

MANUFACTURES: NEW MEXICO

STATISTICS OF MANUFACTURES FOR THE TERRITORY, CITIES, AND INDUSTRIES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

INTRODUCTION.

This advance bulletin gives the statistics of manufactures for the territory of New Mexico for the calendar year 1909 as shown by the Thirteenth Census. It will be reprinted without change as a part of the Compendium of the Census for New Mexico, and in the final reports of the Thirteenth Census.

The text summarizes the general results of the census inquiry, presenting a series of special tables in which the main facts printed in the general tables are given in convenient form for the territory as a whole and for important industries. It also presents tables in which the statistics for the industries of the territory as a whole and for a few important industries are classified by character of ownership, size of establishments, number of wage earners, and prevailing hours of labor, information which could not be presented in general tables for each industry without disclosing the facts for individual establishments.

At the end of the bulletin are two general tables.

Table I gives for 1909, 1904, and 1899 the number of establishments and of persons engaged in the industries, primary power, capital, salaries and wages, cost of materials, value of products, and value added by manufacture, for all industries combined and for certain important industries in the territory. It also gives the same items for 1909 for all industries combined for Albuquerque, the only city which had in 1910 a population of 10,000 and over.

Table II gives statistics in greater detail for 1909 for the territory and for a larger number of industries.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes it is imperative that due attention should be given to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits. These limitations will be fully discussed in the general report on manufactures for the United States as a whole. It is impossible to reproduce such discussion in the bulletins relative to the individual states.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as distinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given they have been reduced

to a comparable basis by eliminating the latter classes of industries. The census does not include establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments, except those of the Federal Government.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—The term "establishment" comprises the factories, mills, or plants which are under a common ownership or control, and for which one set of books of account is kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the separate totals might be included in the statistics for each city or state. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—The general tables at the end of this bulletin give the principal facts separately for the industries of the territory. A selection has been made of the leading industries of the territory for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. Table I, giving comparable figures for 1909, 1904, and 1899, therefore, does not embrace all the industries shown for 1909 in Table II.

Influence of increased prices.—In considering changes in cost of materials, value of products, and value added by manufacture, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures can not be taken as an exact measure of increase in the volume of business.

Persons engaged in industry.—At the censuses of 1909, 1904, and 1899 the following general classes of persons engaged in manufacturing industries have been distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5) wage earners. In the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the three classes of salaried officers of corporations, superintendents and

managers, and clerks. In the present census an entirely different grouping is employed: That into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers.

At this census the number of persons engaged in the industries, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for December 15, or the nearest representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where conditions were exceptional, and particularly in the case of certain seasonal industries, the December date could not be accepted as typical and an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15 or other representative day has been treated as equivalent to the average for the year, since the number of employees of this class does not vary much from month to month in a given industry. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

Wage earners.—In addition to the report by sex and age of the number of wage earners on December 15 or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported each month by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of any industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners in the state as a whole, the following procedure has been adopted:

The percentage distribution by sex and age of the employees in each industry, for December 15 or the nearest representative day, has been calculated from the actual numbers reported for that date. This percentage has been applied to the average number of employees for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for the state as a whole.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years and over, and the total number under 16 years of age, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children (under 16) employed each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in

an establishment from one period to another are disregarded, and no attention is given to the fact that a limited number of employees may have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct picture of the hours of labor in manufacturing industries.

Capital.—For reasons stated in prior census reports the statistics of capital secured by the census canvass are so defective as to be without value except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—Cost of materials refers to the materials used during the year, which may be more or less than the materials purchased during the year. The term materials includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Fuel includes all fuel used, whether for heat, light, or power, or for the process of manufacture.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, dividends on stock, and allowances for depreciation.

Value of products.—The value of products for any industry includes the total value of all products manufactured in establishments whose products of chief value fall under the industry designation. The amounts given represent the selling value at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing process carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used, which have been produced by agriculture or mining or by other industrial establishments. For many purposes, therefore, the best measure of the importance of different classes of industry is the value created as the result of the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials consumed from the value of the product. The figure thus obtained is termed in the census reports "value added by manufacture."

There is a further statistical advantage which "value added" has over gross value of products. In combining the value of products for all industries the value of products produced by one establishment and used as materials in another is duplicated, and the total, therefore, gives a greatly exaggerated idea of the wealth created. No such duplication takes place in the total "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest and depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products the rate of profit on the investment could not properly be calculated, because of the very defective character of the returns regarding capital.

Primary power.—The figures given for this item show the total of the primary power used by the establishments. They do not cover the power developed by motors operated by such power, the inclusion of which would evidently result in duplication.

Location of establishments.—The Census Bureau has classified establishments by their location in cities or classes of cities. In interpreting these figures due consideration should be given to the fact that often establishments are located just outside the bound-

aries of cities, and are necessarily so classified, though locally they are looked upon as constituting a part of the manufacturing interests of the cities.

Laundries.—The census of 1909 was the first to include statistics of laundries. The reports are confined to establishments using mechanical power. The data are presented separately and are not

included in the general total for manufacturing industries, in order to avoid interference with comparisons with prior censuses.

Custom grist and saw mills.—In order to make the statistics for 1909 comparable with those for 1904, the data for these mills have been excluded from all the tables presenting general statistics, and are given in a separate table at the end of this report.

INDUSTRIES IN GENERAL.

General character.—New Mexico, with an area of 122,460 square miles, is the fourth largest among the 49 states and territories embraced in continental United States, being exceeded in size only by Texas, California, and Montana. Its population in 1910 was 327,301, as compared with 195,310 in 1900 and 160,282 in 1890. It ranked forty-fourth among the 49 states and territories as regards population both in 1910 and in 1900. Manufacturing in the territory is still in its infancy. The mining of coal, copper, gold, and silver are of considerable importance, but the principal pursuits are stock raising and agriculture. Fourteen and two-tenths per cent of the entire population of the territory resides in

incorporated cities and towns having a population of 2,500 inhabitants or over, as against 14 per cent in 1900.

Albuquerque, with a population of 11,020, is the only city in the territory having a population of over 10,000. The territory is very sparsely settled, as is indicated by the fact that its density of population is only 2.7 per square mile.

Importance and growth of manufactures.—The following table gives the more important figures relative to all classes of manufactures combined for the territory as returned at the censuses of 1909, 1904, and 1899, together with percentages of increase from census to census:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	313	199	174	57.3	14.4
Persons engaged in manufactures.....	4,766	3,891	(1)	22.5	(1)
Proprietors and firm members.....	288	189	(1)	52.4	(1)
Salaried employees.....	395	224	88	49.6	154.5
Wage earners (average number).....	4,143	3,478	2,490	19.1	39.7
Primary horsepower.....	15,465	5,948	3,658	160.0	62.6
Capital.....	\$7,743,000	\$4,638,000	\$2,161,000	66.9	114.6
Expenses.....	7,049,000	5,081,000	3,428,000	38.7	48.2
Services.....	2,974,000	2,417,000	1,290,000	23.0	87.4
Salaries.....	383,000	264,000	91,000	45.1	190.1
Wages.....	2,591,000	2,153,000	1,199,000	20.3	79.6
Materials.....	3,261,000	2,236,000	1,999,000	45.8	11.9
Miscellaneous.....	814,000	428,000	139,000	90.2	207.9
Value of products.....	7,898,000	5,706,000	4,061,000	38.4	40.5
Value added by manufacture (value of products less cost of materials).....	4,637,000	3,470,000	2,062,000	33.6	68.3

(1) Figures not available.

In 1909 the territory of New Mexico had 313 manufacturing establishments operating under the factory system, which gave employment to an average of 4,766 persons during the year and paid out \$2,974,000 in salaries and wages. Of the persons employed, 4,143 were wage earners. These establishments turned out products to the value of \$7,898,000, to produce which materials costing \$3,261,000 were consumed. The value added by manufacture was thus \$4,637,000, which figure as explained in the Introduction best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that the manufacturing industries of New Mexico as a whole showed a considerable development during each of the five-year periods 1904-1909 and 1899-1904. Dur-

ing the period 1904-1909 the average number of wage earners increased 19.1 per cent, while the value of products increased 38.4 per cent and the value added by manufacture 33.6 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume during the period 1904-1909 to the extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities. It will be noticed that for most of the items the percentages of increase from 1899 to 1904 were larger than those from 1904 to 1909.

The relative importance and growth of the leading manufacturing industries of the territory are shown in the table on page 4.

STATISTICS OF MANUFACTURES—NEW MEXICO.

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	313	4,143	100.0	\$7,898,000	100.0	\$4,637,000	100.0	38.4	40.5	33.6	68.3
Cars and general shop construction and repairs by steam-railroad companies.....	11	1,489	35.9	2,251,000	28.5	1,288,000	27.8	² 10.3	134.8	² 7.0	128.5
Lumber and timber products.....	76	1,475	35.6	2,162,000	27.4	1,584,000	34.2	50.7	212.6	41.9	257.7
Printing and publishing.....	93	283	6.8	589,000	7.5	468,000	10.1	99.7	49.0	95.0	46.3
Flour-mill and gristmill products.....	16	28	0.7	462,000	5.8	108,000	2.3	10.1	² 0.8	42.1	² 20.0
Bread and other bakery products.....	32	54	1.3	272,000	3.4	118,000	2.5	78.9	23.6	81.5	² 4.4
Ice, manufactured.....	10	50	1.2	144,000	1.8	102,000	2.2	71.4	7.7	50.0	7.9
Brick and tile.....	13	92	2.2	123,000	1.6	91,000	2.0	51.9	5.2	44.4	8.6
All other industries.....	62	672	16.2	1,895,000	24.0	\$78,000	18.0	149.0	² 54.3	92.1	² 34.3

¹ Per cent of increase is based on figures in Table I.

² Decrease.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the product of one establishment in the industry as material for another establishment.

The important industries listed in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Cars and general shop construction and repairs by steam-railroad companies.—This industry represents the work done in the car shops operated by steam-railroad companies and is exclusive of minor repairs in roundhouses. Although there may be a limited amount of new construction, the operations consist almost exclusively of repairs to the rolling stock and equipment of the companies reporting. Although there was a slight decrease shown in the total value of products from 1904 to 1909, in the latter year these shops gave employment to an average of 1,489 wage earners and reported products to the value of 2,251,000, a greater number of wage earners and a greater value of products than reported for any other manufacturing industry in the territory.

Lumber and timber products.—This industry covers the operations of timber camps, sawmills, and planing mills. It gave employment to 1,475 wage earners in 1909, and the value of its products amounted to \$2,162,000.

Printing and publishing.—The majority of the establishments in this industry are small newspaper and job printing offices, and although the number of establishments in excess of that reported for any other industry, the number of wage earners and value of products are not correspondingly large. Employment was given to an average of but 283 wage earners, and the total value of products was \$589,000.

Flour-mill and gristmill products.—There were 16 mills reported for this industry, and, as a rule, were small and located in the rural districts. They gave employment to an average of 28 wage earners and reported \$462,000 as the value of their products.

Measured by value added by manufacture, these industries held a somewhat different rank than when measured by value of products, the lumber industry becoming first in order instead of steam-railroad repair shops, which, in turn, becomes second, while bakery products becomes fourth in order instead of flour-mill and gristmill manufactures, which, in turn, becomes fifth. Owing to the comparatively simple processes involved in the latter industry, and the extent to which these processes are carried on by machinery, the value added by manufacture is not commensurate with the gross value of products or the number of the establishments.

This table shows also the percentages of increase for the leading industries in respect to value of products and value added by manufacture. Of the specified industries, printing and publishing shows the greatest percentage of increase from 1904 to 1909 both in value of products and in value added by manufacture.

In addition to the seven industries separately presented, there are two important industries included in the group "all other industries." One of these is the manufacture of coke, which ranks among the leading industries of the territory, but for which separate figures can not be given without disclosing individual operations. The other is the manufacture of malt liquors, for which comparative figures are not available for prior years, but the 1909 statistics will be found in Table II.

Persons engaged in manufacturing industries.—The table following shows the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

The average number of persons engaged in manufactures during 1909 was 4,766. Of these, 4,143 were wage earners, 446 were proprietors and officials, and

177 were clerks. Corresponding figures for individual industries will be found in Table II.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	4,766	4,659	107
Proprietors and officials.....	446	440	6
Proprietors and firm members.....	288	282	6
Salaried officers of corporations.....	41	41	.....
Superintendents and managers.....	117	117	.....
Clerks.....	177	161	16
Wage earners (average number).....	4,143	4,058	85
16 years of age and over.....	4,077	3,995	82
Under 16 years of age.....	66	63	3

The following table shows the percentage of proprietors and officials, clerks, and wage earners, respectively, in the total number of persons employed in manufactures. It covers all industries combined and four important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	4,766	9.4	3.7	86.9
Cars and general shop construction and repairs by steam-railroad companies.....	1,594	2.0	4.6	93.4
Flour-mill and gristmill products.....	48	39.6	2.1	58.3
Lumber and timber products.....	1,020	7.3	1.7	91.0
Printing and publishing.....	436	27.3	7.8	64.9
All other industries.....	1,068	14.8	3.9	81.3

Of the total number of persons engaged in manufacturing industries, 9.4 per cent were proprietors and officials, 3.7 per cent clerks, and 86.9 per cent wage earners. In the flour-mill and gristmill and the printing and publishing industries the majority of the establishments are small and the work is done to a large extent by the proprietors or their immediate representatives. Therefore the proportion of persons engaged in the industry falling in the class of proprietors and officials is very much higher than for other industries or for all industries combined. The smallest proportion for this class is shown for steam-railroad repair shops, and is due to the fact that corporations, to which class these establishments belong, report no proprietors, in addition to which general officials are not as a rule assigned to the supervision of this particular branch of work.

The following table shows in percentages, for all industries combined, the distribution of the average number of wage earners by age periods and sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, the percentage distribution, by age periods and sex, of wage earners as reported for

December 15 or the nearest representative day. As a means of judging the importance of the several industries, the average total number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		
		16 years of age and over.	Under 16 years of age.	
		Male.	Female.	
All industries.....	4,143	96.4	2.0	1.6
Cars and general shop construction and repairs by steam-railroad companies.....	1,489	100.0	.....	.....
Flour-mill and gristmill products.....	28	96.4	.....	3.6
Lumber and timber products.....	1,475	97.3	.....	2.7
Printing and publishing.....	283	80.2	14.8	4.9
All other industries.....	868	94.1	4.6	1.3

¹ For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 96.4 per cent of the average number of wage earners were males over 16 years of age, 2 per cent females over 16 years of age, and 1.6 per cent persons of both sexes under the age of 16. The largest part of the total number of female wage earners is employed in the printing industry. Of the total number of employees in that industry, about one-seventh were females 16 years of age.

The printing and publishing industry gave employment to the largest proportionate number of wage earners under 16 years of age.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904-1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	4,766	100.0	3,891	100.0	22.5
Proprietors and firm members.....	288	6.0	180	4.9	52.4
Salaried employees.....	335	7.0	224	5.8	40.6
Wage earners (average number).....	4,143	86.9	3,478	89.4	19.1

Comparable figures are not obtainable for 1899. The table shows the percentage of increase in the number of wage earners to be much smaller than the percentages of increase in the number of proprietors and firm members and the salaried employees. This was due largely to the increase in the number of the smaller establishments where the proprietors perform most of the work, requiring few or no employees

The following table shows the average number of wage earners, distributed according to age periods,

STATISTICS OF MANUFACTURES—NEW MEXICO.

and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	4,143	100.0	3,478	100.0	2,490	100.0
16 years of age and over.	4,077	98.4	3,440	98.9	2,464	99.0
Male.....	3,995	96.4	3,388	97.4	2,403	96.5
Female.....	82	2.0	52	1.5	61	2.4
Under 16 years of age....	66	1.6	38	1.1	26	1.0

This table indicates that, although the proportion of wage earners under 16 years of age was but 1.1 per cent

of all wage earners in 1904 and 1.6 per cent in 1909, there has been a greater relative increase in their employment than in either males or females over that age. The proportion, however, which each class formed of the total number of wage earners reported at the three censuses shows but little variation.

Wage earners employed by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined, for the lumber industry, and for all other industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 12, is shown, for each industry in the state, the largest number and also the smallest number of employees reported for any month. The number for each month relates to the 15th day or the nearest representative day of that month.

MONTH.	NUMBER OF WAGE EARNERS.									
	All industries.		Lumber and timber products.						All other industries.	
			Total.		In mills.		In logging operations.			
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	3,666	79.9	1,311	74.1	814	69.2	497	83.8	2,355	80.0
February.....	3,016	78.8	1,303	73.6	842	71.5	461	77.7	2,313	79.4
March.....	3,775	82.2	1,348	76.2	853	72.5	495	83.5	2,427	83.3
April.....	3,965	86.4	1,388	78.4	890	75.6	498	84.0	2,577	88.5
May.....	4,103	89.4	1,435	81.1	954	81.1	481	81.1	2,668	91.0
June.....	4,142	90.2	1,355	76.6	948	80.5	407	68.6	2,787	95.7
July.....	4,389	95.6	1,483	84.1	1,041	88.4	447	75.4	2,901	99.6
August.....	4,532	98.7	1,620	91.5	1,071	91.0	540	92.6	2,912	100.0
September.....	4,591	100.0	1,770	100.0	1,177	100.0	593	100.0	2,821	96.9
October.....	4,346	94.7	1,590	89.8	1,014	86.2	376	97.1	2,756	94.6
November.....	4,320	94.1	1,606	90.7	1,037	88.1	500	96.0	2,714	93.2
December.....	4,273	93.1	1,486	84.0	930	79.0	550	93.8	2,787	95.7

There is no industry of importance in the territory which is distinctively seasonal, but nevertheless the number of wage earners underwent considerable change from month to month. The last six months of the year showed a larger number employed than during the first six months. The number in February, the lowest month, was 78.8 per cent of the number in September.

The lumber industry is the second industry in the territory in respect to number of wage earners employed; and the variation in this number, which is considerable, affects to some extent the totals for all industries combined. This industry gave employment in 1909 to an average of 1,475 wage earners, or 35.6 per cent of the total number employed in all the industries of the territory. Of these wage earners, an average for the year of 964, or 65.4 per cent, were employed in the mills, and 511, or 34.6 per cent, were employed in the logging branch of the

industry. The maximum number of wage earners, both in the mills and in logging, was reached in the month of September, when 1,177 were employed in the former and 593 in the latter branch of the industry. The smallest number employed in the mills, 814, or 69.2 per cent of the maximum, was in January, and the smallest number employed in logging operations, 407, or 68.6 per cent of the maximum, was in June.

Prevailing hours of labor.—In the following table wage earners have been classified according to hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used; and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	4,143	356	294	230	90	3,074	31	25	43
Bread and other bakery products.....	54	10		7	3	31		3	
Brick and tile.....	92	9		18		65			
Cars and general shop construction and repairs by steam-railroad companies.....	1,489		265	34		1,190			
Flour-mill and gristmill products.....	28	6				10	12		
Ice, manufactured.....	50					3	18		25
Lumber and timber products.....	1,475	148	16	10		1,291	1		
Printing and publishing.....	283	141	13	79	18	32			
All other industries.....	672	42		73	69	452		22	14

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of New Mexico the prevailing hours of labor are 60 a week, or 10 hours a day, only 23.4 per cent of the total being employed in establishments working less than 10 hours a day, and only 2.4 per cent being employed in establishments working more than 10 hours a day.

