the "iron and steel" industry the returns for individual establishments are omitted because of the ease with which the establishments in that industry can be identified; in the other five industries named there are no establishments in which the returns are sufficiently comparable to justify their inclusion in the establishment tabulation. In the occupational comparison no presentation of the silk industry is made, because, aside from the establishments which are shown in the establishment comparison, the returns are so confused that it is deemed best not to make use of them.[1]

3. *Deductions to be made with caution.*—Any deductions as to the course of wages drawn from the tabulations of a limited number of individual establishments, selected simply on the basis of comparability of the returns within the individual establishments, must be made with caution. The object of the establishment comparison, as has been stated, is to disclose the character, rather than to furnish an exact measure, of the changes which have taken place. In selecting establishments for presentation in this portion of the report, the only test was the comparability of the returns within the establishment itself; every establishment which meets this requirement—except a few which could easily be identified—has been included, without considering what the other conditions might be. Where the returns for all the employees for both 1890 and 1900 are in the form of rates, a comparison for the establishment is deemed possible, even though the labor employed may have been affected by more or less extensive changes in the nature of the product or in the process of manufacture. The establishments in which there has been absolutely no change during the decade are so few in number that it would be extremely difficult to limit the comparison to such establishments, and the statistics, when obtained, would not be representative. Therefore such differences, unless excessive, are mentioned in the notes at the head of the tables, and are not allowed to exclude from the comparison an establishment for which either rates or earnings could be ascertained for all employees at both periods.

[1] The three principal sources of error which led to this decision were as follows: First, in occupations in which employees were known to be paid by the piece, all the employees reported by a factory were sometimes returned at a single wage—thus, one factory showed 166 weavers at $9.54 per week; such returns are evidently average earnings, although ostensibly they are individual rates. Second, frequently there was manifest error in the returns of the ages of the employees, some rolls showing whole classes as over 16 at one period and under 16 at the other; the wages also were often entirely inconsistent with the ages shown, those reported as children being sometimes returned at rates much above the wages of those reported as adults. The third difficulty, which arose partly from the second, was the lack of occupational comparability, both as a whole and within particular establishments; this incomparability might result from an apparent change of all employees in an occupation from one age class to another, making it impossible to secure comparability for that occupation without arbitrarily changing the ages shown, or from the return of rates at one period and earnings at the other, without the time worked at either.

II.

CHARACTER OF THE CHANGES.

For the purpose of analyzing the character of the changes which have taken place, the establishments are grouped under four headings:[1] (1) Those which show an increase in wages, (2) those which show no change, (3) those which show a decrease, and (4) those in which the character of the returns is such that it is difficult to arrive at any conclusion.

1. *Establishments which show an increase in week rates.*—As the establishments in which an increase in rates is apparent by casual inspection are usually found, upon closer examination, to have increased consistently, this class has not received the detailed treatment given

[1] According to this grouping, which was adopted on the basis of a simple inspection of the week rates for the two periods, the several establishments are classified as follows:

(1) *Numbers of establishments which, on the basis of the week rates, show an increase in wages between 1890 and 1900.*

MALES.

1	30	70	96	123	152	165	185	211	259
2	32	73	100	124	153	170	186	216	261
6	33	74	101	126	155	171	188	219	263
7	38	75	104	127	156	174	189	223	264
11	39	77	105	129	157	175	191	241	265
12	42	81	107	132	158	176	192	242	271
20	48	85	108	133	159	177	194	244	273
22	56	91	112	134	160	179	198	247	277
23	58	92	117	143	161	180	201	248	292
25	63	93	118	147	164	184	208	257	295
26	69	95	122						

FEMALES.

1	8	25	28	133	194	201	246	273	294
2	12	26	31	168	196	244	257	277	296
6	20								

(2) *Numbers of establishments in which, on the basis of the week rates, there is apparently no change in wages between 1890 and 1900.*

MALES.

8	55	83	121	146	150	178	190	225	236
14	66	109	128	148	167	178	199	230	278
50	79	115	135	149	172	182	200	235	

FEMALES.

3	9	29	82	162	197	247	266	292

(3) *Numbers of establishments which, on the basis of the week rates, show a decrease in wages between 1890 and 1900.*

MALES.

4	40	59	89	125	166	213	238	254	287
9	41	61	94	130	168	218	239	268	288
10	43	65	99	137	183	222	240	272	289
17	44	71	106	140	193	227	243	276	290
19	46	72	110	142	195	231	246	281	291
21	47	76	113	144	196	232	249	282	293
28	49	82	114	145	197	233	251	283	294
29	52	84	116	151	209	234	252	284	296
54	53	88	120	162	210	237	253	286	

FEMALES.

7	17	22	30	49	211	218	224	255	293
10	21	23	33	85	214	222	253	271	295
11									

(4) *Numbers of establishments in which no definite conclusion as to the change in wages can be drawn from the week rates.*

MALES.

3	45	78	98	136	163	214	229	260	270
31	51	80	102	138	169	220	245	266	279
35	54	86	111	139	181	224	250	267	280
36	57	87	119	141	187	226	255	269	285
37	60	90	131	154	202	228	258		

FEMALES.

4	19	34	223	251	264	270	280

to the other three classes. But while such an increase is usually due to an actual increase in rates for "all occupations," it may be due, instead, to a relatively great increase in the number at high rates, or to an increase in rates for some occupations sufficient to overbalance the decrease for others.

In 1 establishment—No. 132—the normal working time was so much longer in 1900 than in 1890 that the week rates show an increase, while the hour rates show a decrease. There are, however, 35 establishments[1] in which the increase in rates for males was accompanied by a shortening of the working time, the increase in hour rates in such establishments being consequently greater than the increase in week rates; and in 5 of these establishments[2] the same conditions prevailed for females.

2. *Establishments which show no change in week rates.*—There are 29 establishments[3] in which there is no apparent change in the week rates for males, and 9 establishments[3] in which the week rates for females show no change. An examination of the returns for the establishments reporting males brings to light certain similarities which make it possible to classify these establishments, so far as their male employees are concerned, as follows:

(1) In 4 establishments—Nos. 109, 190, 200, and 225—there is an increase in rates if account be taken of the number of hours worked.

(2) In 1 establishment—No. 115—no change is shown in the week rates, but a decrease is shown in the hour rates.

(3) In 3 establishments—Nos. 66, 135, and 278—in which there is, on the whole, no change in rates, fewer men were employed in 1900 than in 1890. In each of these establishments the distribution of the working force through the wage scale is approximately the same for both periods.

(4) In 15 establishments there is no change in rates for the establishment as a whole, but the number of male employees increased during the decade. In establishments Nos. 14, 50, 79, 83, 121, 128, 149, and 150 the increase in numbers is evenly distributed throughout the wage scale; in Nos. 146, 148, 167, 172, 173, 178, and 182 the employees are massed at particular rates at both periods. In nearly all the establishments of this group the wages for most of the men are comparatively high, and while there is little change in rates, in all cases more men are employed in 1900 than in 1890.

(5) In 6 establishments—Nos. 8, 55, 199, 230, 235, and 236—there is practically no change in rates or in the number of men employed.