The railroad repair shops and the establishments manufacturing lumber and timber products are operated principally on a 10-hour-per-day basis. As these two industries gave employment to more than two-thirds of the wage earners reported for the territory, the prevailing hours of labor reported for them largely determine the prevailing hours shown for all industries combined.

Location of establishments.—The next table shows the extent to which the manufacturing industries of the territory are located in the city of Albuquerque.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENTS.		PER CENT OF TOTAL.	
			Albuquerque.	Outside districts.	Albuquerque.	Outside districts.
Population.....	1910	327,301	11,020	316,281	3.4	96.6
Number of establishments.....	1900	313	31	282	9.9	90.1
Average number of wage earners.....	1900	4,143	587	3,556	14.2	85.8
Value of products.....	1900	\$7,897,756	\$1,288,349	\$6,609,407	16.3	83.7
Value added by manufacture.....	1900	4,636,713	704,625	3,932,188	15.2	84.8

In 1909, of the total number of establishments 9.9 per cent were located in Albuquerque, 16.3 per cent of the total value of products was reported from this city, and 14.2 per cent of the total average number of wage earners were employed there. As separate statistics for Albuquerque are not available for the censuses of 1904 and 1899, no comparison showing the growth of the manufactures of the city can be made.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899

are not available. Figures for 1909 are only presented for two important industries individually. In order to avoid disclosing the operations of individual concerns, it is necessary to omit two important industries from this and the table following.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	313	4,143	\$7,897,756	\$4,636,713
1904.....	199	3,478	5,705,880	3,469,946
Individual:				
1909.....	158	490	1,177,829	747,908
1904.....	109	255	701,825	381,202
Firm:				
1909.....	59	202	466,238	291,508
1904.....	37	119	298,455	189,324
Corporation:				
1909.....	96	3,382	6,253,680	3,597,297
1904.....	53	3,104	4,645,600	2,890,420
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Individual:				
1909.....	50.5	12.0	14.9	16.1
1904.....	54.8	7.3	13.4	11.0
Firm:				
1909.....	18.8	6.3	5.9	6.3
1904.....	18.6	3.4	5.2	5.5
Corporation:				
1909.....	30.7	81.6	79.2	77.6
1904.....	26.6	89.2	81.4	83.6
Lumber and timber products,				
1909.....	76	1,475	\$2,162,396	\$1,584,774
Individual.....	38	258	422,208	352,413
Firm.....	22	174	188,169	144,246
Corporation.....	16	1,043	1,552,019	1,088,115
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	50.0	17.5	19.5	22.2
Firm.....	28.9	11.8	8.7	9.1
Corporation.....	21.1	70.7	71.8	68.7
Printing and publishing, 1909..	93	283	\$588,782	\$467,739
Individual.....	56	94	106,019	131,378
Firm.....	12	25	57,126	45,221
Corporation.....	25	164	305,637	291,140
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	60.2	33.2	28.2	28.1
Firm.....	12.9	8.8	9.7	9.7
Corporation.....	26.9	58.0	62.1	62.2

¹ Includes the group "other" to avoid disclosure of individual operations.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 30.7 per cent of the total number of establishments were in 1909 under corporate ownership, as against 69.3 per cent under all other forms. The corresponding figures for 1904 were 26.6 per cent and 73.4 per cent, respectively. For all industries combined, as measured by value of products and value added by manufacture, relatively, corporations lost ground to a slight extent.

¹ See Introduction.

STATISTICS OF MANUFACTURES—NEW MEXICO.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments or the reverse, is a matter of interest from the standpoint of industrial organization. To throw some light upon it, the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for two important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	313	4,143	\$7,897,756	\$4,636,713
1904.....	199	3,478	5,706,880	3,469,946
Less than \$5,000:				
1909.....	143	221	320,169	213,159
1904.....	94	100	212,673	159,787
\$5,000 and less than \$20,000:				
1909.....	114	562	1,088,650	689,587
1904.....	63	269	604,205	378,129
\$20,000 and less than \$100,000:				
1909.....	43	778	1,996,566	1,062,426
1904.....	33	537	1,385,931	724,608
\$100,000 and less than \$1,000,000:				
1909.....	13	2,582	4,483,431	2,641,541
1904.....	9	2,572	3,603,071	2,207,362
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Less than \$5,000:				
1909.....	45.7	5.3	4.2	5.2
1904.....	47.2	2.9	3.7	4.6
\$5,000 and less than \$20,000:				
1909.....	36.4	13.6	13.8	14.9
1904.....	31.7	7.7	10.6	10.9
\$20,000 and less than \$100,000:				
1909.....	13.7	18.8	25.3	22.0
1904.....	16.6	15.4	24.3	20.9
\$100,000 and less than \$1,000,000:				
1909.....	4.2	62.3	56.8	57.0
1904.....	4.5	74.0	61.4	63.6
Average per establishment:				
1909.....		13	\$25,232	\$14,814
1904.....		17	28,073	17,437
Lumber and timber products,				
1909.....	76	1,475	\$2,162,396	\$1,584,774
Less than \$5,000.....	34	92	77,300	60,093
\$5,000 and less than \$20,000.....	27	223	247,686	189,654
\$20,000 and less than \$100,000.....	10	170	408,299	247,540
\$100,000 and less than \$1,000,000.....	5	990	1,429,111	1,087,487
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	44.7	6.2	3.6	3.8
\$5,000 and less than \$20,000.....	35.5	15.1	11.5	12.0
\$20,000 and less than \$100,000.....	13.2	11.5	18.9	15.6
\$100,000 and less than \$1,000,000.....	6.6	67.1	66.1	68.6
Average per establishment.....		19.0	\$28,453	\$20,852
Printing and publishing, 1909.....	93	283	\$588,782	\$467,739
Less than \$5,000.....	63	78	145,055	119,695
\$5,000 and less than \$20,000.....	24	113	205,044	159,714
\$20,000 and less than \$100,000.....	6	92	238,683	188,330
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	67.7	27.6	24.6	25.6
\$5,000 and less than \$20,000.....	25.8	30.9	34.8	34.1
\$20,000 and less than \$100,000.....	6.5	32.5	40.6	40.3
Average per establishment.....		3	\$6,331	\$5,029

¹ Includes the group "\$1,000,000 and over."

This table shows that, in 1909, of the 313 establishments, only 13, or 4.2 per cent, had a value of product exceeding \$100,000. These 13 establishments, however, had an average number of wage earners of 2,582, or 62.3 per cent of the total number in all establishments, and reported 56.8 per cent of the total value of

products and 57 per cent of the total value added by manufacture.

On the other hand, small establishments—that is, those having a value of product of less than \$5,000—constituted a very considerable proportion (45.7 per cent) of the total number of establishments, but the value of their product amounted to only 4.2 per cent of the total. The bulk of the manufacturing was carried on in establishments having a product of not less than \$100,000.

The fact that the average number of wage earners per establishment decreased from 17 in 1904 to 13 in 1909 and the average value of products from \$28,673 to \$25,232 is to be explained, at least in part, by the fact that the increase in the number of establishments from 1904 to 1909 is largely in those establishments having less than \$20,000 worth of products. Out of a total increase of 114 establishments, only 14 reported more than \$20,000 worth of products. The table shows further that when the size of establishments is measured by value of products the printing and publishing industry is conducted mainly in the smaller establishments, and the lumber and timber industry mainly in establishments producing between \$100,000 and \$1,000,000 each.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the average number of wage earners employed. The next table shows such a classification for all industries combined and for four important industries, and gives not only the number of establishments falling in each group but also the average number of wage earners employed.

The per cent distribution of the number of establishments is not shown in this table; of the 313 establishments reported for all industries combined, 91.7 per cent employed either no wage earners or under 21 wage earners each. The most numerous single group consists of the 202 establishments employing 1 to 5 wage earners, the next being the group employing from 6 to 20 wage earners, with 54 establishments. There were 2 establishments that employed over 250 wage earners; 1 employed over 500.

Of the total number of wage earners, 57.6 per cent were in establishments employing over 100 wage earners. The single group having the largest number of employees was the group employing from 101 to 250 wage earners. This group employed 1,039 wage earners, or 25.1 per cent of the total. The railroad repair shop industry is one in which comparatively large establishments do most of the business, as appears from the classification according to number of wage earners. The reverse is true of the flour-mill and gristmill industry, in which all the establishments employed less than 6 wage earners.

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
NUMBER OF ESTABLISHMENTS.										
All industries	313	31	202	54	11	6	6	2	1	
Cars and general shop construction and repairs by steam-railroad companies.....	11			1	1	4	3	2		
Flour-mill and gristmill products.....	16	2	14							
Lumber and timber products.....	76		44	24	6		1		1	
Printing and publishing.....	93	20	61	11	1					
All other industries.....	117	9	83	18	3	2	2			
AVERAGE NUMBER OF WAGE EARNERS.										
All industries	4,143		476	527	367	389	1,039	662	683	
Cars and general shop construction and repairs by steam-railroad companies.....	1,480			15	34	209	509	662		
Flour-mill and gristmill products.....	28		28							
Lumber and timber products.....	1,475		123	246	237		181		683	
Printing and publishing.....	283		148	100	26					
All other industries.....	868		172	157	70	120	349			
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries	100.0		11.5	12.7	8.9	9.4	25.1	16.0	16.5	
Cars and general shop construction and repairs by steam-railroad companies.....	100.0			1.0	2.3	18.1	34.2	44.5		
Flour-mill and gristmill products.....	100.0		100.0							
Lumber and timber products.....	100.0		8.7	16.7	16.1		12.3		46.3	
Printing and publishing.....	100.0		52.3	38.5	9.2					
All other industries.....	100.0		10.8	18.1	8.1	13.8	40.2			

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses going to make up the total.

The following table shows in percentages the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	5.4	36.8	46.3	11.5
Cars and general shop construction and repairs by steam-railroad companies.....	5.2	50.5	42.8	1.4
Flour-mill and gristmill products.....	1.2	4.4	91.1	3.3
Lumber and timber products.....	4.8	37.0	30.0	26.8
Printing and publishing.....	16.0	39.7	27.7	16.5
All other industries.....	4.9	26.3	50.7	9.2

This table shows that, for all industries combined, 46.3 per cent of the total expenses was incurred for materials, 42.2 per cent for services—that is, salaries and wages—and but 11.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in

generating power (including electric motors operated by purchased current) and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 ⁽¹⁾	1909	1904	1899 ⁽¹⁾	1909	1904	1899
Primary power, total	348	109	105	15,465	5,948	3,658	100.0	100.0	100.0
Owned.....	200	109	105	12,220	5,680	3,050	79.0	95.5	99.8
Steam engines.....	159	74	85	11,781	5,007	3,283	76.2	85.7	89.7
Gas and oil engines.....	43	23	11	305	114	64	2.4	1.9	1.7
Water wheels.....	4	6	9	74	186	153	0.5	2.3	4.2
Water motors.....		6			13			0.2	
Other.....					320	150		5.4	4.1
Rented.....	142	(²)	(²)	3,245	268	8	21.0	4.5	0.2
Electric motors.....	142	(²)	(²)	3,245	268	8	21.0	3.4	0.2
Other.....		(²)	(²)		65			1.1	
Electric motors.....	212	1	(²)	4,580	233	8	100.0	100.0	100.0
Run by current generated by establishment.....	70	1		1,341	30		29.2	12.9	
Run by rented power.....	142	(²)	(²)	3,245	203	8	70.8	87.1	100.0

¹ Includes the neighborhood industries and hand trades omitted in 1904 and 1909.
² Not reported.

This table shows that the increase in primary power was principally in power generated by steam engines. A slight increase in the number and horsepower of gas engines is also shown. The figures also show that the practice of renting power is greatly on the increase,

STATISTICS OF MANUFACTURES—NEW MEXICO.

21 per cent of the total power being rented in 1909, as compared with but 4.5 per cent in 1904 and with 0.2 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown as becoming more common, the horsepower of such motors increasing from 30 in 1904 to 1,341 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power, or otherwise as material in the manufacturing processes. By far the greater part of the fuel used in the territory was consumed in the manufacture of coke and brick and tile, and is included under

“all other industries” in the following table, which shows the quantity of each kind of fuel used in 1909:

INDUSTRY.	An-thracite coal (tons).	Bitu-minous coal (tons).	Coke (tons).	Wood (cords).	Oil, in-cluding gaso-line (bar-rels).	Gas (1,000 feet).	Other (tons).
All industries.....	498	854,622	888	27,447	14,012	225	2
Cars and general shop construction and repairs by steam-railroad companies.....		40,712	110	20,800	1,944		
Flour-mill and gristmill products.....		1,350		736	91		
Lumber and timber products.....		6,697		5	49		
Printing and publishing.....	42	455		126	159	213	
All other industries.....	456	805,309	778	5,780	11,767	12	2

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products which do not appear on the general schedule. Data for two of these industries in New Mexico are here presented.

Lumber and timber products.—This industry, which is second in importance in value of products and average number of wage earners, is carried on largely in comparatively small plants, 34 out of the total of 76 establishments having products valued at less than \$5,000 each. The following statement gives the kind and quantity of the principal products of the sawmill branch of the industry for 1909 and 1899:

PRODUCTS. ¹	QUANTITY.	
	1909	1899
Rough lumber..... M feet, b. m.	91,987	30,880
Lath..... thousands..	10,571	2,165
Shingles..... thousands..	150	4,800

¹ Does not include reports for establishments with a product less than \$500.

The table shows a large increase in the production of rough lumber and lath, but a considerable decrease in the quantity of shingles manufactured.

Laundries.—Statistics for steam laundries are not included in the general tables. In 1909 there were eight such establishments in the territory of New Mexico, two of which were in Albuquerque. The following statement summarizes the statistics.

Of the eight establishments reported, four were operated by individuals, three by corporations, and one by

a general partnership. Six establishments had receipts for the year's business of \$5,000 but less than \$20,000; and two over \$20,000 but less than \$100,000.

Number of establishments.....	8
Persons engaged in the industry.....	168
Proprietors and firm members.....	6
Salaried employees.....	16
Wage earners (average number).....	146
Primary horsepower.....	146
Capital.....	\$164,187
Expenses.....	128,344
Services.....	77,698
Materials.....	20,481
Miscellaneous.....	30,165
Amount received for work done.....	156,419

The number of persons employed each month and the per cent which this number represented of the greatest number employed in any one month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	134	81.7	July.....	148	90.2
February.....	133	81.1	August.....	143	87.2
March.....	139	84.8	September.....	148	90.2
April.....	139	84.8	October.....	104	100.0
May.....	151	92.1	November.....	156	95.1
June.....	148	90.2	December.....	145	88.4

The different kinds of primary power, the number of engines, and the amount of horsepower used in 1909 are shown in the tabular statement following.

KIND.	Number of engines.	Horse-power.
Primary power, total.....		148
Owned—Steam.....	5	89
Rented—Electric.....	11	57

The kind and amount of fuel used are shown in the following statement:

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	1,690
Oil.....	Barrels.....	31
Gas.....	1,000 feet.....	33

Custom gristmills.—Statistics for custom gristmills are not included in the general tables, but are presented in the following general summary:

Number of establishments.....	19
Persons engaged in industry.....	37
Proprietors and firm members.....	29
Wage earners (average number).....	8
Primary horsepower.....	1,255
Capital.....	\$118,509
Expenses.....	118,678
Services.....	3,896
Materials.....	113,179
Miscellaneous.....	1,603
Value of products.....	141,653

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.
THE TERRITORY—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Consus.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries and employees.	Wage earners (average number).							
TERRITORY—All industries.....	1909 1904 1899	313 199 174	4,766 3,891 (¹)	288 189 (¹)	335 224 88	4,143 3,478 2,490	15,465 5,948 3,658	\$7,748 4,638 2,161	\$368 264 91	\$3,591 2,158 1,199	\$3,261 2,236 1,999	\$7,898 5,708 4,061	\$4,637 3,470 2,062
Bread and other bakery products.....	1909 1904 1899	32 27 18	94 62 72	37 28 24	3 1 0	54 33 42	26 6 (¹)	100 0 62	2 (²) 4	48 21 23	154 87 55	272 152 123	118 65 68
Brick and tile.....	1909 1904 1899	13 10 10	112 70 101	0 11 10	11 4 4	92 163 81	608 42 255	330 4 30	13 4 4	42 31 34	32 18 10	123 81 77	91 63 58
Cars and general shop construction and repairs by steam-railroad companies.....	1909 1904 1899	11 10 7	1,694 1,736 1,080	..... ..... .....	105 60 19	1,489 1,007 1,061	3,059 937 760	1,052 91 387	118 91 10	1,138 1,220 585	963 1,125 403	2,251 2,510 1,000	1,88 1,85 66
Flour-mill and gristmill products.....	1909 1904 1899	16 13 16	48 45 (¹)	13 14 (¹)	7 2 2	28 20 35	532 300 (¹)	257 130 107	5 2 2	17 14 20	354 312 206	402 383 391	108 76 95
Ice, manufactured.....	1909 1904 1899	10 7 4	60 32 27	4 5 3	15 4 2	50 23 22	1,378 402 75	424 100 118	10 5 2	33 20 15	42 10 15	144 84 78	102 68 63
Lumber and timber products.....	1909 1904 1899	76 31 33	1,020 1,280 (¹)	84 32 (¹)	61 78 9	1,475 1,170 637	4,885 3,140 (¹)	2,374 1,945 214	00 93 6	714 505 198	578 319 147	2,162 1,435 459	1,584 1,116 312
Printing and publishing.....	1909 1904 1899	93 56 35	436 239 195	34 55 30	69 35 17	283 140 142	1,230 103 45	516 277 103	70 29 19	174 93 75	121 55 34	589 295 198	468 240 164
All other industries.....	1909 1904 1899	62 45 51	793 418 (¹)	57 44 (¹)	64 31 20	672 343 470	3,687 853 (¹)	2,000 1,044 1,030	69 40 35	430 180 240	1,017 304 970	1,895 761 1,686	878 457 696

THE CITY OF ALBUQUERQUE—ALL INDUSTRIES COMBINED.

ALBUQUERQUE.....	1909	31	686	32	67	587	1,826	\$847	\$71	\$489	\$584	\$1,238	\$704
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¹ Figures not available.
² Less than \$500.

³ Does not include statistics for one establishment, to avoid disclosure of individual operations.
⁴ Does not include statistics for two establishments, to avoid disclosure of individual operations.

STATISTICS OF MANUFACTURES—NEW MEXICO.

TABLE II.—DETAIL STATEMENT FOR THE

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.								WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Average number.	Wage earners.		Total.	16 and over.		Under 16.			
					Male.	Female.		Number.			Male.	Female.	Male.	Female.		
								Maximum month.	Minimum month.							
1 All industries.....	313	4,766	288	158	161	16	4,148	Se 4,591	Fe 3,616						15,465	
2 Artificial stone.....	4	19	5				14	My ¹ 15	No ¹ 13	15	15					
3 Bread and other bakery products.....	32	94	37	1		2	54	Fe ¹ 55	An ¹ 53	55	52	2	1		26	
4 Brick and tile.....	13	112	9	10	1		92	Jy 130	Mh 44	186	184		2		668	
5 Cars and general shop construction and repairs by steam-railroad companies.....	11	1,594		32	73		1,489	De 1,687	Fe 1,322	1,687	1,687				3,059	
6 Flour-mill and gristmill products.....	16	48	13	6	1		28	De 42	My 15	47	46			1	532	
7 Foundry and machine-shop products.....	4	49	9	1	1		38	No 46	Ja 31	44	44				83	
8 Ice, manufactured.....	10	69	4	9	6		50	Jy 78	Fe 21	39	39				1,378	
9 Jewelry.....	5	17	6				11	Se ¹ 12	Mh ¹ 9	12	11		1			
10 Lime.....	5	23	3	2			18	My 32	Se ¹ 8	32	32				40	
11 Liquors, malt.....	3	37	1	3	3		30	Jy 44	Ja ¹ 21	23	23				174	
12 Lumber and timber products.....	76	1,620	84	34	23	4	1,475	Se 1,770	Fe 1,303	1,672	1,627		45		4,885	
13 Printing and publishing.....	93	436	84	35	26	8	283	De 289	Mh 277	283	227	42	12	2	1,230	
14 All other industries ²	41	648	33	25	27	2	501								3,300	

¹ Same number reported for one or more other months.

² All other industries embrace—

Brooms.....	2	Food preparations.....	1	Salt.....	1
Butter, cheese, and condensed milk.....	2	Gas, illuminating and heating.....	2	Tobacco manufactures.....	2
Canning and preserving.....	1	Leather goods.....	1	Wall plaster.....	2
Carrriages and wagons and materials.....	2	Mineral and soda waters.....	14	Wool scouring.....	3
Cement.....	1	Patent medicines and compounds and druggists' preparations.....	1		
Coke.....	2	Poltery, terra-cotta, and fire-clay products.....	2		
Copper, tin, and sheet-iron products.....	2				

STATISTICS OF MANUFACTURES—NEW MEXICO.

TERRITORY, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.									Value of products.	Value added by manufac- ture.	
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.			Other.
1	\$7,742,617	\$7,048,798	\$238,225	\$145,031	\$2,591,379	\$853,054	\$2,407,989	\$31,386	\$61,512	\$125,405	\$594,817	\$7,897,756	\$4,636,713
2	12,680	27,296	.....	.....	13,090	.....	13,645	125	101	.....	335	31,850	18,205
3	100,160	211,570	900	1,200	42,563	8,340	145,430	5,588	987	100	0,465	272,403	118,027
4	329,771	98,784	12,870	425	41,704	25,911	5,994	105	537	4,200	7,038	122,551	90,706
5	1,652,406	2,250,921	53,542	64,417	1,137,680	41,088	921,740	.....	7,110	.....	25,329	2,250,920	1,288,083
6	256,766	388,392	3,940	600	17,168	11,073	342,817	1,390	2,023	.....	9,381	461,621	107,731
7	109,176	66,882	1,400	1,200	30,538	3,883	26,564	225	481	.....	2,591	71,962	41,515
8	424,330	111,344	10,872	5,166	32,605	32,977	9,124	50	4,155	22	16,373	144,164	102,063
9	13,000	19,708	.....	.....	5,678	284	12,760	744	52	.....	250	24,970	11,926
10	33,200	15,335	1,410	.....	6,700	2,900	2,970	5	50	550	690	18,750	12,700
11	201,743	84,126	3,300	3,480	21,616	9,141	29,577	.....	12,163	.....	4,849	107,101	68,383
12	2,374,496	1,885,834	66,081	23,570	714,022	15,302	502,320	2,454	21,255	119,608	361,222	2,162,396	1,584,774
13	516,409	436,608	41,172	28,677	173,551	9,206	111,837	15,713	4,159	925	51,308	588,782	467,730
14	1,718,414	1,451,929	42,738	16,266	354,398	692,853	223,262	4,087	8,439	.....	108,956	1,640,286	724,171

MANUFACTURES: NEW YORK

STATISTICS OF MANUFACTURES FOR THE STATE, CITIES, AND INDUSTRIES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

INTRODUCTION.

This advance bulletin gives the statistics of manufactures for the state of New York for the calendar year 1909 as shown by the Thirteenth Census. It will be reprinted without change as a part of the Compendium of the Census for New York, and in the final reports of the Thirteenth Census.

The text summarizes the general results of the census inquiry, presenting a series of special tables in which the main facts printed in the general tables are given in convenient form for the state as a whole and for important industries. It also presents tables in which the statistics for the industries of the state as a whole and for a few important industries are classified by character of ownership, size of establishments, number of wage earners, and prevailing hours of labor, information which could not be presented in general tables for each industry without disclosing the facts for individual establishments.

At the end of the bulletin are two general tables.

Table I gives for 1909, 1904, and 1899 the number of establishments and of persons engaged in the industries, primary power, capital, salaries and wages, cost of materials, value of products, and value added by manufacture reported for all industries combined and for certain important industries (1) for the state as a whole and (2) for the cities of Albany, Buffalo, New York City (also by boroughs), Rochester, Schenectady, Syracuse, Troy, Utica, and Yonkers. It also gives the same items for all industries combined for every city and village except Lackawanna having in 1910 a population of over 10,000 but less than 50,000.

Table II gives statistics in detail for 1909 for the state and for a larger number of industries.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes, it is imperative that due attention should be given to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits. These limitations will be fully discussed in the general report on manufactures for the United States as a whole. It is impossible to reproduce such discussion in the bulletins relative to the individual states.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as dis-

tinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given they have been reduced to a comparable basis by eliminating the latter classes of industries. The census does not include establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments, except those of the Federal Government.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—The term "establishment" comprises the factories, mills, or plants which are under a common ownership or control, and for which one set of books of account is kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the separate totals might be included in the statistics for each city or state. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. Table I, giving comparable figures for 1909, 1904, and 1899, therefore, does not embrace all the industries shown for 1909 in Table II.

Influence of increased prices.—In considering changes in cost of materials, value of products, and value added by manufacture, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures can not be taken as an exact measure of increase in the volume of business.

Persons engaged in industry.—At the censuses of 1909, 1904, and 1899 the following general classes of persons engaged in manufacturing industries have been distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5) wage earners. In the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the

three classes of salaried officers of corporations, superintendents and managers, and clerks. In the present census an entirely different grouping is employed: That into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers.

At this census the number of persons engaged in the industries, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for December 15, or the nearest representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where conditions were exceptional, and particularly in the case of certain seasonal industries, such as canning, the December date could not be accepted as typical, and an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15, or other representative day, has been treated as equivalent to the average for the year, since the number of employees of this class does not vary much from month to month in a given industry. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

Wage earners.—In addition to the report by sex and age of the number of wage earners on December 15, or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported each month by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of any industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners in the state as a whole, the following procedure has been adopted:

The percentage distribution by sex and age of the wage earners in each industry, for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. This percentage has been applied to the average number of wage earners for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for the state as a whole.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years and over, and the total number under 16 years of age, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children (under 16) employed each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours

per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one period to another are disregarded, and no attention is given to the fact that a limited number of employees may have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct picture of the hours of labor in manufacturing industries.

Capital.—For reasons stated in prior census reports, the statistics of capital secured by the census canvass are so defective as to be without value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—Cost of materials refers to the materials used during the year, which may be more or less than the materials purchased during the year. The term materials includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Fuel includes all fuel used, whether for heat, light, or power, or for the process of manufacture.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, and allowances for depreciation.

Value of products.—The value of products for any industry includes the total value of all products manufactured in establishments whose products of chief value fall under the industry designation. The amounts given represent the selling value at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing process carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used, which have been produced by agriculture or mining or by other industrial establishments. For many purposes, therefore, the best measure of the importance of different classes of industry is the value created as the result of the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials consumed from the value of the product. The figure thus obtained is termed in the census reports "value added by manufacture."

There is a further statistical advantage which "value added" has over gross value of products. In combining the value of products for all industries the value of products produced by one establishment and used as materials in another is duplicated, and the total, therefore, gives a greatly exaggerated idea of the wealth created. No such duplication takes place in the total "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest and depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of profit on the investment could not properly be calculated, because of the very defective character of the returns regarding capital.

Primary power.—The figures given for this item show the total of the primary power used by the establishments. They do not cover the power developed by motors operated by such power, the inclusion of which would evidently result in duplication.

Location of establishments.—The Census Bureau has classified establishments by their location in cities or classes of cities. In interpreting these figures due consideration should be given to the fact that often establishments are located just outside the boundaries of cities, and are necessarily so classified, though locally they are looked upon as constituting a part of the manufacturing interests of the cities.

Laundries.—The census of 1909 was the first to include statistics

of laundries. The reports are confined to establishments using mechanical power. The data are presented separately and are not included in the general total for manufacturing industries, in order to avoid interference with comparisons with prior censuses.

Custom sawmills and gristmills.—In order to make the statistics for 1909 comparable with those for 1904, the data for these mills have been excluded from all the tables presenting general statistics, and are given in a separate table at the end of this report.

INDUSTRIES IN GENERAL.

General character of the state.—New York, with a gross area of 49,204 square miles, of which 1,550 square miles represent water surface, ranks twenty-ninth in size among the states of the Union. Its population in 1910 was 9,113,614, as compared with 7,268,894 in 1900 and 6,003,174 in 1890. It has ranked first among the states and territories as regards population since 1820. In density of population New York is the fifth state in the Union, having 191.2 persons per square mile in 1910, the corresponding figure for 1900 being 152.5. Seventy-eight and eight-tenths per cent of the entire population of the state in 1910 resided in incorporated places having a population of 2,500 or over, as against 72.9 per cent in 1900.

In 1910 the following 9 cities in the state had a population of over 50,000: New York City, 4,766,883; Buffalo 423,715; Rochester, 218,149; Syracuse, 137,249; Albany 100,253; Yonkers, 79,803; Troy, 76,813; Utica, 74,419; and Schenectady, 72,826. There were also 42 cities and villages having a population of over 10,000 but less than 50,000.¹ The 51 cities and villages having more than 10,000 inhabitants contained 74.3 per cent of the total population of the state, while only 4.5 per cent resided in incorporated places having between 2,500 and 10,000 inhabitants.

The geographic position and topography of New York, as well as the abundant natural wealth of its fields, forests, mines, and quarries, have contributed to its industrial development and have been instrumental in making it the leading manufacturing state of the Union. The Mohawk, upper Hudson, Black, and Genesee Rivers and Niagara Falls furnish the major part of the water power, which, either directly or through the agency of transmitted electric current, serves a large percentage of the manufacturing establishments of the state. The Hudson River, the Erie Canal, connecting Lake Erie with the Hudson River, and a system of canals which connect Lake Ontario with the Erie Canal and Lake Champlain with the Hudson River, form a network of inland waterways for the exchange of various commodities within the state and furnish excellent communication by water from Duluth and Chicago in the West and from various points in Canada on the north to New York City, thereby affording an outlet for coastwise and foreign commerce through the most important seaport in the United States. A large majority of the commercial and manufacturing centers of the state are located on

these waterways or on the connecting waterways which border the state. The 8,448 miles² of steam-railway trackage within the state also afford excellent transportation facilities.

Importance and growth of manufactures.—Although New York has important interests in agriculture and mining, its predominance is most marked in manufacturing. Since the completion of the Erie Canal in 1825, New York has held the foremost rank in this respect, though, since 1849, when the first authoritative census of manufactures was taken, the proportion which the state has contributed to the total value of manufactured products in the entire United States has decreased somewhat. This proportion was 23.3 per cent in 1849 and only 16.3 per cent in 1909.

In 1849 the total value of the manufactured products of New York, including those of the neighborhood and hand industries, amounted to \$237,597,249, while in 1909, exclusive of the value of the products of the neighborhood and hand industries, it reached a total of \$3,369,490,192, or more than fourteen times that in 1849. During the same period the population of the state increased 194.2 per cent. In 1849 an average of 199,349 wage earners, representing 6.4 per cent of the total population were employed in manufactures, while in 1909 an average of 1,003,981 wage earners, or 11 per cent of the total population, were so engaged. During this period the gross value of products per capita of the total population of the state increased from \$77 to \$370.

The table on page 4 gives the most important figures relative to all classes of manufactures combined for 1909, 1904, and 1899, together with the percentages of increase from census to census.

In 1909 the state of New York had 44,935 manufacturing establishments, which gave employment to an average of 1,203,241 persons during the year and paid out \$743,263,000 in salaries and wages. Of the persons employed, 1,003,981 were wage earners. These establishments turned out products to the value of \$3,369,490,000, to produce which materials costing \$1,856,904,000 were utilized. The value added by manufacture was thus \$1,512,586,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

The totals presented in the table on page 4 do not include the statistics for five establishments operated by

¹ For the names and the population of these cities and villages, see the table on page 18.

² Interstate Commerce Commission, Statistics of Railways in the United States, 1909.

MANUFACTURES—NEW YORK

the Federal Government—the United States Naval Clothing Factory and the United States navy yard at Brooklyn, the United States Lighthouse Establishment at Tompkinsville, the Watervliet Arsenal, and the West Point gas plant. In 1909 these plants employed an average of 4,095 wage earners and reported products valued at \$9,330,918.

In general, this table shows that the manufacturing industries of New York as a whole developed at about the same rate during each of the two five-year periods covered by the table. The earlier five-year period, 1899–1904, shows the larger percentages of increase in value added by manufacture and in number of wage

earners, but the later period, 1904–1909, shows the greater gains in number of establishments and in value of products. During this latter period the number of establishments increased 20.8 per cent and the average number of wage earners 17.2 per cent, while the value of products increased 35.4 per cent and the value added by manufacture 32.7 per cent.

As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures relating to values, since the increase shown is certainly due, in part, to the increase that has taken place in the prices of commodities.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904–1909	1899–1904
Number of establishments.....	44,935	37,194	35,957	20.8	3.4
Persons engaged in manufactures.....	1,203,241	996,725	(¹)	20.7	.....
Proprietors and firm members.....	47,569	41,766	(¹)	13.9	.....
Salaried employees.....	151,691	98,012	68,030	54.8	44.1
Wage earners (average number).....	1,003,981	856,947	726,909	17.2	17.9
Primary horsepower.....	1,997,662	1,516,592	1,099,931	31.7	37.9
Capital.....	\$2,779,497,000	\$2,031,460,000	\$1,523,503,000	36.8	33.3
Expenses.....	2,986,241,000	2,191,339,000	1,617,605,000	36.3	35.5
Services.....	743,263,000	541,160,000	414,064,000	37.3	30.7
Salaries.....	186,032,000	111,145,000	76,740,000	67.4	44.8
Wages.....	557,231,000	430,015,000	337,324,000	29.6	27.5
Materials.....	1,856,904,000	1,348,603,000	1,018,377,000	37.7	32.4
Miscellaneous.....	386,074,000	301,576,000	185,164,000	28.0	62.9
Value of products.....	3,369,490,000	2,488,346,000	1,871,831,000	35.4	32.9
Value added by manufacture (value of products less cost of materials).....	1,512,586,000	1,139,743,000	853,454,000	32.7	33.5

¹ Figures not available.

The relative importance and growth of the leading manufacturing industries of the state are shown in the table on page 5.

It should be borne in mind, in considering that table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the products of one establishment in the industry as material for other establishments.

The table referred to gives separate statistics for 139 industries or industry groups for which products valued at more than \$1,000,000 were reported in 1909. These industries include 12 with products exceeding \$50,000,000 in value, 20 with products between \$25,000,000 and \$50,000,000 in value, and 26 with products between \$10,000,000 and \$25,000,000, making an aggregate of 58 industries with a value of products in excess of \$10,000,000 each. The other industries shown separately comprise 30 with products between \$5,000,000 and \$10,000,000 in value, and 51 with products between \$1,000,000 and \$5,000,000.

In addition to the industries presented separately in the table, there were 32 other industries in the state which reported products in 1909 to the value of \$1,000,000 or over, comprising 5 with products exceeding \$10,000,000 in value, 2 with products between \$5,000,000 and \$10,000,000 in value, and 25 with products between \$1,000,000 and \$5,000,000 in value. These industries are included under the head

of "All other industries" in the table, in some instances, because the operations of individual establishments would be disclosed if they were shown separately; in others, because the returns do not properly present the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries; and in still others, because comparative statistics can not be presented for either 1904 or 1899 on account of changes in classification or because such figures would disclose the operations of individual establishments.¹ Of the industries which are not presented separately in this table, the refining of cane sugar is of special importance, as New York contributed over one-third of the total value of products for the industry in 1909. The 1909 statistics for the manufacture of moving pictures and of signs and advertising novelties are presented separately in Table II, page 82.

¹ These industries are:

Awnings, tents, and sails.	Matches.
Baking powders and yeast.	Mineral and soda waters.
Belting and hose, woven and rubber.	Moving pictures.
Billiard tables and materials.	Mucilage and paste.
Coke.	Oil, not elsewhere specified.
Flavoring extracts.	Paving materials.
Glucose and starch.	Pencils, lead.
Glue.	Petroleum, refining.
Grease and tallow.	Roofing materials.
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	Signs and advertising novelties.
Iron and steel, doors and shutters.	Smelting and refining, copper.
Iron and steel forgings.	Sporting and athletic goods.
Labels and tags.	Sugar refining, not including beet sugar.
Liquors, distilled.	Sulphuric, nitric, and mixed acids.
Locomotives, not made by railroad companies.	Tin foil.
	Upholstering materials.
	Waste.

turing industries in the state, whereas in 1904, with 138,952 wage earners and \$360,957,000 as the value of products, the corresponding proportions were 16.2 per cent and 14.5 per cent, respectively. The increase in the value of clothing manufactured in New York from 1904 to 1909 was \$177,636,000, or 49.2 per cent, and that from 1899 to 1904 was \$105,221,000, or 41.1 per cent, percentages which were greater than those for all manufacturing industries in the state combined. The manufacture of clothing under the factory system in New York began about 1835, but the early development of the industry was particularly associated with the invention of the sewing machine about 1846. In 1849 there were 976 establishments in the state manufacturing ready-made clothing, which gave employment to an average of 41,071 wage earners and turned out products valued at \$16,008,000. The introduction about 1870 of the cutting machine, by which many garments could be cut at one operation, had a stimulating effect upon this industry. At the census of 1889, when the first attempt was made to segregate the statistics for establishments manufacturing clothing under the factory system from establishments doing custom tailoring and dressmaking, there were 3,843 establishments in which ready-made clothing was manufactured, which employed an average of 96,822 wage earners and turned out products valued at \$159,452,000.

The value of products of the clothing industries in New York has not only increased remarkably during the last 20 years, but at each succeeding census it has formed a greater proportion of the aggregate value reported for the clothing industries in the United States, this proportion being 45.2 per cent in 1889 and 56.5 per cent in 1909. Measured by value of products, the women's-clothing branch shows the greatest progress, surpassing the men's-clothing branch in this respect for the first time in 1909. The total value of products for the former branch was \$45,087,000 in 1889, \$106,892,000 in 1899, and \$272,518,000 in 1909, an increase of \$61,805,000, or 137.1 per cent, from 1889 to 1899, and of \$165,626,000, or 154.9 per cent, from 1899 to 1909. The proportion which the value of women's clothing formed of the combined value of products reported for the two branches increased from 41.8 per cent in 1899 to 48.1 per cent in 1904, and to 50.6 per cent in 1909.