[1] Nos. 1, 2, 11, 12, 23, 26, 42, 48, 69, 81, 100, 104, 105, 108, 147, 152, 157, 159, 160, 161, 165, 170, 174, 180, 184, 188, 191, 192, 201, 219, 257, 261, 264, 265, 271.

[2] Nos. 1, 2, 12, 201, 257.

[3] See list on page cvii.

In establishments Nos. 55, 66, 79, and 278 there are slight changes in the rates for specific occupations, which offset one another when the figures for the several occupations are combined.

Of the 9 establishments showing no change in week rates for females, 1—No. 266—shows an increase in hour rates. In establishment No. 3—a cotton mill—there is an increase, for females, in the rates for "weavers," offset by an increase in the number of "spinners" at low rates. In establishments Nos. 9, 29, 32, 162, 197, 247, and 292 all the employees are at a single rate of pay for both periods, or where there are different rates the proportion at each rate is the same at each period.

The following notes show the individual conditions in the establishments grouped in subclasses (3), (4), and (5):

Establishment No. 8—Sheetings, knitting cottons, and other cotton goods: Number of employees, 1900, 72 men, 107 women; 1890, 71 men, 131 women. There is practically no change either in rates for males or in the number of men. There is a slight increase in rates for females.

Establishment No. 14—Bleaching and dyeing cotton warps and skeins: Number of men, 1900, 134; 1890, 101. Practically no change in rates; the increase in number distributed proportionately.

Establishment No. 50—House and office furniture: Number of men, 1900, 75; 1890, 55. Conditions same as in No. 14.

Establishment No. 55—Sawed and planed lumber: Number of men, 1900, 52; 1890, 49. Slight increase for "machine hands," slight decrease for "laborers," no change for "bench workers." On the whole, no change in either rates or numbers.

Establishment No. 66—Wagons: Number of men, 1900, 60; 1890, 72. There are slight changes in specific occupations, but they offset one another, so that when the figures for the several occupations are combined, practically no change is shown.

Establishment No. 79—Cars repaired: Number of men, 1900, 334; 1890, 141. There are 39 "apprentices" in 1900, 1 in 1890; 23 "general helpers" in 1900, 9 in 1890; 79 "laborers" in 1900, 28 in 1890; 84 "machinists" in 1900, 29 in 1890. The increase in the number of "machinists" (high-paid workmen) practically offsets the increase in the number of employees at low rates, even though the increase in the number of "machinists" occurs at the lower rates paid in this occupation in 1890.

Establishment No. 83—Woodworking machinery: Number of men, 1900, 239; 1890, 200. Conditions same as in establishment No. 14.

Establishment No. 115—Heavy machinery: Number of men, 1900, 254; 1890, 159. There is a decrease in rates, taking into account the number of hours worked; that is, the hour rate is lower, but the number of hours per week is greater.

Establishment No. 121—General castings and shaftings: Number of men, 1900, 136; 1890, 39. Conditions same as in establishment No. 14.

Establishment No. 128—Small castings: Number of men, 1900, 1,781; 1890, 834. Very little change in rates; the increase in number distributed proportionately.

Establishment No. 135—Boilers and machinery: Number of men, 1900, 51; 1890, 94. No change in rates; the reduction in number distributed proportionately.

Establishment No. 146—Ships and repair work: Number of men, 1900, 146; 1890, 134. No change in rates; the increase in number almost all in median group. Employees massed at a few groups.

Establishment No. 148—Ships and repair work: Number of men, 1900, 86; 1890, 69. Conditions same as in No. 146.

Establishment No. 149—Ship-repair work: Number of men, 1900, 262; 1890, 165. Rates unchanged; increase in number distributed proportionately.

Establishment No. 150—Ships and repair work: Number of men, 1900, 125; 1890, 49. Conditions same as in No. 149.

Establishment No. 167—Bread and cake: Number of men, 1900, 45; 1890, 38. Rates unchanged, the bulk of the employees being at one rate.

Establishment No. 172—Beer: Number of men, 1900, 131; 1890, 123. Rates unchanged, the bulk of the employees being in three groups.

Establishment No. 173—Beer: Number of men, 1900, 322; 1890, 247. Rates for the several occupations unchanged; the bulk of employees concentrated in a few groups.

Establishment No. 178—Beer: Number of men, 1900, 109; 1890, 96. Conditions same as in No. 173.

Establishment No. 182—Beer: Number of men, 1900, 223; 1890, 207. Conditions same as in No. 173.

Establishment No. 199—Paints: Number of men, 1900, 93; 1890, 89. Practically no change in number; distribution in same proportion at both periods.

Establishment No. 230—Flour and meal: Number of men, 1900, 27; 1890, 25. Conditions same as in No. 199.

Establishment No. 235—Flour and feed: Number of men, 1900, 18; 1890, 18. Conditions same as in No. 199.

Establishment No. 236—Flour and meal: Number of men, 1900, 19; 1890, 20. Conditions same as in No. 199.

Establishment No. 278—Hemlock leather: Number of men, 1900, 94; 1890, 116. Slight decrease in rates for "beamsters;" slight increase for "laborers." Decrease in number distributed proportionately.

3. *Establishments which show a decrease in week rates.*—There are 89 establishments[1] in which there is a decrease in the week rates of the males employed, and 21[1] in which the week rates of the females show a decrease. These establishments may be classified as follows:

(1) In establishments Nos. 49, 59, and 89, for males 16 and over, and in establishment No. 253, for females 16 and over, an increase is shown in the hour rates; that is, the normal working time was so much shorter in 1900 than in 1890 that the pay for a week's work was less in 1900, although the hour rate was higher.

(2) In 34 establishments[2] for males 16 and over and in 7 establishments[3] for females 16 and over, the decrease in rates is due to the addition of a relatively large amount of low-paid labor. The tables for these establishments show, at the high rates, at least as many employees in 1900 as in 1890, and a careful inspection of the pay rolls for the individual establishments indicates that the wages for the same class of work are at least as high as before, but that the increases in the working force have been especially heavy in those occupations in which rates are low. In a number of establishments in this class—for example, Nos. 4 and 19—the increase in the number of men at low rates is due to a substitution of men for women.

(3) In establishments Nos. 34, 46, 52, and 227 the decrease in rates for males is due to a falling off in the number of highly skilled employees, resulting from the installation of modern machinery; in each of these establishments there is a decrease in the total number of employees.

(4) In 8 establishments[4] for males 16 and over and in 2[5] for females 16 and over, in which a decrease is shown for each establishment as a whole, certain occupations show either no change at all or an increase not sufficient to balance the decreases shown for the bulk of the employees.

(5) In establishments Nos. 41 and 125 for men, and Nos. 22 and 224 for women, the decrease for each establishment as a whole is due to changes in the class of persons employed, or to changes in process followed or in goods manufactured, sufficiently radical to involve material changes in the working force.

(6) In the remaining 38 establishments[6] for males and in 9[7] for females there is a general decrease in rates.