Printing and publishing.—This industry includes the printing and publishing of books, newspapers and periodicals, and music, job printing, bookbinding and blank-book making, steel engraving, and lithographing. New York led all the states in the industry as a whole and in each of its branches, with combined products valued at \$216,946,000 in 1909, this amount representing 29.4 per cent of the total value of products for the industry in the United States. Printing and publishing was the first industry in the state both in number of establishments, with 4,426, or 9.8 per cent

of the total number shown for all manufacturing industries, and in value added by manufacture, with \$160,452,000, or 10.6 per cent of the state total. Although the proportions shown for wage earners (6.3 per cent) and value of products (6.4 per cent) were not so great, decided increases occurred in both of these items during each five-year period, the gains during the more recent period, 1904–1909, being 9,684, or 18.1 per cent, and \$52,112,000, or 31.6 per cent, respectively.

Textiles.—The textile industries of New York—comprising the manufacture of hosiery and knit goods; silk and silk goods; carpets and rugs, other than rag; woolen, worsted, and felt goods, and wool hats; cotton goods, including cotton small wares; cordage and twine and jute and linen goods; and fur-felt hats—considered as a unit, rank high among the manufacturing industries of the state when measured by value of products. Combined, the seven allied branches gave employment in 1909 to an average of 91,839 wage earners and manufactured products to the value of \$185,780,000, these figures representing increases over 1904 of 11,233, or 13.9 per cent, in the number of wage earners and of \$43,358,000, or 30.4 per cent, in value of products. In 1909 the textile industries employed 9.1 per cent of the total number of wage earners engaged in the manufacturing industries of the state, and contributed 5.5 per cent of the total value of manufactured products. The corresponding proportions for 1904 were 9.4 per cent and 5.7 per cent, respectively. New York was the third state in the Union in the production of all textiles combined, of silk and silk goods, and of fur-felt hats, first in the manufacture of hosiery and knit goods and of carpets and rugs, other than rag, and second in that of cordage and twine and jute and linen goods. It ranked fifth in the production of woolen, worsted, and felt goods, and wool hats, and eleventh in that of cotton goods, including cotton small wares.

Foundry and machine-shop products.—All foundries and machine shops except those which manufacture a distinctive product covered by some other designation, such as agricultural implements, cash registers and calculating machines, sewing machines and attachments, or electrical machinery, are included in this classification. Establishments engaged in the manufacture of bells, gas machines and gas and water meters, hardware, cast-iron and cast-steel pipe, plumbers' supplies, steam fittings and heating apparatus, and structural ironwork, the majority of which were reported under separate classifications at previous censuses, are included in this industry. A number of the most important establishments are engaged in the manufacture of typesetting machines, steam-heating apparatus, electric elevators, locomotive, tender, and car brakes, metal-working machinery, pumps and pumping machinery, and structural ironwork. Although the industry was practically at a standstill from 1899 to 1904, the value of products increased from \$127,-

915,000 in 1904 to \$154,370,000 in 1909, or 20.7 per cent. New York was the second state of the Union in this industry at all three censuses.

Slaughtering and meat packing.—This classification includes establishments doing wholesale slaughtering and meat packing, and those engaged in the manufacture of sausage only. It does not include the numerous retail butcher shops, which slaughter a large number of animals. The value of products for this industry in New York increased from \$58,403,000 in 1899 to \$75,550,000 in 1904, and \$127,130,000 in 1909, when the total was \$68,727,000, or 117.7 per cent, greater than in 1899. The percentage of increase during the five-year period 1904 to 1909 in value of products was more than twice, and in value added by manufacture more than four times as great, as during the preceding five-year period 1899–1904. Of the 238 establishments reported for the industry as a whole in 1909, 76 were engaged in wholesale slaughtering only, 74 in both wholesale slaughtering and wholesale meat packing, and 88 in the manufacture of sausage only, the value of the output of these three branches representing 51.2 per cent, 47.2 per cent, and 1.6 per cent, respectively, of the total for the combined industry. For the last three censuses, New York has ranked third among the states in this industry.

Liquors.—The manufacture of malt, distilled, and vinous liquors forms a very important group of industries in New York. The value of the combined output for 1909 can not be given, however, because the statistics for the distilled-liquor industry can not be presented separately without disclosing the operations of individual establishments. The manufacture of malt liquors was by far the most important of the three industries comprising this group. The total output of this industry in 1909 was valued at \$77,720,000, an increase over 1904 of \$15,762,000, or 25.4 per cent, which was considerably more than double the gain for the preceding five-year period. The figures for both value of products and value added by manufacture in the case of the brewery industry include \$12,666,000 paid to the Federal Government as internal-revenue tax, and are therefore to that extent misleading as an indication of the relative importance of this industry from a purely manufacturing standpoint. The distilled-liquor industry shows a substantial increase from 1904 to 1909 in all items covered in the preceding table except number of establishments, which decreased from 18 to 13. The value of products for the vinous-liquor industry, the least important of the liquor group, was \$1,817,000 in 1909, representing a decrease of \$432,000, or 19.2 per cent, as compared with 1904. At the census of 1909 New York ranked first among the states of the Union in the manufacture of malt liquors, sixth in that of distilled liquors, and second in that of vinous liquors.

Tobacco manufactures.—While this designation covers in general the manufacture of cigars, cigarettes, chewing and smoking tobacco, and snuff, the industry in New York was confined largely to the manufacture of

cigars and cigarettes, 3,284 of the 3,371 establishments reported in 1909 being engaged in this branch, the value of the output of such establishments representing 98 per cent of the total for the industry. The total value of tobacco manufactures for New York in 1909 was \$76,662,000, an increase over 1904 of \$11,065,000, or 16.9 per cent, whereas from 1899 to 1904 the gain was \$11,936,000, or 22.2 per cent. New York leads all other states of the Union in this industry.

Lumber and timber products.—This classification includes logging operations, sawmills, planing mills, and establishments engaged in the manufacture of wooden packing boxes. It does not include those mills, however, which are engaged exclusively in custom sawing for local consumption, the statistics for which are shown separately on page 53. This industry in the state in 1909 was represented by 674 independent planing mills, 1,389 sawmills and logging plants, and 200 packing-box factories, which reported 65.9 per cent, 20.7 per cent, and 13.4 per cent, respectively, of the total value of products for the industry. The corresponding percentages for 1899 were 56.4, 28.7, and 14.9, respectively. The value of the output of the sawmills and logging plants of the state was \$15,131,000 in 1899, \$13,310,000 in 1904, and \$15,036,000 in 1909. The industry as a whole shows an increase in value of products from \$52,738,000 in 1899 to \$61,677,000 in 1904 and to \$72,530,000 in 1909, an increase for the decade of \$19,792,000, or 37.5 per cent, and for the more recent five-year period of \$10,853,000, or 17.6 per cent. It is apparent, therefore, that the growth of the entire industry was due very largely to the increase in the production of the planing mills. Measured by value of products, New York ranked second in 1909 among the states of the Union in the lumber industry.

Flour-mill and gristmill products.—The statistics for all merchant mills grinding wheat, rye, buckwheat, corn, or other grains are included in this classification. It does not, however, include factories making fancy cereals or other food preparations as a chief product, or mills doing custom grinding exclusively, the statistics for the latter mills being presented separately on page 53. This is one of the oldest industries in the state, probably dating from the latter part of the seventeenth century. It is said that the first gristmill in America was a horsepower mill located on the island of Manhattan. The industry developed gradually, but was especially prosperous during the years immediately following the opening of the Erie Canal in 1825, which greatly extended the sources of grain supply for the state. New York led all other states of the Union in the milling industry until 1889, since when it has held second place, having been displaced by Minnesota. The total value of flour-mill and gristmill products reported for New York was \$35,930,000 in 1899 and \$69,802,000 in 1909, representing 7.2 per cent and 7.9 per cent, respectively, of the total value of such products reported for the United States for these two census years.

Iron and steel, steel works and rolling mills and blast furnaces.—Combined, these two allied industries gave employment in 1909 to an average of 12,389 wage earners, and the value of their products amounted to \$66,153,000. These figures represent increases over 1899 of 6,971, or 128.7 per cent, in number of wage earners, and \$52,295,000, or 377.4 per cent, in value of products. The classification "Steel works and rolling mills" includes establishments engaged in the manufacture of steel or the hot rolling of iron and steel. It also includes the making of forgings and castings and the manufacture of rolled iron and steel into more highly finished forms when conducted as a part of the rolling-mill operations, as well as the few extant forges and bloomeries. It does not, however, include the making of cold-rolled products, nor of forgings, castings, and manufactures of iron and steel by establishments not equipped with steel-making furnaces or hot trains of rolls. The output of the steel works and rolling mills in 1909 was valued at \$39,532,000, representing an increase over 1904 of \$18,305,000, or 86.2 per cent. This gain, although pronounced, was not so great relatively as the increase of \$12,415,000, or 140.9 per cent, shown for the preceding five-year period. The blast furnaces include the establishments engaged in the manufacture of pig iron from the ore. In 1909 the products of the blast furnaces were valued at \$26,621,000, showing the remarkable gain over 1904 of \$17,986,000, or 208.3 per cent. Measured by value of products, New York ranked fourth in the manufacture of iron and steel and in each of the two branches in 1909.

Millinery and lace goods.—This industry includes all establishments engaged primarily in the manufacture of muslin and lace curtains; dress, cloak, and millinery trimmings; embroideries and crocheted goods; hat and bonnet frames; ladies' belts, collars, neckwear, and handkerchiefs; hats, trimmed and untrimmed; laces; pleating and puffs; ruching and ruffing; and veilings. In 1909 the value of products was \$52,106,000, as compared with \$32,844,000 in 1904, a gain of \$19,262,000, or 58.6 per cent, for the five-year period. The relative gain in this respect from 1899 to 1904 was slightly less, but the actual increase was only a little over one-half as great. New York led all other states of the Union in this industry, and of the aggregate value of millinery and lace goods produced in the United States, New York contributed 60.7 per cent in 1909, 64.7 per cent in 1904, and 71.4 per cent in 1899.

Electrical machinery, apparatus, and supplies.—The exceptionally rapid extension during recent years of the use of electricity has created a demand for electrical appliances. The industry in New York, therefore, shows decided development during the past decade, the value of products increasing from \$22,695,000 in 1899 to \$49,290,000 in 1909. Although New York retained the lead among the states in this industry,

the proportion which it contributed of the total value of products for the industry in the United States, which increased from 24.6 per cent in 1899 to 25.1 per cent in 1904, decreased to 22.3 per cent in 1909.

Paper and wood pulp.—Mills which manufacture paper exclusively, pulp exclusively, or both paper and pulp are included in this classification. The mills engaged in the production of paper largely predominated in New York in 1909. In 1849 there were 106 establishments reported for the state, which employed an average of 1,267 wage earners and manufactured products valued at \$1,638,579. The growth of the industry since that time has been rapid, but during the decade 1899–1909 it was particularly noteworthy, the value of products increasing from \$26,716,000 in 1899 to \$48,860,000 in 1909, a gain of \$22,144,000, or 82.9 per cent. Although the actual gain in this respect for the 10 years was about equally divided between the two five-year periods, the percentage of increase from 1904 to 1909 (29.4) was considerably less than that from 1899 to 1904 (41.3). New York led all other states in this industry at the last three censuses, the value of the output for the state forming 18.3 per cent of the total for the United States in 1909, 20 per cent in 1904, and 21 per cent in 1899.

Boots and shoes, including cut stock and findings.—Of the 296 establishments in the state included in this classification in 1909, 21 were engaged primarily in the manufacture of boot and shoe cut stock, 56 in the production of boot and shoe findings, and 219 in the manufacture of boots and shoes. There is some overlapping of these three branches which makes it desirable to combine them in presenting the statistics. With products valued at \$28,117,000 in 1899 and \$37,521,000 in 1904, New York held second place at both censuses among the states of the Union, but in 1909, when products valued at \$48,186,000 were reported, it had dropped to third place. The proportions which New York contributed of the total value of products for the industry in the United States in the respective years were, however, comparatively small, owing to the fact that the state first in rank manufactured so large a percentage of the products as to dwarf, in a measure, all others. These proportions were 9.4 per cent in 1909, 10.5 per cent in 1904, and 9.7 per cent in 1899.

Butter, cheese, and condensed milk.—Of the 1,552 establishments included in this industry in 1909, 426 were engaged primarily in the manufacture of butter, 1,090 in the manufacture of cheese, and 36 in the manufacture of condensed milk, the value of the output of these three branches representing 41 per cent, 35.6 per cent, and 23.4 per cent, respectively, of the total for the entire industry. Of the 1,766 establishments reported for 1904, 543 manufactured butter as a chief product, 1,198 cheese, and 25 condensed milk, and the proportions which each class of establishments contributed of the total value of products

reported for the entire industry were 41.1 per cent, 36.7 per cent, and 22.1 per cent, respectively. The number of establishments in the butter and cheese branches of the industry decreased during the five-year period 1904-1909, but the value of products for each of the three branches increased, the condensed-milk branch making the greatest relative gain. The value of products for the industry as a whole in New York increased from \$26,558,000 in 1899 to \$42,458,000 in 1909, a gain of 59.9 per cent. As measured by value of products, New York was the leading state of the Union in this industry in 1899 and in 1904, but dropped to second place in 1909, having been displaced by Wisconsin. The proportion which New York contributed of the total value of products for the industry in the United States decreased during the decade, being 20.3 per cent in 1899, 18.5 per cent in 1904, and 15.5 per cent in 1909.

Gas, illuminating and heating.—This industry includes all establishments engaged in the manufacture of gas for illuminating or heating purposes from coal, coke, oil, benzine, gasoline, or calcium carbide, or from a combination of two or more of these materials. The industry in New York dates from about 1823, when lighting by gas was introduced into New York City. The industry as a whole did not, however, receive its first real impetus until 1873, when the Lowe process for the manufacture of water gas was introduced. The total value of gas manufactured for sale in New York was \$8,513,000 in 1869; \$18,717,000 in 1889; and \$42,347,000 in 1909. Of the total quantity of all classes of gas manufactured in the state in 1909, namely, 45,768,354,000 cubic feet, 75.9 per cent was carbureted water gas, 10.1 per cent mixed coal and water gas, and 13.7 per cent coal gas. New York held first rank in the manufacture of illuminating and heating gas at the last three censuses, reporting 25.4 per cent of the total value of products for the industry in the United States in 1909, 28.2 per cent in 1904, and 27.6 per cent in 1899.

Furnishing goods, men's.—The 375 establishments reported for this industry in the state in 1909 included, in addition to 241 engaged primarily in the manufacture of a general line of men's furnishings, such as neckwear, belts, and handkerchiefs, 100 which manufactured suspenders, garters, and elastic woven goods as their leading products and 34 which made collars and cuffs. Of the value of products reported for the entire industry in 1909, \$15,897,000 represented the value of collars and cuffs, constituting 92.3 per cent of the total value of collars and cuffs manufactured in the United States. The value of products for the industry as a whole increased from \$29,337,000 in 1904 to \$42,197,000 in 1909, the proportions which these figures represented of the corresponding totals for the industry in the United States being 59.8 per cent and 48.1 per cent, respectively. New York not only outranked all other states in the industry as a

unit, but also in each of the three branches except the manufacture of suspenders, garters, and elastic woven goods, in which it ranked second.

Furniture and refrigerators.—This industry embraces the manufacture of wood and metal furniture of all kinds, refrigerators and ice boxes, and store and office fixtures, with the exception of products, such as show cases, which are provided for by a distinct classification. This industry ranks eleventh among those shown separately in the preceding table in average number of wage earners, thirteenth in value added by manufacture, and nineteenth in value of products. The value of the output of the furniture and refrigerator factories of New York increased from \$24,658,000 in 1899 to \$29,326,000 in 1904 and \$41,929,000 in 1909, which figures represented 18.9 per cent, 16.5 per cent, and 17.5 per cent of the respective totals for the United States. For several decades New York has led all other states in this industry.

Fur goods.—Those establishments engaged primarily in the manufacture of garments in which fur is the chief material, such as coats, cloaks, capes, mufflers, scarfs, and robes, and gloves, mittens, and trimmings, are included in this classification. It does not include establishments engaged mainly in tanning and dyeing skins with the fur on. The value of products increased from \$15,829,000 in 1899 to \$26,244,000 in 1904 and \$41,301,000 in 1909. New York outranked all other states at each of the three censuses in the manufacture of fur goods, the value of its output constituting 73.8 per cent of the total for the United States in 1909, 70.7 per cent in 1904, and 61.1 per cent in 1899.

Copper, tin, and sheet-iron products.—This classification comprises the manufacture of sheet-metal products of copper, tin, and sheet iron, including the preparation of copper, tin, and sheet-iron material for building construction. The 686 establishments reported for this industry in 1909 included 61 in which stamped and enameled ware was manufactured and 69 in which tinware was produced. The value of the stamped and enameled ware was \$13,140,000, and that of tinware was \$10,386,000, which amounts represent 34.2 per cent and 27 per cent, respectively, of the total value of products for the industry. New York ranked first among the states of the Union in the manufacture of copper, tin, and sheet-iron products at each of the three censuses, with \$38,452,000 as the total value of such products in 1909, \$27,314,000 in 1904, and \$19,287,000 in 1899.

Patent medicines and compounds and druggists' preparations.—Under this head are included the manufacture of so-called patent medicines, and of some compounds that are not used for medicinal purposes, and also the manufacture of capsules, extracts, tinctures, and other pharmaceuticals, and of perfumery and cosmetics. Of the 743 establishments reported in 1909, 509 were engaged primarily in the manufacture of patent medicines and compounds, the value of

which represented 56.6 per cent of the total for the industry. New York led all other states of the Union in the industry as a whole at each of the last three censuses, the total output being valued at \$37,343,000 in 1909, \$28,646,000 in 1904, and \$26,538,000 in 1899.

Chemicals.—This industry includes the manufacture of acids (except sulphuric, nitric, and mixed acids, for which there is a separate classification), sodas, pot-ashes, alums, coal-tar products, cyanides, bleaching materials, plastics, compressed or liquefied gases, alkalis, gold, silver, and platinum salts, chloroform, ether, glycerin, Epsom salts, copperas, blue vitriol, and other bases and salts, when they are made as a chief product by the establishment reporting. It does not include, however, the manufacture of chemicals as by-products in establishments classified in the census reports under a different head. In the production of chemicals New York held first rank among the states at each of the last three censuses, the value of its output constituting 30 per cent of the total for the United States in 1909, 30.6 per cent in 1904, and 25.5 per cent in 1899. The total value of products of the chemical industry in New York in 1909 was \$35,346,000, an increase over 1904 of \$12,324,000, or 53.5 per cent, and over 1899 of \$19,352,000, or 121 per cent.