In the following notes each of the establishments showing a decrease in rates for either males or females is taken up individually and the salient characteristics of the changes are briefly mentioned:

Establishment No. 4—Tickings, sheetings, and other cotton goods: Number of men, 1900, 172; 1890, 123. Apparent decrease in rates for men is due to a larger proportion at low rates in 1900, the numbers at the higher rates being about the same. There are 39 male "weavers" in 1900 and none in 1890, but 154 female "weavers" in 1890 and only 117 in 1900. The rates for male and female "weavers" are practically the same at each period. On the whole, therefore, there is practically no change in rates, the only change being the partial substitution of males for females in the weaving process.

Establishment No. 7—Colored plaids and cottonades: Number of employees, 1900, 112 men, 46 women; 1890, 77 men, 30 women. There is a slight decrease in the rates for females, due to the fact that in increasing the force, employees were taken on at the lowest rates; in the rates for males there is an increase.

Establishment No. 9—Shirtings, drillings, and fancy cotton goods: Number of employees, 1900, 86 men, 109 women; 1890, 69 men, 94 women. Slight decrease in rates of men in carding and spinning rooms; no change in rates for females.

Establishment No. 10—Checks, plaids, and awnings: Number of employees, 1900, 540 men, 256 women; 1890, 353 men, 215 women. The apparent decrease in rates for males in the establishment as a whole is due mainly to the increase in the proportion at low rates, resulting partly from an increase in the number of "laborers," of whom there are 4 in 1890 and 31 in 1900, and partly from a more general employment of men in 1900 as "weavers," the rates for male "weavers" being relatively low as compared with the rates for other male employees. The rates for female employees show a slight decrease.

[1] See list on page cvii.

[2] Nos. 4, 10, 19, 28, 29, 43, 53, 72, 76, 82, 84, 94, 110, 113, 120, 130, 137, 140, 151, 168, 195, 233, 234, 237, 249, 251, 253, 272, 276, 282, 283, 293, 294, and 296.

[3] Nos. 7, 30, 211, 214, 255, 271, and 293.

[4] Nos. 9, 47, 65, 196, 231, 232, 239, and 243.

[5] Nos. 23 and 33.

[6] Nos. 17, 21, 40, 44, 61, 71, 88, 99, 106, 114, 116, 142, 144, 145, 162, 166, 183, 193, 197, 209, 210, 213, 218, 222, 238, 240, 246, 252, 254, 268, 281, 284, 286, 287, 288, 289, 290, and 291.

[7] Nos. 10, 11, 17, 21, 49, 85, 218, 222, and 295.

Establishment No. 11—Dyeing and finishing textiles: Number of employees, 1900, 391 men, 68 women; 1890, 321 men, 71 women. General decrease in rates for females. There is, however, an increase in rates for males.

Establishment No. 17—Knit underwear: Number of employees, 1900, 41 men, 48 women; 1890, 38 men, 80 women. There is a general decrease in rates for both males and females. Of the four knitting mills included among the establishments for which individual comparisons are made, this is the only one for which the returns are in the form of rates. Of the three establishments for which earnings are reported, two show an increase for both males and females, while the third shows a slight decrease for males and little change for females. It may be noted here that the occupational tables of rates in this industry show, on the whole, a slight increase.

Establishment No. 19—Silk thread: Number of men, 1900, 71; 1890, 64. Decrease in rates very slight, and more apparent than real, for the greater proportion at low rates in 1900 is partially accounted for by the fact that in 1900 males 16 and over are doing, at low rates, the work that was done in 1890 by males under 16 at still lower rates; there are 21 males under 16 in 1890 and only 1 in 1900.

Establishment No. 21—Machine and sewing silks: Number of employees, 1900, 19 men, 114 women; 1890, 13 men, 87 women. Decrease in rates for both men and women; the additions to the number of employees have been proportionately greater at low than at high rates.

Establishment No. 22—Woolen and worsted goods: Number of employees, 1900, 231 men, 72 women; 1890, 139 men, 60 women. Decrease in rates for females due to change in class of employees. In 1890 there are 21 female "weavers" at relatively high rates, while in 1900 the "weavers" are almost all males, only 2 female "weavers" being reported; there are, however, 16 female "sewers" in 1900, as compared with 4 in 1890, and as the rates for "weavers" are slightly higher than the rates for "sewers," a slight decrease in rates is shown when the figures for the several occupations are combined. There is an increase in the rates for men.

Establishment No. 23—Worsted cloth: Number of employees, 1900, 466 men, 274 women; 1890, 357 men, 206 women. The decrease in rates for women is due almost entirely to the decrease in rates for female "weavers," of whom there are 132 in 1900 and 112 in 1890. There are 48 male "weavers" in 1900 as compared with 17 in 1890; but, although the rates for male "weavers" in 1900 are lower than those for female "weavers" in 1890, there is, on the whole, an increase in rates for male employees.

Establishment No. 28—Worsted goods: Number of men, 1900, 126; 1890, 51. Apparent decrease in rates due to an increase in number at low rates, as, for instance, "laborers" and "general helpers," whose number increased from 10 to 38.

Establishment No. 29—Worsted yarns: Number of men, 1900, 123; 1890, 60. Conditions same as in No. 28; number of "laborers" and "general helpers" increased from 2 in 1890 to 31 in 1900.

Establishment No. 30—Woolen and worsted yarns: Number of employees, 1900, 29 men, 275 women; 1890, 28 men, 200 women. There is an increase in the rates for men, most of whom are "foremen." Although the wages paid to females in the several occupations are unchanged, the rates show an apparent decrease, due to a heavy increase in numbers in occupations in which the rates are low. There is a decrease in the number of females under 16 and an increase in the number of females 16 and over employed as "frame spinners."

Establishment No. 33—Woolen cloth: Number of employees, 1900, 70 men, 24 women; 1890, 55 men, 27 women. There is a slight decrease in rates for female employees in the winding department, others remaining unchanged. Rates for men show an increase.

Establishment No. 34—Woolen cloth: Number of men, 1900, 62; 1890, 78. The decrease in the rates for males in the establishment as a whole is due to a decrease in the number of skilled workmen at high rates, which, in turn, is a result of the installation of modern machinery.

Establishment No. 40—Harvesting machinery: Number of men, 1900, 170; 1890, 122. As shown in Table 3 for this establishment, the number of skilled workmen in each occupation is about the same at each period, while the number of "helpers" increased; there is, however, a slight decrease in rates even in the occupations requiring skill.

Establishment No. 41—Harvesting and cultivating machinery: Number of men, 1900, 45; 1890, 59. The decrease in the number of employees is practically confined to the higher rates. This establishment reports "a higher grade of work furnished by subcontractors in 1900, so that the amount of skilled labor required is smaller than in 1890."

Establishment No. 43—Chairs: Number of men, 1900, 191; 1890, 64. There are at least as many men at the higher rates in 1900 as in 1890, but in increasing the force the additions were made principally at the low rates; for example, in 1900 there are 35 males 16 and over classed as "fillers," "packers," "upholsterers," and "machine-hand boys," while in 1890 there are only 2 such employees.

Establishment No. 44—Chamber suits, sideboards, and chiffoniers: Number of men, 1900, 182; 1890, 151. Fewer men employed at high rates in 1900; this is due partly to the fact that the installation of machinery reduced the proportion of skilled labor, but the establishment also reports that "wages were reduced during the depression of 1893 and 1894, and in some cases have not been restored."

Establishment No. 46—School furniture: Number of men, 1900, 188; 1890, 200. Slight decrease in rates for "cabinetmakers" and decrease in the number of "machine hands," who are the highest paid workmen in the establishment.

Establishment No. 47—Desks: Number of men, 1900, 126; 1890, 73. Slight decrease in rates for "machine hands," and increase in the number of low-paid employees; for example, 13 "general helpers" in 1900 and 8 in 1890, and 12 "handy boys" in 1900 and none in 1890.

Establishment No. 49—Furniture and decorations: Number of employees, 1900, 93 men, 15 women; 1890, 171 men, 24 women. There is an increase in rates, if account be taken of the number of hours worked; even in the week rates the decrease is more apparent than real, being due to the decrease in the number of "carpenters," of whom there are 63 in 1890, at $3.50 a day, while in 1900 there are only 10, at rates 50 cents per day higher. As the rates for "carpenters" are higher at each period than the rates for other employees, this decrease in number causes an apparent decrease in rates when the figures for the several occupations are combined. There is a decrease also in the rates for women; the females are nearly all "curtain workers," of whom in 1890 there are 13 at $8.00 and 10 at $9.00 per week, while in 1900 there are 12 at $8.00, but only 2 at $9.00 per week.

Establishment No. 52—Furniture and cabinetwork: Number of men, 1900, 124; 1890, 182. Decrease in number of employees, principally at the higher rates; modern machinery installed during the decade.

Establishment No. 53—Office desks, tables, and chairs: Number of men, 1900, 155; 1890, 44. This establishment has more than trebled its force since 1890, more employees being taken on at low than at high rates. In 1890 only 1 "laborer" is reported, while in 1900 there are 9; the number of "helpers" and "apprentices" increased from 1 to 16.

Establishment No. 59—Sawed and planed lumber: Number of men, 1900, 84; 1890, 68. There is an increase in hour rates, but inasmuch as the men worked 69 hours in 1890 and only 60 in 1900, the week rates are lower in 1900.

Establishment No. 61—Sawed lumber and shingles: Number of men, 1900, 71; 1890, 65. This establishment reports that "there

was a decrease in rates, as a result of the depression of 1893, which lasted through 1900 on the Pacific coast; employees at highest rates were reduced most. Since 1900 wages have been restored to 1890 rates, and in some cases advanced."

Establishment No. 65—Fine carriages: Number of men, 1900, 416; 1890, 326. Decrease in rates for "carriage blacksmiths," "body-makers," and "laborers"; additions to the working force have been made almost entirely at the low rates.

Establishment No. 71—Wagons and carriages: Number of men, 1900, 36; 1890, 40. Decrease in rates general, but slight; there are 4 "general woodworkers" and 2 "wheel-makers" at high rates in 1890, with no corresponding employees in 1900.

Establishment No. 72—Farm wagons: Number of men, 1900, 52; 1890, 29. There are as many men at each of the high rates in 1900 as in 1890, but 19 "helpers" at low rates in 1900 and only 5 in 1890.

Establishment No. 76—Locomotives and car-repair work: Number of men, 1900, 221; 1890, 52. Wages in each occupation are at least as high in 1900 as in 1890, but in increasing the working force a large number of unskilled men have been taken on at low rates; there are 45 "laborers" in 1900 and only 2 in 1890; 31 "helpers" in 1900 compared with 6 in 1890; 14 "coal-chute men" in 1900, and none in 1890.

Establishment No. 82—Machine tools: Number of men, 1900, 276; 1890, 153. There are slight decreases in rates for "apprentices" and "journeymen machinists," but the decrease in rates for the establishment as a whole is due principally to the greater proportion of low-paid men in 1900, the additions to the working force having been made almost entirely at the low rates.

Establishment No. 84—Machine tools: Number of men, 1900, 302; 1890, 92. The proportion of skilled labor has been reduced by the installation of modern machinery; while there is an increase in the number of men at high rates, the increase in the number of unskilled men at low rates is still greater. "Laborers" increased from 5 in 1890 to 71 in 1900; "apprentices, machinists," from 14 to 58; and "scraper hands," from 2 to 33.

Establishment No. 85—Small brass castings: Number of employees, 1900, 145 men, 12 women; 1890, 66 men, 10 women. Decrease of 1 cent per hour for females 16 and over. The rates for males show an increase.

Establishment No. 88—Iron castings: Number of men, 1900, 87; 1890, 82. In the rates per hour there is an increase for "floor molders" and a slight decrease for other employees; but as the working time is 60 hours in 1890 and only 57 in 1900, the week rates show a general decrease.

Establishment No. 89—Boilers and hoisting machinery: Number of men, 1900, 496; 1890, 318. Although there is, on the whole, an increase in hour rates, the reduction of the working hours per week from 60 in 1890 to 55 in 1900 causes a decrease in week rates. "Drill hands" show a decrease even in hour rates.

Establishment No. 94—Heavy machinery: Number of men, 1900, 36; 1890, 24. The introduction of modern labor-saving devices has reduced the proportion of skilled labor; while there are just as many at the higher rates in 1900 as in 1890, there are a larger number at low rates.

Establishment No. 99—Heavy castings and structural ironwork: Number of men, 1900, 288; 1890, 209. There is a decrease in rates for "cupola chargers" and "rammers"; on the other hand, there is an increase in the number of unskilled workmen at low rates, "laborers" having increased from 74 in 1890 to 103 in 1900.

Establishment No. 106—General machinery: Number of men, 1900, 507; 1890, 292. Decrease in week rates due partly to the shortening of the normal working time and partly to heavy additions to the working force at low rates; but several occupations show a real decrease in rates.

Establishment No. 110—Iron castings: Number of men, 1900, 977; 1890, 379. Slight decrease in rates for "helpers, blacksmiths," "hammer drivers," "machinists," and "molders." But the decrease in rates in the establishment, as a whole, is due principally to the heavy increase in the number of employees at low rates; there are 504 "laborers" in 1900 and only 84 in 1890.

Establishment No. 113—Mill machinery: Number of men, 1900, 146; 1890, 68. There are as many men at the high rates in 1900 as in 1890, but a heavy increase is shown in the number of unskilled workmen at low rates. There are 40 "laborers" in 1900 and 10 in 1890; 12 "helpers, machinists" in 1900 and none in 1890.

Establishment No. 114—Machinery and heavy castings: Number of men, 1900, 83; 1890, 83. Decrease in the number of "boiler-makers" at high rates, accompanied by an increase in the number of "helpers, boiler-makers" at low rates.

Establishment No. 116—Stove castings: Number of men, 1900, 62; 1890, 33. Decrease in rates for "laborers," with an increase in the number of "laborers," "apprentices," and others at low rates.

Establishment No. 120—Milling machinery: Number of men, 1900, 381; 1890, 224. As shown in Table 3 for this establishment there was an increase in rates for all skilled workmen except "molders"; but "machinists" at high rates decreased in number from 64 to 40, and "general helpers" at low rates increased from 60 to 163, so that on the whole the establishment shows a decrease in rates.