Musical instruments, pianos and organs and materials.—Of the 184 establishments included in this classification in 1909, 117 were engaged primarily in the manufacture of pianos, 19 in the manufacture of organs, and 48 in the manufacture of piano and organ materials. The output of the piano establishments represented 79.1 per cent of the \$33,680,000 reported as the total value of products for the industry as a whole. At each of the last three censuses New York outranked all other states of the Union in the manufacture of pianos and organs and materials, contributing 37.5 per cent of the total value of the output for the United States in 1909, 35.4 per cent in 1904, and 35.9 per cent in 1899. The value of products for the industry in the state considerably more than doubled during the decade.

Automobiles, including bodies and parts.—The manufacture of automobiles in New York began only a few years before 1899, in which year there were 15 establishments in operation in the state, reporting products valued at \$456,000, and the state ranked fifth among the states in the industry. The development of the industry thereafter was remarkable, for by 1904 New York had become third in the manufacture of automobiles, which position it retained in 1909. In 1899 New York contributed 9.6 per cent of the total value of products for this industry in the country as a whole, and in 1904 the proportion had increased to 14.2 per cent, but in 1909 it had dropped to 12.4 per cent. The total value of products for 1909 was \$30,980,000, which was more than seven times the amount reported for 1904. This classification also includes the manufacture of automobile parts and accessories, but this branch of the industry has become

so interwoven with such industries as the foundry and machine-shop industry and the manufacture of rubber goods, electrical machinery, apparatus, and supplies, and brass and bronze products that it is impossible to determine to what extent the statistics presented under this head cover the actual production of parts and accessories.

Manufactures from precious metals.—The manufacture of jewelry is closely allied with the production of silverware and plated ware, and the reduction and refining of gold and silver from clippings, sweepings, and scrap. In 1909 these three industries combined employed an average of 8,486 wage earners and turned out products valued at \$30,825,000.

Paint and varnish.—Of the 147 establishments included in this classification in 1909, 104 were engaged primarily in the manufacture of paint, with products valued at \$20,557,000, representing 72 per cent of the total for the industry as a whole. The value of paint and varnish manufactured in New York was \$25,121,000 in 1904 and \$28,559,000 in 1909, an increase of \$3,438,000, or 13.7 per cent, for the five-year period. In value of products, New York led all other states in this industry at each of the last three censuses, reporting 22.9 per cent of the total for the United States in 1909, as compared with 27.7 per cent in 1904 and 27.1 per cent in 1899.

Leather, tanned, curried, and finished.—Establishments which were engaged primarily in the manufacture of leather, as well as those which treated hides and skins for others, are included in this classification. The cost of materials and the value of products, however, do not include the value of the hides or skins treated for others under contract. New York ranked third among the states in the manufacture of leather in 1899, with a value of products amounting to \$23,206,000. In 1904, however, the value of products had decreased to \$21,643,000 and the state fell to fourth place, while in 1909, though the value of the products increased to \$27,642,000, the state had dropped to fifth place.

In 14 of the less important industries shown separately in the table, New York led all other states of the Union in value of products in 1909 and contributed more than half of the value of products reported for each in the United States. These industries, together with the percentages of the value of products contributed by the state, were as follows: Lapidary work, 94.4; artificial flowers and feathers and plumes, 88.2; photographic apparatus and materials, 83.2; paper patterns, 83; hair work, 70.1; pens, fountain, stylographic, and gold, 67.9; cloth, sponging and refinishing, 66.7; gloves and mittens, leather, 60.7; pipes, tobacco, 60.5; hats and caps, other than felt, straw, and wool, 57.2; jewelry and instrument cases, 57.1; candles, 53.4; typewriters and supplies, 52.2; furs, dressed, 51.9.

It will be seen from the table on page 5 that some of the industries that hold a very high rank in the gross value of products rank comparatively low in the number of wage earners employed and in value added by

manufacture. Where this is the case, it indicates that the cost of materials represents a large proportion of the total value of products, and that therefore the value added by manufacture, of which wages constitute usually the largest item, is only a small proportion of the total value of products. Thus the slaughtering and meat-packing industry, which ranks fifth in gross value of products, and the flour-mill and gristmill industry, which ranks tenth in that respect, rank comparatively low with regard to number of wage earners and value added by manufacture. Other important industries which rank much higher in gross value of products than in the number of wage earners or the value added by manufacture are the butter, cheese, and condensed-milk industry; the tanning, currying, and finishing of leather; the blast furnaces; the roasting and grinding of coffee and spice; and the manufacture of linseed oil.

On the other hand, there are several industries the rank of which according to the number of wage earners or the value added by manufacture is considerably higher than the rank according to the value of products; in other words, the cost of materials is relatively a smaller part of the total value of products for these industries than for most others. Among the important industries of this class are the manufacture of furniture and refrigerators, the steam-railroad repair shops, and marble and stone work. Four of the textile industries—the manufacture of hosiery and knit goods, silk goods, carpets and rugs, and cotton goods—also rank much higher in number of wage earners, and somewhat higher in value added by manufacture, than in value of products.

The table on page 5 shows very great differences among the several industries with respect to the percentages of increase or decrease in the value of products and the value added by manufacture, although the great majority of the industries show an increase in both items for each of the five-year periods. The reduction and refining of gold and silver from sweepings, clippings, and scrap, however, shows a decrease in value of products for both five-year periods, while 13 other industries show decreases from 1904 to 1909 and 15 decreases from 1899 to 1904. None of the industries presented separately in the table show decreases in value added by manufacture for both five-year periods, but 16 show decreases from 1904 to 1909, and 14 show decreases from 1899 to 1904. Of the 58 industries for which products valued at more than \$10,000,000 were reported in 1909, two—the manufacture of carriages and wagons and of cordage and twine and jute and linen goods—show decreases in both value of products and value added by manufacture since 1904, while one other—the roasting and grinding of coffee and spice—shows a decrease in value of products.

The manufacture of emery and other abrasive wheels shows the highest percentage of increase in both value

of products and value added by manufacture between 1904 and 1909, the gross value of the products of this industry being nearly thirty-five times as great in 1909 as in 1904 and the value added by manufacture over twenty-seven times as great. Other industries which show exceptionally large increases during the same five-year period in both items are the hair work and the automobile industries, the manufacture of artificial flowers and feathers and plumes, the blast furnaces, and the manufacture of corsets, in which the value of products in 1909 was from three to seven times that in 1904. The manufacture of lead bars, lead pipe, and sheet lead shows the largest relative decrease in value of products for this period, 37 per cent, and the manufacture of dentists' materials the largest in value added by manufacture, 42.1 per cent.

Of the 12 industries shown in the table for which products valued at more than \$50,000,000 were reported in 1909, five—the making of men's clothing, the foundries and machine shops, the brewery industry, slaughtering and meat packing, and the manufacture of hosiery and knit goods—show greater percentages of increase in both value of products and value added by manufacture for the five-year period 1904-1909 than for the period 1899-1904.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes	1,203,241	869,434	333,807
Proprietors and officials.....	78,874	75,380	3,495
Proprietors and firm members.....	47,569	45,420	2,149
Salaried officers of corporations.....	12,916	12,481	435
Superintendent and managers.....	18,389	17,479	910
Clerks.....	120,386	87,404	32,982
Wage earners (average number).....	1,003,981	706,641	297,340
16 years of age and over.....	996,162	702,637	293,525
Under 16 years of age.....	7,819	4,004	3,815

The average number of persons engaged in manufactures during 1909 was 1,203,241, of whom 1,003,981 were wage earners. Of the remainder, 78,874 were proprietors and officials and 120,386 were clerks. Corresponding figures for individual industries will be found in Table II, page 82.

The table on the following page shows for 1909 the percentages of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and 58 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	1,203,241	6.6	10.0	83.4
Agricultural implements.....	6,851	4.9	11.7	83.4
Artificial flowers and feathers and plumes.....	9,813	5.7	7.7	86.5
Automobiles, including bodies and parts.....	11,610	3.6	11.5	84.9
Boots and shoes, including cut stock and findings.....	23,815	3.3	5.8	90.8
Boxes, fancy and paper.....	12,702	5.1	4.0	90.8
Brass and bronze products.....	7,596	0.1	0.4	87.6
Bread and other bakery products.....	29,039	15.6	10.8	73.5
Butter, cheese, and condensed milk.....	4,030	35.6	6.3	68.1
Canning and preserving.....	8,818	13.3	6.5	80.2
Carpets and rugs, other than rag.....	12,272	0.7	2.4	97.0
Carrriages and wagons and materials.....	7,333	12.1	4.5	83.4
Cars and general shop construction and repairs by steam-railroad companies.....	18,003	3.0	5.0	91.4
Chemicals.....	6,809	3.6	12.8	83.7
Clothing, men's, including shirts.....	104,567	5.1	7.5	87.4
Clothing, women's.....	114,925	5.2	9.5	85.4
Coffee and spice, roasting and grinding.....	2,394	8.0	28.6	63.4
Confectionery.....	10,116	4.8	10.5	84.7
Copper, tin, and sheet-iron products.....	17,153	6.8	7.6	85.0
Cordage and twine and jute and linen goods.....	6,230	1.1	3.3	95.5
Cotton goods, including cotton small wares.....	11,032	1.4	2.0	96.7
Electrical machinery, apparatus, and supplies.....	22,810	4.2	12.0	83.1
Flour-mill and gristmill products.....	5,120	27.8	13.8	58.4
Food preparations.....	4,163	8.0	10.4	72.6
Foundry and machine-shop products.....	75,746	5.6	9.8	84.6
Fur goods.....	11,263	13.3	13.5	73.2
Furnishing goods, men's.....	20,758	3.6	8.8	87.6
Furniture and refrigerators.....	23,195	6.0	0.5	87.4
Gas and electric fixtures and lamps and reflectors.....	7,188	5.6	10.7	83.7
Gas, illuminating and heating.....	9,221	4.5	25.9	69.6
Gloves and mittens, leather.....	7,195	0.2	6.4	87.4
Hats, fur-felt.....	5,379	2.2	4.6	93.2
Hosiery and knit goods.....	37,673	2.1	2.5	95.4
Iron and steel, blast furnaces.....	2,562	1.5	8.8	89.7
Iron and steel, steel works and rolling mills.....	11,080	1.6	7.4	91.0
Jewelry.....	7,146	10.9	13.8	75.3
Leather goods.....	9,283	9.0	9.3	81.7
Leather, tanned, curried, and finished.....	6,278	4.2	5.2	90.6
Liquors, malt.....	10,705	0.2	12.2	81.0
Lumber and timber products.....	32,458	10.0	4.5	84.6
Malt.....	645	0.8	9.0	81.2
Marble and stone work.....	8,469	13.1	5.0	81.9
Millinery and lace goods.....	25,309	6.8	10.1	83.1
Musical instruments, pianos and organs and materials.....	13,102	3.6	5.3	91.1
Oil, linseed.....	691	4.5	13.6	81.0
Paint and varnish.....	4,741	8.1	27.7	64.3
Paper and wood pulp.....	13,018	3.7	3.5	92.7
Paper goods, not elsewhere specified.....	5,257	4.5	13.6	81.9
Patent medicines and compounds and druggists' preparations.....	8,566	13.7	31.1	55.2
Photographic apparatus and materials.....	5,186	2.9	18.3	78.8
Printing and publishing.....	94,893	8.2	25.3	66.5
Shipbuilding, including boat building.....	6,230	6.1	3.3	90.6
Silk and silk goods, including throwsters.....	14,136	2.9	5.8	91.3
Slaughtering and meat packing.....	7,583	5.5	13.0	80.6
Soap.....	3,924	5.3	18.9	75.8
Tobacco manufactures.....	36,197	11.8	5.3	82.0
Typewriters and supplies.....	5,160	3.1	6.0	87.9
Wire.....	1,521	1.4	3.9	94.6
Woolen, worsted, and felt goods, and wool hats.....	6,007	2.2	2.3	95.5
All other industries.....	203,337	7.0	9.6	83.4

Of the total number of persons engaged in all manufacturing industries, 6.6 per cent were proprietors and officials, 10 per cent clerks, and 83.4 per cent wage earners. The highest percentage of proprietors and officials shown for any industry, 35.6, is for the manufacture of butter, cheese, and condensed milk. In this, as well as in the flour-mill and gristmill industry, the majority of the establishments are small and the work is to a large extent done by the proprietors or their immediate representatives, so that the proportion of persons engaged in these industries falling into the class of proprietors and officials is very much higher than in other individual industries or in all industries combined. Similar conditions

prevail to some extent in the bakery industry, in canning and preserving, in the manufacture of carriages and wagons, fur goods, and patent medicines and compounds and druggists' preparations, in marble and stone work, and in tobacco manufactures, where the proportions of proprietors and officials ranged from 15.6 per cent to 11.8 per cent of the total number of persons engaged in each industry. On account of the large average number of wage earners employed in the establishments manufacturing carpets and rugs, cordage and twine, and cotton goods, and in the blast furnaces, steel works and rolling mills, and wire works, these industries show the smallest proportions of proprietors and officials of any given in the table. The largest proportion of wage earners, 97 per cent, was reported for the carpet and rug industry, while the smallest, 55.2 per cent, was for the manufacture of patent medicines and compounds and druggists' preparations. Among the industries presented separately in the above table, however, the patent-medicine industry shows the largest proportion of clerks.

The first table on the following page shows, for 1909, in percentages, for all industries combined, the distribution of the average number of wage earners by age periods, and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, a similar distribution of the wage earners reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries the average number employed for the year is also given in each case.

For all industries combined, 70 per cent of the average number of wage earners in 1909 were males 16 years of age and over; 29.2 per cent females 16 years of age and over; and eight-tenths of 1 per cent children under the age of 16. The larger part of the total number of female wage earners 16 years of age and over was made up of those employed in the clothing, textile, millinery and lace goods, tobacco manufactures, and men's furnishing goods industries; the industry having the largest proportion of women, however, was the manufacture of artificial flowers and feathers and plumes, in which such wage earners formed 84.2 per cent of the total. In the manufacture of men's furnishing goods, and of millinery and lace goods, over three-fourths of the wage earners were women 16 years of age and over; in the hosiery and knit goods, fancy and paper box, and silk and silk goods industries, over three-fifths; and in seven other industries shown in the table the proportion was over one-half.

The textile, clothing, printing and publishing, boot and shoe, fancy and paper box, and millinery and lace goods industries employed the larger part of the wage earners under 16 years of age. The proportion of such wage earners was largest (2.9 per cent) in the manufacture of fancy and paper boxes, while

in the cotton-goods industry they formed 2.8 per cent of the total number, and in the silk-goods industry 2.5 per cent. The proportion was also relatively high in the manufacture of artificial flowers and feathers and plumes, jewelry, boots and shoes, confectionery, and woolen goods, in each of which children under 16 years of age formed at least 2 per cent of the total number of wage earners.

duction.) The following table makes this comparison according to occupational status:

INDUSTRY.	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		Under 16 years of age.
		16 years of age and over.		
		Male.	Female.	
All industries	1,003,981	70.0	29.2	0.8
Agricultural implements.....	5,717	98.7	1.1	0.2
Artificial flowers and feathers and plumes.....	8,493	13.5	84.2	2.3
Automobiles, including bodies and parts.....	9,861	98.7	1.2	0.1
Boots and shoes, including cut stock and findings.....	21,027	63.6	34.3	2.0
Boxes, fancy and paper.....	11,538	34.2	62.9	2.9
Brass and bronze products.....	6,051	94.4	5.3	0.3
Bread and other bakery products.....	21,357	86.2	13.3	0.5
Butter, cheese, and condensed milk.....	2,866	90.7	8.8	0.5
Canning and preserving.....	7,075	43.8	55.1	1.0
Carpets and rugs, other than rag.....	11,898	55.0	44.3	0.6
Carriages and wagons and materials.....	6,116	98.3	1.7	.....
Cars and general shop construction and repairs by steam-railroad companies.....	10,454	99.9	0.1	(²)
Chemicals.....	5,746	96.9	2.9	0.2
Clothing, men's, including shirts.....	91,303	58.5	41.1	0.4
Clothing, women's.....	98,104	42.3	57.3	0.5
Coffee and spice, roasting and grinding.....	1,519	69.3	30.6	0.1
Confectionery.....	8,570	40.0	53.0	2.0
Copper, tin, and sheet-iron products.....	14,639	87.5	11.9	0.6
Cordage and twine and jute and linen goods.....	5,952	46.4	52.8	0.8
Cotton goods, including cotton small wares.....	10,663	55.3	42.0	2.8
Electrical machinery, apparatus, and supplies.....	18,972	86.0	13.8	0.2
Flour-mill and gristmill products.....	2,990	95.6	4.2	0.2
Food preparations.....	3,023	61.5	37.3	1.2
Foundry and machine-shop products.....	64,060	98.0	1.8	0.2
Fur goods.....	8,244	67.3	32.5	0.3
Furnishing goods, men's.....	18,180	22.4	77.2	0.5
Furniture and refrigerators.....	20,281	96.0	2.6	0.6
Gas and electric fixtures and lamps and reflectors.....	6,017	93.2	6.5	0.3
Gas, illuminating and heating.....	6,422	99.7	0.2	0.1
Gloves and mittens, leather.....	6,287	49.2	49.1	1.6
Hats, fur-felt.....	5,013	60.4	32.8	0.8
Hosiery and knit goods.....	35,050	34.6	63.6	1.8
Iron and steel, blast furnaces.....	2,298	99.9	0.1	.....
Iron and steel, steel works and rolling mills.....	10,091	99.0	0.9	0.1
Jewelry.....	5,379	84.8	13.1	2.2
Leather goods.....	7,586	81.2	17.8	1.0
Leather, tanned, curried, and finished.....	5,688	97.3	2.3	0.4
Liquors, malt.....	8,731	99.9	0.1	.....
Lumber and timber products.....	27,471	99.1	0.7	0.3
Malt.....	524	100.0	.....	.....
Marble and stone work.....	6,939	98.9	1.0	0.1
Millinery and lace goods.....	21,078	21.5	77.1	1.4
Musical instruments, pianos and organs and materials.....	11,938	94.6	4.3	1.1
Oil, linseed.....	566	100.0	.....	.....
Paint and varnish.....	3,047	91.6	8.1	0.4
Paper and wood pulp.....	12,073	96.6	3.4	.....
Paper goods, not elsewhere specified.....	4,303	45.0	53.1	1.0
Patent medicines and compounds and druggists' preparations.....	4,728	46.1	53.2	0.7
Photographic apparatus and materials.....	4,088	72.7	26.5	0.9
Printing and publishing.....	63,120	76.9	22.2	1.0
Shipbuilding, including boat building.....	5,644	99.8	0.1	0.1
Silk and silk goods, including throwsters.....	12,903	35.1	62.4	2.5
Slaughtering and meat packing.....	6,110	97.2	2.7	0.1
Soap.....	2,976	77.8	22.1	0.1
Tobacco manufactures.....	30,019	48.5	50.6	0.9
Typewriters and supplies.....	4,538	85.9	13.9	0.2
Wire.....	1,439	90.8	8.8	0.4
Woolen, worsted, and felt goods, and wool hats.....	9,460	55.6	42.4	2.0
All other industries.....	169,534	80.7	18.4	0.9

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				Per cent of increase, 1904-1909.
	1909		1904		
	Number.	Percent distribution.	Number.	Percent distribution.	
Total	1,203,241	100.0	996,725	100.0	20.7
Proprietors and firm members.....	47,569	4.0	41,766	4.2	13.9
Salaried employees.....	151,691	12.6	98,012	9.8	54.8
Wage earners (average number)....	1,003,981	83.4	856,947	86.0	17.2

Comparable figures are not obtainable for 1899. Salaried employees show the greatest percentage of increase and the only gain in relative numerical importance.