Establishment No. 125—Heavy machinery: Number of men, 1900, 268; 1890, 259. Decrease due largely to change in class of goods made; no boilers made in 1900, hence no employees corresponding to "boiler-makers" who in 1890 were highly paid employees; on the other hand, the number of "laborers" increased from 53 in 1890 to 81 in 1900.

Establishment No. 130—Iron and steel castings: Number of men, 1900, 183; 1890, 103. Greater number of men at high rates in 1900 than in 1890, more than offset by the increase in number of "apprentices" and "laborers" at low rates; there are 26 "apprentices" in 1900 compared with 7 in 1890, and 44 "laborers" in 1900 compared with 22 in 1890.

Establishment No. 137—Castings and machinery: Number of men, 1900, 169; 1890, 40. Decrease in rates for "foremen," but decrease in the establishment, as a whole, is due principally to the greater number of "apprentices" and "laborers" in 1900; there are 55 "apprentices" in 1900 compared with 8 in 1890, and 24 "laborers" in 1900 compared with 3 in 1890.

Establishment No. 140—Machinery: Number of men, 1900, 99; 1890, 38. Decrease in rates due entirely to greater number of "apprentices" and "laborers" in 1900; "apprentices" increased from 9 to 24, and "laborers," of whom none are reported in 1890, numbered 25 in 1900.

Establishment No. 142—Machine work: Number of men, 1900, 21; 1890, 22. General decrease of from 2½ to 5 cents per hour.

Establishment No. 144—Machinery: Number of men, 1900, 148; 1890, 80. There is a general decrease in rates; "laborers" increased from 22 to 53, and there are 11 "apprentices" in 1900 and none in 1890. The establishment reports that "the increase in the number of persons employed at lower rates is probably due partly to the gradual increase in size of the plant and to newer machinery, enabling the skilled laborer to do proportionately more work." The establishment reports also that as a result of the heavy increase in the population of the city in which the plant is located, it was less difficult to secure skilled mechanics in 1900 than in 1890.

Establishment No. 145—Ships and marine machinery: Number of men, 1900, 624; 1890, 519. General decrease in rates in all occupations.

Establishment No. 151—Ships, marine machinery, and repair work: Number of men, 1900, 532; 1890, 215. As shown in Table 3 for this establishment, rates in occupations requiring skill are higher in 1900. The apparent decrease in rates for the establishment, as a whole, is due to the greater proportion of unskilled men in 1900; for example, "laborers" increased from 43 in 1890 to 192 in 1900.

Establishment No. 162—Fancy crackers and cake: Number of men, 1900, 23; 1890, 21. Decrease in rates is slight.

Establishment No. 166—Bread, cake, and other bakery products: Number of men, 1900, 17; 1890, 13. Slight decrease in rates.

Establishment No. 168—Crackers, cake, and bread: Number of men, 1900, 104; 1890, 51. There are as many men at the high rates in 1900 as in 1890; the apparent decrease in rates for the establishment, as a whole, is due to an increase in number in those occupations in which rates are low.

Establishment No. 183—Beer: Number of men, 1900, 99; 1890, 118. Decrease in number of hands at the higher rates, and decrease in rates for "drivers" and "washhouse men."

Establishment No. 193—Brick: Number of men, 1900, 109; 1890, 92. This establishment reports that "as a result of falling off in demand for red front brick, cheap building brick is now made requiring less skilled labor."

Establishment No. 195—Chemicals and fertilizers: Number of men, 1900, 347; 1890, 288. Rates for the several occupations are at least as high in 1900 as in 1890, but a large increase in the number of "laborers" in the fertilizer department, at the same rates as those paid in 1890, causes an apparent decrease in rates for the establishment as a whole.

Establishment No. 196—White lead and chemical acids: Number of men, 1900, 419; 1890, 365. Decrease of 19 cents per day in wages of "oxide-makers," "firemen," "machinists," etc.; otherwise rates are practically unchanged.

Establishment No. 197—Chemicals and pharmaceutical preparations: Number of men, 1900, 87; 1890, 76. Decrease of 50 cents per week in rates for "laborers," of whom there are 45 in 1900 and 38 in 1890.

Establishment No. 209—Cigars: Number of men, 1900, 38; 1890, 63. General decrease in number and rates; while in 1890 there are 11 men at rates ranging between $13.50 and $16.99, in 1900 there are none at more than $12.99.

Establishment No. 210—Cigars: Number of men, 1900, 18; 1890, 19. For several employees the rate per thousand is 1 cent lower in 1900 than in 1890.

Establishment No. 211—Cigars: Number of employees, 1900, 169 men, 91 women; 1890, 67 men, 23 women. There are as many women at high rates in 1900 as in 1890; the apparent decrease in rates for that sex being due to large additions to the working force at low rates; there are 24 "strippers" in 1900, all at low rates, while in 1890 there were no female "strippers." The rates for males show a decided increase, although the occupations for the two sexes are the same. This suggests the probability that some of the women are employed merely as "helpers" in the occupations in which they are returned.

Establishment No. 213—Cigars: Number of men, 1900, 60; 1890, 65. Slight decrease in rates for cigar-makers, of whom there were 37 in 1900 and 40 in 1890.

Establishment No. 214—Cigars: Number of women, 1900, 328; 1890, 109. The number of women at each of the high rates is far greater in 1900 than in 1890, but the number taken on at low rates is so great that the establishment, on the whole, shows a decrease. There are no female "apprentices" in 1890, while in 1900 there are 53 at rates much lower than those paid to any portion of the working force in 1890.

Establishment No. 218—Men's clothing, factory product: Number of employees, 1900, 99 men, 9 women; 1890, 85 men, 13 women. General decrease in rates and increase in the number of employees at the low rates. The decrease in hour rates is greater than that in week rates, because the normal working time of the several occupations is 54 and 60 hours in 1900, while in 1890 it is 54 hours for all occupations. For females 16 and over there is a general decrease of 2 or 3 cents per hour.

Establishment No. 222—Custom and retail suits: Number of employees, 1900, 45 men, 57 women; 1890, 41 men, 47 women. Decrease for males, slight; for females, 25 to 50 cents per week; modern machinery installed since 1890.

Establishment No. 224—Men's clothing, factory product: Number of women, 1900, 69; 1890, 157. In 1900 there are 38 female "stitchers," all but 1 of whom received less than $7.50 a week, while in 1890 there are 126, 28 of whom received more than $7.50 a week. This establishment reports that a poorer grade of goods was manufactured in 1900 than in 1890, requiring employees of less skill.

Establishment No. 227—Flour: Number of men, 1900, 27; 1890, 37. Decrease in rates, due to a falling off in number of "millers" and "packers" at higher rates.

Establishment No. 231—Flour: Number of men, 1900, 68; 1890, 61. "Bosses" are paid slightly less in 1900 than in 1890; rates for other employees are about the same.

Establishment No. 232—Flour and feed: Number of men, 1900, 61; 1890, 54. Decrease in wages of "laborers," and also an increase in the number of those at low rates.

Establishment No. 233—Flour: Number of men, 1900, 34; 1890, 27. Wages in the several occupations unchanged, but more men in 1900 in occupations in which rates are low.

Establishment No. 234—Flour and hominy: Number of men, 1900, 68; 1890, 54. Conditions same as in No. 233.

Establishment No. 237—Flour, meal, and hominy: Number of men, 1900, 40; 1890, 31. "Foremen" are paid less than in 1890, but the decrease is due mainly to an increase in the number of men at $2.00 per day, the lowest rate paid.

Establishment No. 238—Flour and feed: Number of men, 1900, 86; 1890, 80. General decrease in rates. At each period most of the men received $15.00 per week, but in 1890 there is only 1 at a lower rate, while in 1900 there are 16. The rates for the more highly paid occupations also decreased.

Establishment No. 239—Flour and feed: Number of men, 1900, 24; 1890, 21. Wages exactly the same, except for "mill laborers," of whom, in 1890, there are 9 at $2.00 per day, while in 1900 there are 6 at that rate and 6 at $1.75.

Establishment No. 240—Flour and meal: Number of men, 1900, 44; 1890, 52. General decrease of $1.00 to $1.50 per week, accompanied by a falling off in number of employees at higher rates.

Establishment No. 243—Bottles: Number of men, 1900, 115; 1890, 76. "Blowers" earned less in 1900 than in 1890; the rates for all other employees show an increase, those for "cleaning-off," "mold," "snapping-up," "carry-in," and "carry-over boys," who number 88 in 1900 as compared with 35 in 1890, being about 30 cents per week higher at the later period; but the decrease in the rates for "blowers," together with the increase in the number employed at low rates, causes an apparent decrease for the establishment as a whole.

Establishment No. 246—Writing and envelope paper: Number of employees, 1900, 51 men, 47 women; 1890, 39 men, 30 women. Decrease in rates for males accompanied by an increase in number for occupations in which rates are low; there is an increase in rates for females.

Establishment No. 249—Paper: Number of men, 1900, 89; 1890, 43. Decrease for the establishment as a whole, due to the increase in the number of men at low rates; the skilled workmen are generally paid somewhat more in 1900 than in 1890, and the number of men at rates of $12.00 or more per week is 22 in 1900 compared with 16 in 1890.

Establishment No. 251—Book and news paper: Number of men, 1900, 190; 1890, 158. There is a decrease in rates, due in part to a heavy increase in the number of employees at low rates, and in part to the lower wages paid to "laborers" (58 in 1900, 35 in 1890), "back tenders" (10 in 1900, 8 in 1890), and "machine tenders" (10 in 1900, 8 in 1890). Because of the greater number of hours worked in 1900, hour rates show a greater decrease than week rates. Modern machinery has been installed during the decade.

Establishment No. 252—Strawboard: Number of men, 1900, 131; 1890, 143. Decrease of 5 to 15 cents per day for most occupations.

Establishment No. 253—Writing and book paper: Number of employees, 1900, 86 men, 36 women; 1890, 42 men, 13 women. Increase in rates for more skilled male employees, but an increase in numbers at low rates so heavy as to cause a decrease for men in the establishment as a whole. In the week rates for females there is a slight decrease, owing to the fact that 4 cutter girls worked 7 days per week in 1890, while in 1900 all employees worked 6 days per week.

Establishment No. 254—Strawboard: Number of men, 1900, 69; 1890, 81. General decrease in rates from 10 to 25 cents per day; also a decrease in number of employees.

Establishment No. 255—White and yellow ware: Number of women, 1900, 99; 1890, 53. There are as many women at each of the high rates in 1900 as in 1890, but the increase in the working force is almost entirely at low rates.

Establishment No. 268—Newspapers: Number of men, 1900, 189; 1890, 162. Decrease in number of "compositors, hand," at high rates, and increase in number of "laborers" at low rates. Decrease is greater according to week rates than according to hour rates, because the number of hours worked is less in 1900 than in 1890. Typesetting machines and improved presses have been installed during decade.

Establishment No. 271—Job printing, periodicals, and bookbinding: Number of employees, 1900, 149 men, 24 women; 1890, 119 men, 17 women. There is a decrease in week rates, and also, though less marked, in hour rates, for females; in the rates for males there is an increase.

Establishment No. 272—Rubber goods: Number of men, 1900, 98; 1890, 44. The number of employees more than doubled during the decade. For the same work the pay is practically unchanged, but the addition of a greater number of men at low than at high rates causes a decrease in rates for the establishment as a whole.

Establishment No. 276—Men's boots and shoes: Number of men, 1900, 41; 1890, 46. An increase in the number of "helpers" at low rates and a decrease in the number of men at medium rates causes a decrease for the establishment as a whole, although skilled men are more highly paid in 1900 than in 1890. Modern machinery has been installed since 1890.

Establishment No. 281—Oak leather: Number of men, 1900, 35; 1890, 31. Slight but general decrease, except at highest rates.

Establishment No. 282—Sheepskin: Number of men, 1900, 71; 1890, 40. The increase in number of employees is much the greatest at low rates.

Establishment No. 283—Colored leather: Number of men, 1900, 143; 1890, 43. In 1900 over 80 per cent of the employees, as compared with 65 per cent in 1890, are "laborers" at rates below $10.00 per week. This overwhelming increase in the number at low rates produces a decrease for the establishment as a whole, although skilled men are more highly paid at the later period.

Establishment No. 284—Harness and glove leather: Number of men, 1900, 431; 1890, 206. Heavy increase in number of men at low rates, and slight decreases in rates for a number of occupations.

Establishment No. 286—Sole leather: Number of men, 1900, 38; 1890, 30. General decrease from $2.50 to $5.00 per month.

Establishment No. 287—Sole and harness leather: Number of men, 1900, 75; 1890, 45. General decrease from 10 to 50 cents per day, and marked increase in number at low rates.

Establishment No. 288—Harness leather: Number of men, 1900, 114; 1890, 107. General decrease from 10 to 50 cents per day.

Establishment No. 289—Harness leather: Number of men, 1900, 79; 1890, 76. General decrease from 25 to 50 cents per day.

Establishment No. 290—Sole and harness leather: Number of men, 1900, 20; 1890, 22. General decrease from 25 to 50 cents per day.

Establishment No. 291—Harness leather: Number of men, 1900, 19; 1890, 18. Decrease slight.

Establishment No. 293—Plug and twist tobacco: Number of employees, 1900, 114 men, 36 women; 1890, 91 men, 24 women. Decrease in the establishment, as a whole, for both men and women, due entirely to the greater number of hands at low rates in 1900; for corresponding occupations, rates are slightly higher at the latter period.

Establishment No. 294—Plug tobacco: Number of employees, 1900, 119 men, 47 women; 1890, 107 men, 44 women. Decrease in rates for men due to increase in proportion at low rates, wages in the several occupations being somewhat higher in 1900. There is an increase in the rates for women.

Establishment No. 295—Plug tobacco: Number of employees, 1900, 72 men, 16 women; 1890, 86 men, 17 women. Decrease in rates for females, but increase in rates for males.

Establishment No. 296—Plug and smoking tobacco: Number of men, 1900, 238; 1890, 159. Decrease in rates due to increased number of men at low rates.