The following table shows the average number of wage earners distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.
Total	1,003,981	100.0	856,947	100.0	726,909	100.0
16 years of age and over.....	996,162	99.2	848,908	99.1	714,508	98.3
Male.....	702,637	70.0	603,519	70.4	503,671	69.3
Female.....	293,525	29.2	245,449	28.6	210,834	29.0
Under 16 years of age....	7,819	0.8	7,979	0.9	12,401	1.7

This table indicates that for all industries combined there has been both an absolute and a relative decrease during the 10 years in the employment of children under 16 years of age. Although the number of each class of wage earners 16 years of age and over shows a decided increase during the same period, the proportions of such employees remained practically the same. In 1909 males 16 years of age and over formed 70 per cent of all wage earners in the manufacturing industries, as compared with 70.4 per cent in 1904 and 69.3 per cent in 1899.

Wage earners employed, by months.—The first table on the following page gives the number of wage earners employed on the 15th of each month during the year 1909 for all industries combined. It gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 82, are shown, for practically all of the important industries in the state, the largest number and also the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month.

¹ For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.
² Less than one-tenth of 1 per cent.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904 it is necessary to use the classification employed at the earlier census. (See Intro-

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	945,356	88.9	July.....	977,203	91.0
February.....	971,236	91.4	August.....	998,896	94.0
March.....	991,633	93.3	September.....	1,041,333	97.9
April.....	989,498	93.1	October.....	1,063,162	100.0
May.....	983,987	92.6	November.....	1,059,852	99.7
June.....	980,503	92.2	December.....	1,046,110	98.3

There were no seasonal industries of importance in New York, nor did any of the more important industries show very great fluctuations from month to month in the number of wage earners employed. Among the seasonal industries the greatest relative variations took place in canning and preserving and in the manufacture of brick and tile, but the numbers of wage earners employed in these industries were not large enough to affect very greatly the totals for the entire state. There was a larger absolute variation in the number of wage earners engaged in the women's

clothing industry than in either of the seasonal industries mentioned, but these fluctuations were due mainly to trade conditions which affected to a less extent many other industries, and through them the totals for the state as a whole. In all manufacturing industries combined, the smallest number of wage earners, 945,356, were employed in the month of January, and the largest number, 1,063,162, in the month of October, the difference between these figures being 117,806, or 11.1 per cent of the maximum.

Prevailing hours of labor.—In the following table wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though a few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	1,003,081	102,270	173,887	169,402	290,905	225,930	21,397	10,544	9,547
Agricultural implements.....	5,717	20	.....	132	3,549	2,016	.....	.....	.....
Artificial flowers and feathers and plumes.....	8,493	1,014	4,058	1,480	297	144	.....	.....	.....
Artificial stone.....	711	189	88	180	32	215	.....	1	.....
Automobiles, including bodies and parts.....	9,861	86	1,525	4,068	2,248	1,932	.....	2	.....
Babbit metal and solder.....	192	18	13	3	94	64	.....	.....	.....
Bags, other than paper.....	1,000	2	171	2	678	147	.....	.....	.....
Bags, paper.....	1,032	.....	26	34	493	479	.....	.....	.....
Baskets, and rattan and willow ware.....	1,237	56	69	64	250	747	18	25	8
Belting and hose, leather.....	604	97	247	208	31	21	.....	.....	.....
Bicycles, motorcycles, and parts.....	558	1	4	3	89	509	2	.....	.....
Blacking and cleansing and polishing preparations.....	658	65	63	172	114	235	9	.....	.....
Boots and shoes, including cut stock and findings.....	21,627	77	1,110	4,851	10,057	5,441	85	2	4
Boxes, cigar.....	1,531	65	21	205	708	532	.....	.....	.....
Boxes, fancy and paper.....	11,533	354	2,695	2,021	3,050	2,342	.....	.....	167
Brass and bronze products.....	6,651	230	487	2,040	1,701	2,184	.....	.....	.....
Bread and other bakery products.....	21,357	1,133	694	2,880	1,080	13,345	1,054	176	80
Brick and tile.....	8,080	1,467	121	1,449	258	4,037	40	57	12
Brooms and brushes.....	2,897	147	375	471	1,275	627	.....	2	.....
Butter, cheese, and condensed milk.....	2,866	169	63	98	308	608	1,436	2	62
Buttons.....	6,126	113	583	370	4,453	601	6	.....	.....
Candles.....	347	.....	.....	63	247	.....	.....	.....	.....
Canning and preserving.....	7,075	381	129	191	735	5,269	156	50	8
Carpets and rugs, other than rag.....	11,898	.....	274	6,463	742	4,599	.....	.....	.....
Carrriages and wagons and materials.....	6,110	224	1,410	1,320	1,235	1,918	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	10,454	374	1,137	2,188	3,040	2,488	5,124	.....	1,197
Cars and general shop construction and repairs by street-railroad companies.....	4,480	.....	84	1,400	.....	2,362	608	.....	20
Cars, steam-railroad, not including operations of railroad companies.....	2,387	.....	.....	956	.....	1,431	.....	.....	.....
Cement.....	1,443	.....	.....	2	208	498	360	.....	285
Chemicals.....	5,740	38	100	61	3,599	1,324	37	122	375
Chocolate and cocoa products.....	755	.....	142	1	47	565	.....	.....	.....
Clocks and watches, including cases and materials.....	2,407	14	45	376	1,950	82	.....	.....	.....
Cloth, sponging and refinishing.....	604	32	396	167	0	.....	.....	.....	.....
Clothing, men's, including shirts.....	91,363	9,044	13,328	12,772	46,713	9,002	441	54	9
Clothing, women's.....	98,104	3,898	48,982	20,101	18,097	5,475	829	82	40
Coffee and spice, roasting and grinding.....	1,519	128	170	132	937	151	1	.....	.....
Coffins, burial cases, and undertakers' goods.....	1,235	10	217	90	411	507	.....	.....	.....
Confectionery.....	8,570	152	855	914	3,803	2,819	17	10	.....
Cooperage and wooden goods, not elsewhere specified.....	2,611	118	113	273	1,110	980	5	3	.....
Copper, tin, and sheet-iron products.....	14,689	2,918	625	1,440	6,530	3,176	.....	.....	.....
Cordage and twine and jute and linen goods.....	5,952	.....	.....	3	3,269	2,680	.....	.....	.....
Cordials and sirups.....	294	58	29	36	1	161	.....	.....	.....
Cork, cutting.....	835	22	123	11	666	.....	.....	.....	.....
Corsets.....	2,436	192	304	1,441	436	3	.....	.....	.....
Cotton goods, including cotton small wares.....	10,663	.....	247	17	1,277	9,122	.....	.....	.....
Cutlery and tools, not elsewhere specified.....	4,478	131	550	378	1,192	2,227	.....	.....	.....
Dairymen's, poulterers', and apiarists' supplies.....	802	136	.....	480	80	106	.....	.....	.....
Dentists' materials.....	266	7	186	17	86	.....	.....	.....	.....
Dyeing and finishing textiles.....	5,252	65	816	197	2,830	1,324	20	.....	.....
Dyestuffs and extracts.....	418	39	6	2	94	337	.....	.....	.....
Electrical machinery, apparatus, and supplies.....	18,072	164	2,769	2,170	13,048	821	.....	.....	.....
Electroplating.....	652	32	165	147	207	101	.....	.....	.....
Emery and other abrasive wheels.....	719	1	.....	.....	608	110	.....	.....	.....

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
Fancy articles, not elsewhere specified	3,430	187	773	338	1,796	336			
Fertilizers	908	11			1	578	258	60	
Firearms and ammunition	1,781		2	2	1,308	469			
Flags, banners, regalia, society badges and emblems	813	109	87	527	80	10			
Flour-mill and gristmill products	2,900	79	12	539	57	1,839	119	335	10
Food preparations	3,023	117	151	328	736	1,356	335		
Foundry and machine-shop products	64,066	2,001	7,087	23,062	15,091	16,065	160		
Fur goods	8,244	518	4,213	2,870	544	95	4		
Furnishing goods, men's	18,186	866	3,658	2,070	11,307	283		2	
Furniture and refrigerators	20,281	1,009	1,460	1,098	6,441	9,272	11		
Furs, dressed	755	28	73	98	311	245			
Gas and electric fixtures and lamps and reflectors	6,017	87	1,453	1,702	1,906	864	5		
Gas, illuminating and heating	6,422	22		2	100	400	888	1,661	3,349
Glass	3,114	369	776	280	328	1,361			
Glass, cutting, staining, and ornamenting	3,118	508	907	122	1,358	133			
Gloves and mittens, leather	6,287	115	241	193	5,490	248			
Gold and silver, reducing and refining, not from the ore	42	10	27	5					
Hair work	2,313	152	861	1,143	70	62	25		
Hat and cap materials	905	50	151	14	747	3			
Hats and caps, other than felt, straw, and wool	3,348	55	1,473	682	825	291	22		
Hats, fur-felt	5,013	672	1,060	36	3,236	9			
Hats, straw	2,508	230	1,126	258	384	504			
Hosiery and knit goods	35,950	427	1,312	454	7,945	24,034	878		
House-furnishing goods, not elsewhere specified	1,812	121	950	397	63	253	10		
Ice, manufactured	1,124	91		70	65	107	225	26	534
Ink, printing	525	110	31	64	264	50			
Instruments, professional and scientific	1,964	65	350	467	1,072	10			
Iron and steel, blast furnaces	2,298					101	374	335	1,488
Iron and steel, steel works and rolling mills	10,091		67	423	1,695	4,745		3,161	
Jewelry	5,379	282	2,943	1,376	728	50			
Jewelry and instrument cases	1,172	86	346	162	200	378			
Lapidary work	490	274	138	83	4				
Lead, bar, pipe, and sheet	185			38	54	93			
Leather goods	7,586	179	788	1,019	4,245	1,324	0	1	21
Leather, tanned, curried, and finished	5,688	18	226	211	2,470	2,763			
Liquors, malt	8,731	1,528	292	5,176	314	758	663		
Liquors, vinous	271	2	45			222	2		
Looking-glass and picture frames	1,491	74	282	105	456	484			
Lumber and timber products	27,471	1,878	1,336	3,822	5,949	14,105	381		
Malt	524	16	4	22	27	77	378		
Marble and stone work	6,939	4,377	256	599	684	1,004	19		
Mattresses and spring beds	1,621	65	167	252	692	421	22	2	
Millinery and lace goods	21,078	1,471	10,562	4,786	3,970	289			
Mirrors	983	53	587	201	72	70			
Models and patterns, not including paper patterns	1,082	62	458	180	320	62			
Musical instruments, pianos and organs and materials	11,038	364	1,481	6,907	649	2,477			
Oil, linseed	566			7		275	35	240	
Oilcloth and linoleum	1,102			20	310	772			
Optical goods	2,047	25	101	1,490	420	11			
Paint and varnish	3,047	121	951	512	844	619			
Paper and wood pulp	12,073	1,295	1,079	270	502	2,656	2,563	2,500	299
Paper goods, not elsewhere specified	4,303	332	1,695	608	1,372	296			
Paper patterns	761	666	89	6					
Patent medicines and compounds and druggists' preparations	4,728	1,633	1,762	491	692	239	3	8	
Pens, fountain, stylographic, and gold	730	41	104	420	150				
Photographic apparatus and materials	4,088	59	98	3,753	178				
Photo-engraving	1,305	432	805		65	3			
Pipes, tobacco	1,663	30	1,344	135	113	32			
Pottery, terra-cotta, and fire-clay products	2,367	234	423	570	617	451		72	
Printing and publishing	63,120	34,754	15,083	8,512	4,081	670	18	1	1
Rubber goods, not elsewhere specified	2,066	101	82	88	939	856			
Salt	1,525			238	16	984	265	20	2
Scales and balances	453	3	0	120	214	107			
Shipbuilding, including boat building	5,644	2,271	882	2,000	160	331			
Silk and silk goods, including throwsters	12,903	32	1,305	1,042	7,753	2,771			
Silverware and plated ware	3,065	90	331	1,135	1,275	225			
Slaughtering and meat packing	6,110	540	326	718	450	3,905	50	22	
Smelting and refining, not from the ore	284	3			95	143	43		
Soap	2,070	20	315	1,152	753	736			
Stationery goods, not elsewhere specified	1,243	42	196	742	235	28			
Steam packing	901	35	143	46	622	55			
Stereotyping and electrotyping	905	759	95	48	3				
Stoves and furnaces, including gas and oil stoves	4,247	373	105	811	1,543	1,347	68		
Surgical appliances and artificial limbs	464	97	162	110	72	23			
Tobacco manufactures	30,019	10,419	5,252	1,132	10,542	2,057	10		1
Toys and games	1,197	161	308	26	666	35		1	
Typewriters and supplies	4,538	123	181	125	3,563	546			
Umbrellas and canes	1,919	59	381	234	1,112	133			
Vinegar and cider	529	14	4	14	9	484	2	1	1
Wall paper	1,602	1	12		613	976			
Wall plaster	1,337	52		8	6	1,271			
Window shades and fixtures	951	114	122	149	227	328			1
Wire	1,439				640	799			
Wirework, including wire rope and cable	1,049	10	104	424	820	291			
Wood distillation, not including turpentine and rosin	593					117	182	125	169
Wood, turned and carved	1,279	215	118	160	492	279	15		
Woolen, worsted, and felt goods, and wool hats	9,460	30	649		4,570	4,211			
All other industries	40,369	2,964	3,774	6,592	11,594	9,044	3,074	1,368	1,359

More than two-thirds of the wage earners employed in the manufacturing industries of New York in 1909 worked from 54 to 60 hours a week, while more than one-fourth (27.5 per cent) were employed in establishments where the usual hours were less than 54 a week, and only 4.1 per cent of the total were employed in establishments where more than 60 hours prevailed. The largest number was reported for establishments where the prevailing hours were more than 54 and less than 60 per week.

It will be noted that in most of the larger industries the employment was mainly confined to a week of from 54 to 60 hours. Over two-thirds of the wage earners in the cotton-goods, canning and preserving, and hosiery and knit-goods industries, and more than half of those in the slaughtering and meat-packing, bakery, brick and tile, and lumber industries, however, were

employed in establishments where the usual hours were 60 per week. The majority of the wage earners engaged in the blast-furnace and in the gas industries worked more than 72 hours per week, while in marble and stone work, in printing and publishing, and in several smaller industries the prevailing hours of labor for a majority of the wage earners were 48 or less per week.

Location of establishments.—The following table shows the extent to which the manufactures of New York are centralized in cities or villages of 10,000 inhabitants or over. (See Introduction.) Statistics for Lackawanna, a city having over 10,000 inhabitants, whose manufactures are practically all carried on by a single corporation, are included with those for the sections of the state outside of such cities and villages, so as to avoid the disclosure of individual operations.

ITEM.	Year.	Aggregate.	CITIES AND VILLAGES HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES AND VILLAGES HAVING A POPULATION OF 10,000 AND OVER.	
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.			
			Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.		
Population.....	1910	0, 113, 614	6, 756, 593	74.1	425, 022	4.7	685, 322	7.5	5, 646, 249	62.0	2, 357, 021	25.9
	1900	7, 268, 894	4, 017, 781	67.7	446, 342	6.1	410, 868	5.7	4, 080, 571	55.9	2, 351, 113	32.3
Number of establishments.....	1909	44, 035	34, 436	76.6	1, 015	4.3	2, 494	5.6	30, 027	66.8	10, 499	23.4
	1899	35, 057	26, 467	73.0	2, 073	5.8	1, 822	5.1	22, 572	62.8	9, 490	26.4
Average number of wage earners.	1909	1, 003, 081	850, 875	85.3	67, 243	6.7	117, 101	11.7	672, 531	67.0	147, 106	14.7
	1899	726, 900	605, 358	83.3	72, 177	9.9	70, 462	9.7	402, 719	63.7	121, 551	16.7
Value of products.....	1909	\$3, 309, 400, 192	\$2, 025, 071, 037	86.8	\$170, 359, 067	5.3	\$312, 278, 868	.3	\$2, 433, 433, 102	72.2	\$444, 418, 555	13.2
	1899	1, 871, 830, 872	1, 613, 780, 002	86.2	124, 970, 692	6.7	124, 106, 211	6.6	1, 364, 712, 690	72.9	258, 040, 970	13.8
Value added by manufacture..	1909	1, 512, 585, 850	1, 338, 483, 993	88.5	75, 178, 787	5.0	141, 536, 506	9.4	1, 121, 708, 700	74.2	174, 101, 857	11.5
	1899	853, 453, 686	743, 566, 680	87.1	56, 704, 694	6.7	63, 000, 045	7.4	623, 771, 341	73.1	109, 887, 006	12.9

In 1909, 86.8 per cent of the total value of products for all manufacturing industries in the state was reported from cities and villages having over 10,000 inhabitants, and 85.3 per cent of the average number of wage earners were employed in such cities and villages. While comparatively little change occurred during the decade, the industries located in incorporated places of this size were somewhat more important relatively and those located outside of such places somewhat less important in 1909 than in 1899.

It should be borne in mind, in considering this table, that the increase in the population of certain cities and villages between 1900 and 1910 has caused considerable change in the make-up of some of the groups shown in the table. Eleven places—White Plains, Olean, Port Chester, North Tonawanda, Batavia, Cortland, Ossining, Hudson, Plattsburg, Rensselaer, and Fulton—which had more than 10,000 inhabitants in 1910, had less than that number in 1900, so that for 1899 their statistics are not included with those for incorporated places having a population above that limit. The total value of products reported for these 11 places in 1909 was \$55,595,612, or 1.6 per cent of the total shown for the entire state. If the figures for these places were subtracted from those shown in the table for cities and villages of 10,000 inhabitants or over for 1909 and added to those for the remainder of the state,

the proportion for the former would be 85.2 per cent and for the latter 14.8 per cent of the aggregate. These percentages would therefore represent the proportions of the total value of products in 1909 reported for the same areas for which statistics are given for 1899. In 1900 Jamestown, Amsterdam, Mount Vernon, Niagara Falls, New Rochelle, Poughkeepsie, Newburgh, Watertown, and Kingston were cities of the first group—10,000 to 25,000 inhabitants—but during the following decade the population of each so increased that in 1910 all were cities of the second group—25,000 to 100,000 inhabitants. Albany was a city of the second group in 1900, but by 1910 the increase in the population enabled it to be classed in the third group—100,000 inhabitants or over.

Each of the three groups into which the incorporated places of 10,000 inhabitants or over are divided in the table shows a substantial increase in number of manufacturing establishments, average number of wage earners, value of manufactured products, and value added by manufacture in 1909 as compared with 1899, except that the group comprising the cities and villages having between 10,000 and 25,000 inhabitants shows a decrease in number of establishments and average number of wage earners, due principally to the changes in its composition which have already been referred to.