4. *Establishments in which it is difficult to deduce from the week rates any definite conclusion as to the change in wages.*—After further examination of the data for the 48 establishments[1] in this class reporting males 16 and over, it is found possible to make the following general groupings:

(1) In establishments Nos. 86, 187, 202, 266, and 270 there is an increase in rates, taking into account the amount of time worked. The normal working time is shorter in 1900 than in 1890, so that while the compensation for a unit of work is higher, the amount of pay per week is about the same.

(2) In establishments Nos. 31, 35, 45, 54, 87, 138, 154, 181, 214, 224, 226, 228, 229, and 245 the tendency toward increase or decrease is usually so obscure, and the number of male employees so small at each period, that it is deemed inadvisable to attempt to classify the establishments more definitely.

(3) In the remaining 29 establishments conditions are such that a statement of the facts for each individual establishment is necessary. There are, however, certain resemblances and contrasts worthy of remark. In establishments Nos. 37, 90, 119, 163, 169, 220, and 250 wages in the several occupations are somewhat higher in 1900 than in 1890; but, as a result of the increase in number for those occupations in which rates are low, the increase in rates is obscured when the figures for the several occupations are combined. In establishments Nos. 3, 57, 60, 80, 98, 102, 111, 141, 255, and 285 such wide variations of increase and decrease are shown for different occupations, that no attempt has been made to strike a balance for the establishment as a whole. In establishments Nos. 36, 51, 78, and 131 changes in the class of employees make classification impossible. In establishments Nos. 136 and 139 the hour rates show a decrease, which in the week rates is obscured because the working time of the establishments is longer in 1900. There remain establishments Nos. 258, 260, 267, 269, 279, and 280; in these

[1] See list on page cvii.

establishments, all in the "printing" and "tanning" industries, the changes in methods and processes were so extensive and important between 1890 and 1900 as to render of very doubtful value any attempt to compare wages.

There are also 8 establishments[1] reporting females 16 and over for which no definite conclusion as to the change in wages can be drawn from the week rates. In one of these—No. 270—there is an increase in rates, taking into account the number of hours worked. In Nos. 223 and 264 the number of women employed is too small to justify any definite conclusions. In the remaining 5—Nos. 4, 19, 34, 251, and 280—the changes are so varied that a brief statement of the facts is given for each individual establishment.

In the following notes is presented a brief summary of the conditions and tendencies for the establishments forming class (3), of those reporting males, and also for the 5 establishments reporting females, which are enumerated in the preceding paragraph:

Establishment No. 3—Tickings, sheetings, and other cotton goods: Number of men, 1900, 100; 1890, 91. There is a decrease in rates for "overseers," "second hands," and other high-paid employees, but this is offset by an increase in rates for "spinners."

Establishment No. 4—Tickings, sheetings, and other cotton goods: Number of women, 1900, 243; 1890, 281. In 1890 there are 154 female "weavers," while in 1900 there are only 117, and as the rates for "weavers" are relatively high, this decrease in number causes what seems to be a slight decrease in rates for females. The decrease in the number of female "weavers" was offset, however, in the establishment, as a whole, by the employment of male "weavers," of whom there are none in 1890 and 39 in 1900; the rates for male and female "weavers" are about the same.

Establishment No. 19—Silk thread: Number of women, 1900, 228; 1890, 269. There is a decrease in rates for "skein winders" and "soft-silk winders," but owing to the fact that the general decrease in the number of employees is greater among those at low rates than among those at higher rates, the decrease in rates is less clear when the figures for all occupations are combined.

Establishment No. 34—Woolen cloth: Number of women, 1900, 47; 1890, 51. There is an increase in rates for "burlers" and "speckers" and a decrease in rates for "weavers."

Establishment No. 36—Harvesting and cultivating machinery: Number of men, 1900, 1,140; 1890, 457. On the whole, there is an increase in rates for similar work, but the installation of modern machinery has reduced the number of highly skilled workmen, and there is, therefore, a decrease in rates for the establishment as a whole.

Establishment No. 37—Cultivating machinery: Number of men, 1900, 398; 1890, 143. In this establishment there is an increase in rates for similar work. But while there are more men at each of the higher rates in 1900 than in 1890, there is also a heavy increase in the number of unskilled workmen at low rates; for example, there are 54 "laborers" in 1900 compared with 14 in 1890, 41 "helpers" in 1900 and 16 in 1890, 22 "general hands" in 1900 and none in 1890.

Establishment No. 51—Furniture: Number of men, 1900, 215; 1890, 213. In this establishment there is probably, on the whole, an increase in rates, but the returns for specific occupations are so different for the two periods that a definite conclusion as to the change in rates is hardly warranted. The following differences between the returns for 1890 and 1900 will serve as illustrations of what is meant: (1) In 1890, 38 "painters" are reported but no "rubbers and polishers," while in 1900, 27 "rubbers and polishers" are reported but no "painters"; (2) the 1900 pay roll shows 29 "cabinetmakers" and 54 "carvers," while the 1890 roll shows 58 "cabinetmakers" but a large number of "carvers" are included with these "cabinetmakers," no distinction having been made in 1890.

Establishment No. 57—Sawed and planed lumber: Number of men, 1900, 138; 1890, 115. There is a decrease in rates for "laborers, mill," but a slight increase in rates for "yard laborers," accompanied by an increase in the number of "yard laborers" at high rates; hence it is difficult to determine whether, on the whole, there is an increase or decrease.

Establishment No. 60—Sash, doors, and general planing mill work: Number of men, 1900, 168; 1890, 130. There is a slight decrease in the rates for "bench hands," but an increase for "finishers," "varnishers," and "laborers."

Establishment No. 78—Cars built and repaired: Number of men, 1900, 433; 1890, 371. There is, on the whole, an increase in rates, but fewer highly skilled men are employed in 1900, and a decrease in rates is therefore shown at the top of the scale.

Establishment No. 80—Iron castings: Number of men, 1900, 441; 1890, 605. "Bench molders," who are among the highest paid employees, decreased in number from 184 in 1890 to 105 in 1900, while "laborers" increased in number from 133 to 162. The rates for both "bench molders" and "laborers" show an increase.

Establishment No. 90—General machine work: Number of men, 1900, 256; 1890, 122. There is an increase in rates for each occupation, but the increase in the number of unskilled workmen is proportionately greater than for skilled employees. There are 110 "laborers" in 1900, 50 in 1890; 18 "general hands" in 1900, 6 in 1890.

Establishment No. 98—Cast-iron water and gas pipe: Number of men, 1900, 197; 1890, 71. Decrease in rates for "pipe molders" and increase in rates for "machinists." The number of "laborers" increased from 6 in 1890 to 39 in 1900.

Establishment No. 102—Tools and general machine work: Number of men, 1900, 209; 1890, 135. Decrease at the higher rates offset by an increase below the median. The rates for "laborers" and "apprentices" are somewhat higher in 1900, but "machinists" appear to be paid slightly less than in 1890. The number of "machinists" increased from 35 to 74, but for a part of the more highly paid workmen in this occupation earnings only are reported in 1900, and, therefore, they do not appear in the comparison of rates.