Of the total value of products reported for the state in 1909, 5.3 per cent was reported from the 29 cities and villages having between 10,000 and 25,000 inhabitants, 9.3 per cent from the 16 cities having between 25,000 and 100,000 inhabitants, 72.2 per cent from the 5 cities having more than 100,000 inhabitants, and 13.2 per cent from the remainder of the state.

The population in 1910 and 1900 of the 51 cities and villages which had 10,000 inhabitants or over in 1910 is given in the following statement:

CITY OR VILLAGE.	1910	1900	CITY OR VILLAGE.	1910	1900
New York City	4,766,883	3,437,202	Dunkirk	17,221	11,616
Buffalo	423,715	352,387	White Plains	15,949	7,899
Rochester	218,140	102,608	Ogdensburg	15,933	12,633
Syracuse	137,240	108,374	Middletown	15,313	14,522
Albany	100,253	94,151	Peekskill	15,245	10,358
Yonkers	79,803	47,631	Glens Falls	15,243	12,613
Troy	76,813	175,057	Watervliet	15,074	14,321
Utica	74,419	50,383	Ithaca	14,802	13,136
Schenectady	72,826	31,082	Olean	14,743	9,462
Binghamton	48,443	39,647	Lackawanna ²	14,549	
Elmira	37,176	35,672	Corning	13,730	11,061
Auburn	34,608	30,345	Hornell	13,617	11,918
Amsterdam	31,267	22,892	Port Chester	12,809	7,440
Mount Vernon	31,207	20,929	Saratoga Springs	12,693	12,409
Niagara Falls	30,919	21,228	Geneva	12,446	10,433
New Rochelle	28,407	19,467	Little Falls	12,273	10,381
Poughkeepsie	27,936	14,720	North Tona-		
Newburgh	27,805	24,029	wanda	11,955	9,069
Watertown	20,730	21,943	Batavia	11,613	9,180
Kingston	25,968	21,696	Cortland	11,604	9,014
Cohoes	24,709	24,555	Ossining	11,480	7,939
Oswego	23,368	23,910	Hudson	11,417	9,523
Gloversville	20,642	22,169	Plattsburg	11,133	8,434
Rome	20,497	18,349	Rensselaer	10,711	7,466
Lockport	17,970	15,343	Fulton	10,480	8,206
		16,581	Johnstown	10,447	10,130

¹ Includes population of parts of the towns of Brunswick, Lansingburg, and North Greenbush, annexed in 1900.
² Incorporated from part of West Seneca town in 1909. Manufacturing statistics for this city can not be shown separately without disclosing individual operations.
³ Includes population of Oswego Falls, annexed in 1902.

The relative industrial importance of these cities and villages is shown in the next table, in which the value of products and the average number of wage earners are shown separately for 1909, 1904, and 1899, so far as figures are available. Lackawanna is not included in that table, for reasons already referred to.

Every city or village for which comparative statistics are available shows an increase in value of products, and all but seven an increase in the number of wage earners, for the decade 1899-1909. For the five-year period 1904-1909 all except five—Dunkirk, Hudson, Ithaca, Watervliet, and Corning—show increases in value of products, and all except nine increases in the number of wage earners. The largest decrease in value of products during this period, \$3,333,596, or 33.6 per cent, took place in Dunkirk, and was the result of the decline in the output of the locomotive works, which constituted the leading industry in that city. The decrease in Hudson was due mainly to the decline in the production of cement, while the loss in Corning was chiefly in the value of foundry and machine-shop products, two plants engaged in this branch of manufacture having moved to Rochester since 1904, and one having gone out of business. The other two cities showing losses in value of products are comparatively small industrial centers whose manufactures cover many industries. The largest

relative increase for the five-year period, 196.9 per cent, was made by Plattsburg, and was due largely to the establishment of an automobile factory there since 1904. The next largest relative gain, 113.9 per cent, was made by Olean, and was due in part to the resumption of business by a steam-railroad repair shop and a petroleum refinery in that city, both of which were idle in 1904. Other noteworthy gains occurred in Little Falls (89.2 per cent), principally as a result of the increased production of hosiery and knit goods and of leather; in Mount Vernon (79.8 per cent), mainly on account of the establishment of new industries since 1904; in Yonkers (76.9 per cent), largely as the result of the gains in the output of refined sugar, carpets and rugs, and fur-felt hats; and in Glens Falls (72.6 per cent), chiefly because of the growth of the manufacture of men's clothing (including shirts) and of cement, and the starting of new industries there since 1904.

CITY OR VILLAGE.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
New York City	554,002	404,716	388,580	\$2,029,602,570	\$1,520,523,000	\$1,172,870,261
<i>Boroughs:</i>						
Manhattan	385,358	330,221	285,265	1,388,408,005	1,043,251,923	810,807,075
Bronx	14,434	(¹)	(¹)	42,680,793	(¹)	(¹)
Brooklyn	123,883	104,995	87,445	417,222,770	373,462,630	313,617,459
Queens	23,891	14,965	10,684	151,680,120	92,941,158	35,427,561
Richmond	6,436	5,595	5,192	29,700,888	16,866,995	13,017,236
Buffalo	51,412	43,567	34,275	218,803,904	147,377,873	105,627,182
Rochester ²	39,108	31,779	28,049	112,676,215	81,109,435	59,668,059
Yonkers	12,711	9,779	7,555	59,333,865	33,548,688	17,303,690
Syracuse ³	18,148	14,554	11,800	40,434,615	34,087,100	20,546,297
Schenectady	14,931	14,310	8,494	38,164,690	33,084,451	17,604,859
Troy	20,020	19,114	22,933	37,079,986	31,860,820	28,738,800
Utica	13,153	10,882	8,898	31,199,261	22,880,317	16,470,327
Niagara Falls	6,089	4,574	2,840	22,681,013	15,015,786	8,540,184
Albany	9,861	8,076	8,106	22,825,702	20,208,715	17,208,090
Amsterdam	10,284	7,993	6,211	22,449,957	15,067,276	10,043,310
Binghamton	6,823	5,636	5,061	17,114,214	13,907,403	10,539,242
Auburn	6,407	6,690	5,895	15,961,022	13,420,893	9,675,060
Cohoes	8,209	6,910	8,273	14,890,722	10,289,822	11,031,169
Johnstown	6,780	5,237	4,528	14,720,240	10,349,762	7,731,083
Rome	3,633	3,209	2,274	4,423,437	8,031,427	5,548,022
Gloversville	5,741	5,048	7,813	14,170,682	9,340,763	6,070,520
Oswego	3,817	3,746	3,457	10,412,888	7,592,125	7,480,637
Olean	2,250	1,175	1,793	10,065,443	4,677,477	6,210,156
Newburgh ²	4,344	4,013	3,074	9,928,140	7,035,527	5,857,742
North Tona-						
wanda	2,824	2,025	1,656	9,599,776	6,496,312	6,293,686
Poughkeepsie	3,290	3,775	2,810	9,160,964	7,206,014	5,670,563
Watertown	3,291	3,020	3,223	8,527,416	7,250,744	6,867,831
Little Falls	4,211	2,621	2,980	8,460,408	4,471,080	4,070,596
Lockport	4,138	2,323	2,369	8,168,459	5,897,980	5,352,669
Elmira ²	3,647	3,208	3,570	8,007,208	6,307,795	6,090,663
Peekskill	2,065	1,957	1,281	7,888,183	7,251,897	1,782,977
Fulton	2,709	(³)	(³)	7,807,114	(³)	(³)
Dunkirk	2,750	3,395	2,533	6,575,664	9,009,260	5,225,996
Johnstown	2,559	2,426	3,095	6,573,528	4,543,272	5,123,370
Cortland	2,369	2,282	1,412	6,394,624	4,574,161	3,083,828
Port Chester	2,122	(³)	(³)	6,243,651	(³)	(³)
Kingston ²	3,281	2,636	2,042	5,985,738	4,811,860	3,952,340
Geneva	1,526	1,580	1,189	5,153,925	4,951,064	2,716,145
Ogdensburg	1,259	929	809	4,947,976	3,067,271	2,260,889
Glens Falls ²	2,774	2,052	3,101	4,876,786	2,824,876	3,093,634
Middletown	1,733	1,596	1,396	4,668,240	3,366,300	2,154,742
Batavia	2,007	1,603	1,573	4,400,774	3,580,400	2,573,132
Hornell	2,183	2,200	1,549	3,647,630	3,102,677	2,430,998
Hudson	1,302	1,524	1,132	3,500,504	4,115,525	2,603,677
Mount Vernon	1,207	670	438	3,376,415	1,877,508	909,718
Plattsburg	2,074	750	621	3,137,523	1,056,702	1,043,136
Corning	2,074	2,355	1,601	3,080,410	3,083,516	2,272,804
Saratoga Springs	833	590	602	2,336,579	1,709,073	1,334,329
Rensselaer	703	(³)	(³)	2,296,089	(³)	(³)
Ithaca	873	873	861	1,919,908	2,080,002	1,500,604
New Rochelle	735	517	198	1,608,724	1,102,817	508,102
Watervliet ²	753	1,111	1,000	1,608,579	1,738,302	1,507,209
Ossining	356	(³)	(³)	1,328,925	(³)	(³)
White Plains	249	(³)	(³)	815,789	(³)	(³)

¹ Included in Manhattan Borough.
² Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
³ Figures not available.

New York City is not only the leading city and the commercial center of the United States, but also the industrial metropolis, holding first place in the total value of manufactured products as well as in many individual industries. In 1909 the population of New York City was practically equal to that of the state of Ohio, and exceeded only by Pennsylvania, Illinois and New York itself, but the value of its manufactured products exceeded that reported by any state except Pennsylvania and New York. This predominance in manufactures is closely connected with the abundant supply of labor, its large immigrant population being in particular an influential factor in causing manufacturing enterprises to locate there. New York City is the chief center of trade between the United States and Europe and also one of the principal distributing points for domestic trade. This commercial importance has also contributed greatly to the high rank of the city in manufacturing industries and to making New York the financial center of the United States, thereby rendering it easy to obtain capital for the establishment and extension of such industries.

Measured by the increase in value of manufactured products, the industrial development of New York City from 1904 to 1909 was greater than from 1899 to 1904, the increase being \$503,169,570, or 33 per cent, for the period 1904-1909, and \$353,652,745, or 30.2 per cent, for the period 1899-1904. During the more recent five-year period the average number of wage earners in the manufacturing industries of the city increased 89,286, or 19.2 per cent, as compared with an increase of 76,130, or 19.6 per cent, for the earlier period. Of the 44,935 manufacturing establishments reported for the state in 1909, 25,938, or 57.7 per cent, were located in this city; the proportion for 1904 was 56 per cent, and for 1899, 53.5 per cent.

The establishments in New York City reported 55.2 per cent of the wage earners and 60.2 per cent of the value of products for the state in 1909, as compared with 54.2 per cent and 61.3 per cent, respectively, in 1904. The value of the city's manufactures represented 9.8 per cent of the total value of manufactured products for the United States in 1909 and 10.3 per cent in 1904. Of the 243 industry classifications employed in compiling the 1909 statistics for manufactures of the state, 217 were represented in this city, 131 of which covered industries with products valued at more than \$1,000,000.

There were 21 industries in New York City in 1909 for which a value of products in excess of \$20,000,000 was reported. For two of these industries, the refining of cane sugar and the smelting and refining of copper, statistics can not be presented separately without disclosing the operations of individual establishments. The other 19 industries, arranged in order of value of products, are indicated in the following tabular state-

ment, which shows the absolute and relative increase in this respect between 1904 and 1909, and also the percentage which the value of products for each industry represents of the corresponding total for the state:

INDUSTRY.	VALUE OF PRODUCTS: 1909.			
	Amount.	Per cent of total for the state.	Increase over 1904.	
			Amount.	Per cent.
Clothing, women's.....	\$266,477,000	97.8	\$98,058,000	58.2
Clothing, men's, including shirts.....	218,411,000	82.1	68,927,000	46.1
Printing and publishing.....	183,509,000	84.6	45,067,000	32.5
Slaughtering and meat packing.....	95,802,000	75.4	39,924,000	71.4
Foundry and machine-shop products.....	69,853,000	41.4	5,916,000	10.2
Tobacco manufactures.....	62,488,000	81.5	11,963,000	23.7
Bread and other bakery products.....	61,904,000	71.8	17,904,000	40.7
Liquors, malt.....	59,469,000	68.8	10,301,000	23.9
Millinery and lace goods.....	51,239,000	98.2	18,896,000	58.4
Fur goods.....	39,874,000	90.5	14,595,000	57.7
Gas, illuminating and heating.....	34,117,000	80.6	4,402,000	14.8
Paint and varnish.....	26,064,000	93.4	3,834,000	16.8
Musical instruments, pianos and organs and materials.....	25,516,000	75.8	6,586,000	34.8
Furnishing goods, men's.....	25,406,000	60.4	8,883,000	53.5
Patent medicines and compounds and druggists' preparations.....	24,984,000	66.9	6,868,000	37.9
Lumber and timber products.....	24,122,000	33.3	2,903,000	13.7
Copper, tin, and sheet-iron products.....	23,303,000	60.6	5,914,000	34.0
Artificial flowers and feathers and plumes.....	21,098,000	99.7	17,132,000	432.0
Confectionery.....	20,062,000	78.6	6,017,000	42.8

It will be noted that for five of the industries included in the preceding tabular statement more than 90 per cent of the total value of products for the state was reported from New York City, the proportion rising as high as 99.7 per cent in the case of the manufacture of artificial flowers and feathers and plumes. In seven other industries the establishments located in New York City contributed more than three-fourths of the total value of products for the state. For only two industries included in the table—the foundry and machine-shop and the lumber industries—was less than one-half of the total value of products for the state reported from New York City.

The leading industries in New York City in 1909 were the making of women's clothing and of men's clothing. There were 5,521 establishments in the two industries combined, which gave employment to an average of 161,400 wage earners and manufactured products valued at \$484,888,000. The printing and publishing industry was next in importance, with 2,883 establishments, 48,322 wage earners, and products valued at \$183,509,000. The value of the products of the three industries just mentioned represented 32.9 per cent of the total value of manufactured products for the city, and they employed 37.9 per cent of the average number of wage earners engaged in all manufacturing industries.

In addition to the 118 industries presented separately for New York City in Table I, page 62, there were 99 others which, for various reasons, are included under the head of "All other industries." Some of these industries were among the most impor-

tant in the city, 36 reporting products in 1909 exceeding \$1,000,000 in value.¹ Of these, 4 reported products valued at \$10,000,000 or over; 6, products between \$5,000,000 and \$10,000,000 in value; and 26, products between \$1,000,000 and \$5,000,000 in value.

Of the five boroughs which form New York City, the Borough of Manhattan is the most important industrially, the value of the manufactured products reported by the establishments within its limits in 1909 constituting 68.4 per cent of the total for the entire city. The proportions of the total contributed by the other boroughs in that year were as follows: Brooklyn, 20.6 per cent; Queens, 7.5 per cent; the Bronx, 2.1 per cent; and Richmond, 1.5 per cent. Each borough made substantial gains from 1904 to 1909 in all items covered by the manufactures statistics, with the single exception that the Borough of Richmond shows a decrease in the number of proprietors and firm members. The relative increase in value of products was much greater in the boroughs of Richmond and Queens, however, than in the city as a whole, while in the Borough of Brooklyn it was considerably less, the percentages of increase being as follows: New York City, 33; Borough of Richmond, 76.1; Borough of Queens, 63.2; Borough of Brooklyn, 11.7; and the boroughs of Manhattan and the Bronx combined, 37.2. The leading industries in the Borough of Manhattan were to a large extent the same as those previously enumerated for the city as a whole, while in the Borough of Brooklyn refined sugar was the leading product; in the Borough of Queens, smelted and refined copper; in the Borough of the Bronx, pianos and organs and materials; and in the Borough of Richmond, soap.

The totals presented for New York City do not include the statistics for three establishments operated by the Federal Government, namely, the United States navy yard, with 3,622 wage earners and products valued at \$7,032,416 in 1909; the United States Naval Clothing Factory, with 96 wage earners and products valued at \$670,198, located in Brooklyn; and the United States Lighthouse Establishment, with 60 wage earners and products, such as illuminating and signal apparatus and machinery and other lighthouse supplies, valued at \$995,745, located at Tompkinsville, in the Borough of Richmond.

¹ These industries are:

Awnings, tents, and sails.
Babbit metal and solder.
Bags, other than paper.
Baking powders and yeast.
Billiard tables and materials.
Chocolate and cocoa products.
Cloth, sponging and refinishing.
Cordials and syrups.
Cork, cutting.
Dentists' materials.
Dyestuffs and extracts.
Flavoring extracts.
Flour-mill and gristmill products.
Glue.
Grease and tallow.
Hat and cap materials.
Hats, straw.
Iron and steel, steel works and rolling mills.

Iron and steel forgings.
Labels and tags.
Lapidary work.
Liquors, distilled.
Mineral and soda waters.
Moving pictures.
Mucilage and paste.
Oil, linseed.
Oil, not elsewhere specified.
Oilcloth and linoleum.
Paper patterns.
Pencils, lead.
Petroleum, refining.
Signs and advertising novelties.
Smelting and refining, copper.
Sugar refining, not including beet sugar.
Tin foil.
Wire.

Buffalo, the second city of importance in the state, shows an increase from 1904 to 1909 of \$71,426,121, or 48.5 per cent, in value of products, and of 7,845, or 18 per cent, in the average number of wage earners. Ranked by value of products, Buffalo was ninth among the cities of the United States in 1909, as compared with eleventh in 1904. In 1909 the average number of wage earners employed in manufacturing industries in Buffalo represented 5.1 per cent, and the value of its manufactured products, 6.5 per cent, of the respective totals for the state.

The leading industries of Buffalo, arranged in the order of value of products, are indicated in the following tabular statement, which shows the absolute and relative increase in this respect between 1904 and 1909, and also the percentage which the value of products for each industry represents of the corresponding total for the state:

INDUSTRY.	VALUE OF PRODUCTS: 1909.			
	Amount.	Per cent of total for the state.	Increase over 1904.	
			Amount.	Per cent.
Slaughtering and meat packing.....	\$25,416,000	20.0	\$9,196,000	56.7
Foundry and machine-shop products..	20,775,000	13.5	0,218,000	42.7
Flour-mill and gristmill products.....	19,942,000	28.6	10,134,000	103.3
Automobiles, including bodies and parts.....	9,598,000	31.0	8,212,000	592.5
Soap.....	8,653,000	36.7	3,860,000	80.5
Printing and publishing.....	7,679,000	3.5	1,233,000	19.1
Malt.....	7,095,000	64.2	4,059,000	133.7

The blast-furnace industry, the manufacture of linseed oil, and the smelting and refining of copper, which are also among the principal industries of the city, are not included in the above table, since statistics for these three industries can not be presented separately without disclosing the operations of individual establishments. More than one-half of the value of the linseed oil manufactured in New York in 1909 was, however, reported from Buffalo.