Establishment No. 111—General machine and foundry work: Number of men, 1900, 202; 1890, 214. Decrease in rates for "laborers"; otherwise this establishment would show an increase in rates.

Establishment No. 119—Sheet-metal work and light castings: Number of men, 1900, 406; 1890, 100. In increasing the working force the additions have been made almost entirely at the low rates. This is very well illustrated in the figures in Table 3 for "buffers and polishers," as well as in those for "platers." Moreover, there are 67 male "helpers" in 1900, while in 1890 there is only 1. In 1890 the "packers" and "press hands" are all men, while in 1900 a considerable number of women are employed, at rates lower than those paid to men.

Establishment No. 131—Heavy machinery: Number of men, 1900, 121; 1890, 87. Increase in rates for "machine hands," "helpers," and "laborers" partially offset by the decrease in the number of skilled workmen and the increase in the number of unskilled. There are 24 "machine hands" in 1900 compared with 10 in 1890, and 35 "helpers" and "laborers" in 1900 compared with 22 in 1890.

Establishment No. 136—Boilers and structural work: Number of men, 1900, 28; 1890, 31. There is a decrease in hour rates, but as the men worked 60 hours per week in 1900 and only 54 in 1890, the decrease in the week rates is obscured.

[1] See list on page cvii.

Establishment No. 139—Heavy machinery: Number of men, 1900, 134; 1890, 88. The pay rolls for this establishment show a general decrease in rates for the same work of about 2½ cents per hour, but inasmuch as the increase in the number of employees is proportionately greater at high than at low rates, the decrease is not so apparent when the figures for all employees are combined. The decrease in hour rates is almost neutralized by the increase in the number of hours worked, so that the week rates show almost no change.

Establishment No. 141—Machinery: Number of men, 1900, 114; 1890, 67. Decrease in rates for "molders" and increase in rates for "machinists." There is also an increase in the number of low-paid employees; for example, "apprentices," of whom there are 27 in 1900 and 19 in 1890, and "helpers" and "laborers," of whom there are 32 in 1900 and 15 in 1890.

Establishment No. 163—Bread, cake, and other bakery products: Number of men, 1900, 67; 1890, 37. This establishment would show an increase in rates were it not for the fact that 12 "bench-hands, helpers," at low rates are reported in 1900, with no corresponding employees in 1890. The rates for "bench hands," of whom there are 37 in 1900 and 26 in 1890, show an increase.

Establishment No. 169—Bread and other bakery products: Number of men, 1900, 42; 1890, 24. This establishment would show an increase in rates were it not for the fact that 14 "apprentices" and "helpers" at low rates are reported in 1900, with no similar employees in 1890. There is an increase in rates for "bakers," of whom there are 19 in 1900 and 11 in 1890.

Establishment No. 220—Men's clothing, factory product: Number of men, 1900, 92; 1890, 46. There is an increase in rates in the several occupations, but the increase in the number of employees is proportionately greater at low than at high rates, so that when the figures for the several occupations are combined the increase in rates is obscured.

Establishment No. 250—Paper and paper pulp: Number of men, 1900, 292; 1890, 181. In this establishment there are at least as many men at each of the higher rates in 1900 as in 1890, and there would have been an increase in rates for the establishment, as a whole, were it not for the heavy increase in the number of men at low rates.

Establishment No. 251—Book and news paper: Number of women, 1900, 27; 1890, 69. In 1890 there are 37 "rag sorters," while in 1900 there are none, the use of rags having been abandoned. There is an increase of 60 cents per week for "cutter girls," but this increase is obscured when the rates for the total number of employees at the two periods are compared.

Establishment No. 255—White and yellow ware: Number of men, 1900, 151; 1890, 103. In this establishment the range of week wages is from $6.00 to $32.00, and between these limits the men are distributed in groups so small that numerous changes in both directions result.

Establishment No. 258—Newspapers: Number of men, 1900, 124; 1890, 96. On the whole, this establishment shows an increase in rates, but in consequence of changes in the classes of employees the distribution according to rates of pay is so different at the two periods as to render comparison very difficult. In 1890 half of the men are concentrated at rates between $15.00 and $19.99 per week, while in 1900 less than 10 per cent are between those rates. On the other hand, the proportion, both of those receiving less than $15.00 and of those receiving more than $19.99, is far greater in 1900 than in 1890. In 1890 only 17 men are paid less than $15.00 per week, while in 1900 there are 43. There are 48 men who receive from $15.00 to $19.99 per week in 1890, but only 10 in 1900. At $20.00 and over, the number increased from 31 to 71. The pay rolls show the following differences in the classes of employees:

	1900	1890
Compositors, hand	28	66
Compositors, machine	22	.....
Handy boys	23	10
General helpers	13	2

Establishment No. 260—Newspapers: Number of men, 1900, 49; 1890, 72. The conditions are similar to those specified under No. 258; in this establishment, however, the hour rates show an increase, which is obscured in the week rates because the working time for many of the men is shorter in 1900 than in 1890.

Establishment No. 267—Newspapers and job printing: Number of men, 1900, 77; 1890, 99. There is probably a decrease, on the whole, in week rates, but an increase in hour rates. The changes in class of employees are similar to those discussed under No. 258, but there is a proportionately greater decrease in the number of "compositors, hand," of whom there are 67 in 1890 and 12 in 1900; on the other hand, 18 men are required in 1900 to operate the typesetting machines introduced.

Establishment No. 269—Newspapers and job printing: Number of men, 1900, 204; 1890, 177. In this establishment there are 123 "compositors, hand," in 1890 and only 86 in 1900, but 17 of these 86 receive rates lower, and a number receive rates higher, than any paid in 1890. There are also 35 "compositors, machine," in 1900 at rates about the same as those for "compositors, hand," in 1890. The introduction of typesetting machines has therefore made very little difference in the rates for compositors. There is, however, an increase in the number of other employees, at rates higher than those paid in 1890 in the same occupations, but lower than those paid at either period for the bulk of the employees.

Establishment No. 279—Glazed kid: Number of men, 1900, 98; 1890, 58. There is probably, on the whole, an increase in rates, but owing to the change in process, and the installation of labor-saving machinery, the proportion at the higher rates is less in 1900 than in 1890.

Establishment No. 280—Kid: Number of employees, 1900, 641 men, 265 women; 1890, 403 men, 11 women. The introduction of labor-saving machinery reduced the proportion of skilled labor, producing changes in the classes of employees so great as to render it very difficult to make a comparison of rates for the establishment as a whole. In 1890 there are 28 "seasoners" (all men) at fairly high rates, while of the 78 "seasoners" reported in 1900, 77 are women, who receive rates much lower than those paid to male "seasoners" in 1890. There are 32 "glazers" (all men) in 1890, while of the 172 "glazers" reported in 1900, 135 are females, at rates practically the same as those paid to male "glazers" in 1890, and the other 37 are males, at rates considerably higher. The 11 female employees reported in 1890 are "trimmers," "measurers," and "machine stakers."

Establishment No. 285—Sole leather: Number of men, 1900, 125; 1890, 60. Rates for "foremen" are somewhat lower in 1900 than in 1890, but otherwise there is an increase in rates for this establishment.