In addition to the 43 industries shown separately for Buffalo in Table I, page 60, and the 3 industries referred to in the preceding paragraph, there were a number of others which, for reasons similar to those given in the discussion of the corresponding group for the state as a whole (p. 4), are included under the head of "All other industries" in Table I. Some of these industries were among the more important in the city; in fact, 13 reported products between \$1,000,000 and \$5,000,000 in value for 1909.²

Rochester shows an increase in 1909, as compared with 1904, of \$31,566,780, or 33.9 per cent, in value of

² These industries are:

Agricultural implements.
Belting and hose, woven and rubber.
Boxes, fancy and paper.
Cars, steam-railroad, not including operations of railroad companies.
Fertilizers.
Food preparations.
Iron and steel, steel works and rolling mills.

Musical instruments, pianos and organs and materials.
Paint and varnish.
Petroleum, refining.
Rubber goods, not elsewhere specified.
Sulphuric, nitric, and mixed acids.
Wood distillation, not including turpentine and resin.

products, and 7,329, or 23.1 per cent, in the average number of wage earners. It ranked twentieth in 1909 and twenty-first in 1904 among the manufacturing cities of the United States, as measured by value of products. The average number of wage earners and the total value of products reported from this city in 1909 formed 3.9 per cent and 3.3 per cent, respectively, of the corresponding totals for the state. The leading industries of the city, named in the order of the value of their products, are the making of men's clothing, the manufacture of photographic apparatus and materials, the manufacture of boots and shoes, the foundry and machine-shop industry, and printing and publishing. The larger part of the photographic apparatus and materials manufactured in New York are made in Rochester, while 27.9 per cent of the value of products for the boot and shoe industry of the state in 1909, over one-half of that for the optical-goods industry, and 19.4 per cent of that for the button industry were reported from this city.

In addition to the 40 industries shown separately for Rochester in Table I, page 75, there were 12 other industries having a value of products in excess of \$500,000 in 1909 which are included under the head of "All other industries,"¹ some of these being among the most important industries of the city.

The manufacturing activities of Yonkers were confined largely to five industries which, named in order of their relative importance as measured by value of products, were as follows: Sugar refining, not including beet sugar; carpets and rugs, other than rag; fur-felt hats; foundry and machine-shop products; and rubber goods, "not elsewhere specified." With the exception of the foundry and machine-shop industry, less than three establishments were reported for each of these industries, so that their statistics can not be presented separately without disclosing the operations of individual establishments.

The factories of Syracuse in 1909 showed an increase over 1904 of 3,594, or 24.7 per cent, in the number of wage earners, and of \$14,747,506, or 42.5 per cent, in value of products. This city has a considerable number of important industries, 14 of which had a value of products in 1909 exceeding \$1,000,000. The most important of these were the manufacture of automobiles, the foundry and machine-shop industry, the manufacture of typewriters and typewriter supplies, and the making of men's clothing.

Schenectady owes its importance largely to the manufacture of electrical machinery, apparatus, and

supplies and the construction of steam-railroad locomotives. Three establishments were reported for the former industry and one for the latter, but the statistics for these industries can not be presented separately without disclosing the operations of individual establishments. It may be stated, however, that these two industries contributed the bulk of the total value of products shown for all manufacturing industries in the city combined. The city as a whole shows an increase in 1909, as compared with 1904, of \$5,080,248, or 15.4 per cent, in value of products and 615, or 4.3 per cent, in the average number of wage earners.

Troy, which shows an increase for the five years from 1904 to 1909 of \$6,119,157, or 19.2 per cent, in value of products, and of 906, or 4.7 per cent, in the average number of wage earners, owes its importance in manufactures mainly to the collar and cuff branch of the men's furnishing-goods industry, the men's clothing industry, and the output of the steel works and rolling mills, breweries, foundries and machine shops, and knitting mills. These 6 industries combined reported products in 1909 valued at \$29,252,466, or 77 per cent of the total value of products for the city. Troy is known throughout the country as a center for the manufacture of collars and cuffs. The 21 establishments which were engaged in this branch of manufacturing in Troy during 1909 reported products valued at \$13,638,745, which represented 85.8 per cent of the total value of such products for the state and 79.2 per cent of the total for the United States.

Utica is one of the leading cities of the state in the manufacture of textiles. During 1909 there were 15 knitting mills, 3 cotton mills, 1 worsted mill, and 1 cordage and twine mill in operation in the city, which together gave employment to an average of 7,725 wage earners and reported products valued at \$15,977,371, representing 58.7 per cent and 51.2 per cent of the respective totals for the city. Other industries of particular importance, as measured by value of products, were the making of men's clothing and the foundry and machine-shop, brewery, and lumber industries. For all industries combined the increases in 1909 over 1904 were \$8,318,944, or 36.4 per cent, in value of products, and 2,271, or 20.9 per cent, in average number of wage earners.

Niagara Falls is the center of the chemical industry in the state, the value of its chemical products in 1909 amounting to \$11,996,726, which was 33.9 per cent of the total for the industry in the state, and also represented 41.9 per cent of the total value of products for all manufacturing industries of the city combined. Furthermore, Niagara Falls far outranks all other cities of the United States in the manufacture of chemical substances by electrolytic processes, this branch of the chemical industry having developed very rapidly as a

¹ These industries, named in order of the value of products, are:

Photographic apparatus and materials.
Petroleum, refining.
Optical goods.
Copper, tin, and sheet-iron products.
Canning and preserving.
Stationery goods, not elsewhere specified.
Gas, illuminating and heating.

Cordials and sirups.
Automobiles, including bodies and parts.
Blacking and cleansing and polishing preparations.
Leather goods.
Hosiery and knit goods.

result of the utilization of the water power of the falls for the generation of electric current. Other industries of importance in 1909 were the manufacture of food preparations, the flour-mill and gristmill industry, and the manufacture of paper and wood pulp, silverware and plated ware, and emery and other abrasive wheels.

Albany shows an increase in 1909 over 1904 of \$2,616,987, or 12.9 per cent, in value of products, and 885, or 9.9 per cent, in the average number of wage earners. The manufacturing interests of this city include a considerable number of industries, the most important of which were printing and publishing, breweries, steam-railroad repair shops, foundries and machine shops, bakeries, and hosiery and knitting mills.

Gloversville is the center of the leather glove and mitten industry not only in the state but also in the United States. Of the 225 establishments reported for the state in 1909, 87 were located in this city, the total value of their products being \$8,869,706, or 61.9 per cent of the total for the industry in the state and 62.6 per cent of the total value reported for all industries in the city. Johnstown, with 54 establishments manufacturing leather gloves and mittens in 1909, reported a product valued at \$3,258,362, which was nearly one-half the amount reported for all the manufacturing industries of the city.

The following tabular statement shows the principal industry or industries, as measured by value of products, in each of the remaining cities and villages having 10,000 inhabitants or over:

CITY OR VILLAGE.	Principal industry.	CITY OR VILLAGE.	Principal industry.
Amsterdam.....	Carpets and rugs, other than rag.	Kingston.....	Tobacco manufactures.
Binghamton.....	Hosiery and knit goods.	Geneva.....	Malt.
Anburn.....	Tobacco manufactures.	Ogdensburg.....	Lumber and timber products.
Cohoes.....	Agricultural implements.	Glens Falls.....	Flour-mill and gristmill products.
Jamestown.....	Cordage and twine.	Middletown.....	Clothing, men's, including shirts.
Rome.....	Hosiery and knit goods.		Cars and general shop construction and repairs by steam-railroad companies.
Oswego.....	Worsted goods.		Condensed milk.
	Furniture and refrigerators.	Batavia.....	Leather, tanned, curried, and finished.
	Brass and bronze products.	Hornell.....	Agricultural implements.
	Matches.		Cars and general shop construction and repairs by steam-railroad companies.
	Starch.	Hudson.....	Hosiery and knit goods.
Olean.....	Petroleum, refining.	Mount Vernon.....	Brass and bronze products.
Newburgh.....	Clothing, men's, including shirts.	Plattsburg.....	Automobiles.
North Tonawanda.....	Lumber and timber products.	Corning.....	Glass.
	Iron and steel, blast furnaces.	Saratoga Springs.....	Druggists' preparations.
Poughkeepsie.....	Dairymen's, poultryers', and apiarists' supplies.	Rensselaer.....	Felt goods.
Watertown.....	Foundry and machine-shop products.	Ithaca.....	Printing and publishing.
Little Falls.....	Hosiery and knit goods.	New Rochelle.....	Printing and publishing.
Lockport.....	Flour-mill and gristmill products.	Watervliet.....	Foundry and machine-shop products.
Elmira.....	Foundry and machine-shop products.		Collars and cuffs.
	Lumber and timber products.		Patent medicines and compounds.
Peekskill.....	Liquors, distilled.	Ossining.....	Planting mills.
Fulton.....	Worsted goods.	White Plains.....	Bread and other bakery products.
Dunkirk.....	Locomotives, not made by railroad companies.		
Cortland.....	Iron and steel, steel works and rolling mills.		
Port Chester.....	House-furnishing goods, not elsewhere specified.		

The totals presented for Watervliet in Table I do not include the statistics for the arsenal in that city, operated by the Federal Government. In 1909 this plant employed an average of 308 wage earners and manufactured products valued at \$619,124.

Lackawanna is the center of the iron and steel industry in the state. The manufactures of the city are almost exclusively confined to that industry, which is mainly represented by two establishments, and for this reason the statistics for the city can not be presented separately, for to do so would disclose the operations of these establishments.

Character of ownership.—The table on page 23 has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this table and the one following. The most important distinction shown is that be-

tween corporate and all other forms of ownership. For all industries combined, 20.8 per cent of the total number of establishments were in 1909 under corporate ownership, as against 79.2 per cent under all other forms. The corresponding figures for 1904 were 16.4 per cent and 83.6 per cent, respectively. Of the total value of products, however, the establishments operated by corporations reported 62.6 per cent in 1909, as against 37.4 per cent reported by those under all other forms of ownership, while in 1904 the corresponding figures were 56.1 per cent and 43.9 per cent, respectively. The greatest decrease in relative numerical importance from 1904 to 1909 is shown for establishments operated by individuals, which represented 56.5 per cent of the total number of establishments in 1909, as compared with 59.4 per cent in 1904. Among the industries given separately in the table, the gas industry shows the greatest proportion of the total value of products reported by establishments under the corporate form of ownership, namely, 99.9 per cent. The largest percentage for establishments operated by firms was 55.7 per cent, in the manufacture of men's clothing, and for those owned by individuals, 33.4 per cent, in the carriage and wagon industry.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:									
1909.....	44,935	1,003,081	\$3,369,490,192	\$1,512,585,850	Clothing, women's, 1909.....	3,083	98,104	\$272,517,792	\$124,375,317
1904.....	37,194	856,947	2,488,345,579	1,139,742,293	Individual.....	1,470	33,552	80,237,856	40,725,856
Individual:					Firm.....	1,344	48,436	137,676,990	62,150,256
1909.....	25,407	194,240	552,350,324	264,480,758	Corporation ¹	269	16,116	45,602,946	21,499,205
1904.....	22,081	186,317	443,142,687	215,980,870	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	47.7	34.2	32.7	32.7
1909.....	0,822	218,203	608,928,348	304,973,706	Firm.....	43.6	49.4	50.5	50.0
1904.....	8,737	214,520	611,741,427	279,059,847	Corporation ¹	8.7	16.4	16.7	17.3
Corporation:					Confectionery, 1909.....	249	8,570	\$25,540,394	\$9,886,318
1909.....	0,345	589,771	2,108,026,670	940,082,598	Individual.....	105	2,043	6,101,430	1,888,700
1904.....	6,086	454,396	1,396,924,211	642,475,934	Firm.....	58	1,922	6,203,654	2,229,893
Other:					Corporation.....	86	4,605	13,235,310	5,777,725
1909.....	361	1,767	10,184,850	3,048,878	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	290	1,714	6,537,254	2,216,636	Individual.....	42.2	23.8	23.9	19.1
Per cent of total:					Firm.....	23.3	22.4	24.3	22.5
1909.....	100.0	100.0	100.0	100.0	Corporation.....	34.5	53.7	51.8	58.4
1904.....	100.0	100.0	100.0	100.0	Copper, tin, and sheet-iron products, 1909.....	686	14,689	\$38,452,127	\$17,417,341
Individual:					Individual.....	357	2,176	5,723,130	3,184,499
1909.....	56.5	19.3	16.4	17.5	Firm.....	144	1,647	3,014,233	2,151,314
1904.....	59.4	21.7	17.8	19.0	Corporation.....	185	10,866	28,814,764	12,101,528
Firm:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	21.9	21.7	20.7	20.2	Individual.....	52.0	14.8	14.9	18.2
1904.....	23.5	25.0	25.8	24.5	Firm.....	21.0	11.2	10.2	12.4
Corporation:					Corporation.....	27.0	74.0	74.9	69.5
1909.....	20.8	58.7	62.6	62.2	Flour-mill and gristmill products, 1909.....	983	2,990	\$69,802,278	\$9,331,977
1904.....	16.4	53.0	56.1	56.4	Individual.....	591	771	12,859,782	1,929,975
Other:					Firm.....	271	468	8,920,954	1,312,740
1909.....	0.8	0.2	0.3	0.2	Corporation.....	121	1,751	48,012,542	6,089,262
1904.....	0.8	0.2	0.3	0.2	Per cent of total.....	100.0	100.0	100.0	100.0
Agricultural implements, 1909.....	57	5,717	\$14,970,980	\$8,556,330	Individual.....	60.1	25.8	18.4	20.7
Individual.....	19	145	271,450	100,578	Firm.....	27.6	15.7	12.8	14.1
Firm.....	10	53	245,308	158,821	Corporation.....	12.3	58.6	68.8	65.3
Corporation.....	28	5,519	14,454,222	8,236,931	Food preparations, 1909.....	177	3,023	\$17,324,076	\$7,663,823
Per cent of total.....	100.0	100.0	100.0	100.0	Individual.....	88	263	1,630,683	629,713
Individual.....	33.3	2.5	1.8	1.9	Firm.....	36	589	2,006,644	933,983
Individual.....	17.5	0.9	1.6	1.9	Corporation.....	53	2,171	13,686,749	6,100,127
Firm.....	17.5	0.9	1.6	1.9	Per cent of total.....	100.0	100.0	100.0	100.0
Corporation.....	49.1	96.5	96.5	96.3	Individual.....	49.7	8.7	9.4	8.2
Automobiles, including bodies and parts, 1909.....	113	9,861	\$30,970,527	\$16,071,425	Individual.....	20.3	19.5	11.6	12.2
Individual.....	23	413	1,003,804	604,838	Firm.....	20.9	71.8	79.0	79.6
Firm.....	17	258	686,829	382,063	Foundry and machine-shop products, 1909.....	1,872	64,066	\$154,370,346	\$82,749,146
Corporation.....	73	9,190	29,288,894	15,083,624	Individual.....	731	6,809	14,728,284	8,870,449
Per cent of total.....	100.0	100.0	100.0	100.0	Firm.....	329	6,047	12,705,821	7,947,174
Individual.....	20.4	4.2	3.2	3.8	Corporation.....	812	51,210	126,936,241	75,925,523
Individual.....	15.0	2.6	2.2	2.4	Per cent of total.....	100.0	100.0	100.0	100.0
Firm.....	15.0	2.6	2.2	2.4	Individual.....	39.0	10.6	9.5	9.6
Corporation.....	64.6	93.2	94.5	93.0	Firm.....	17.6	9.4	8.2	8.6
Boots and shoes, including cut stock and findings, 1909.....	299	21,627	\$48,185,914	\$19,211,403	Corporation.....	43.4	79.9	82.2	81.9
Individual.....	148	2,602	5,359,000	2,200,683	Furnishing goods, men's, 1909.....	375	18,186	\$42,197,117	\$20,620,777
Firm.....	61	7,155	17,534,152	6,300,057	Individual.....	201	2,474	8,180,605	3,246,180
Corporation.....	87	11,870	25,292,102	10,554,663	Firm.....	118	4,457	13,918,011	5,963,274
Per cent of total.....	100.0	100.0	100.0	100.0	Corporation.....	56	11,255	20,098,441	11,411,323
Individual.....	50.0	12.0	11.1	11.9	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	20.6	33.1	36.4	33.1	Individual.....	53.6	13.6	19.4	15.7
Firm.....	29.4	54.9	52.5	54.9	Firm.....	31.5	24.5	33.0	28.9
Corporation.....	20.4	54.9	52.5	54.9	Corporation.....	14.9	61.9	47.6	55.3
Carriages and wagons and materials, 1909.....	610	6,116	\$13,292,531	\$7,483,813	Gas, illuminating and heating, 1909.....	141	6,422	\$42,346,726	\$27,328,320
Individual.....	414	2,116	4,434,217	2,601,493	Individual.....	8	7	18,405	7,875
Firm.....	131	916	1,605,750	1,087,207	Individual.....	130	6,413	42,321,805	27,319,387
Corporation.....	65	3,084	7,252,564	3,795,113	Corporation ²	3	2	6,516	1,058
Per cent of total.....	100.0	100.0	100.0	100.0	Other.....	3	2	6,516	1,058
Individual.....	67.9	34.6	33.4	35.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	21.5	15.0	12.1	14.1	Individual.....	5.7	0.1	(³)	(³)
Firm.....	10.7	50.4	54.6	50.3	Corporation ²	92.2	99.9	99.0	99.0
Corporation.....	10.7	50.4	54.6	50.3	Other.....	2.1	(³)	(³)	(³)
Chemicals, 1909.....	74	5,746	\$35,346,072	\$15,637,518	Hats, fur-felt, 1909.....	44	5,013	\$10,218,660	\$4,812,395
Individual.....	12	105	740,025	303,022	Individual.....	24	423	1,558,550	559,556
Firm.....	4	12	74,218	46,259	Firm.....	9	641	1,630,879	852,768
Corporation.....	58	5,629	34,522,829	15,288,237	Corporation.....	11	3,949	7,029,231	3,400,071
Per cent of total.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	16.2	1.8	2.1	1.9	Individual.....	54.5	8.4	15.3	11.6
Individual.....	5.4	0.2	0.2	0.3	Firm.....	20.5	12.8	18.0	17.7
Firm.....	78.4	98.0	97.7	97.8	Corporation.....	25.0	78.8	68.8	70.7
Corporation.....	78.4	98.0	97.7	97.8	Clothing, men's, including shirts, 1909.....	2,983	91,363	\$266,075,427	\$130,748,784
Individual.....	1,648	30,630	51,761,642	32,264,669	Individual.....	1,119	37,820	148,106,755	65,952,806
Firm.....	1,119	37,820	148,106,755	65,952,806	Firm.....	216	22,913	66,207,030	32,531,309
Corporation.....	216	22,913	66,207,030	32,531,309	Corporation.....	216	22,913	66,207,030	32,531,309
Per cent of total.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	55.2	33.5	19.5	24.7	Individual.....	54.5	8.4	15.3	11.6
Individual.....	37.5	41.4	55.7	50.4	Firm.....	20.5	12.8	18.0	17.7
Firm.....	37.5	41.4	55.7	50.4	Corporation.....	25.0	78.8	68.8	70.7
Corporation.....	7.2	25.1	24.9	24.9					

¹ Includes the group "Other," to avoid disclosure of individual operations.
² Includes the group "Firm," to avoid disclosure of individual operations.
³ Less than one-tenth of 1 per cent.

MANUFACTURES—NEW YORK.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Hosiery and knit goods, 1909					Musical instruments, pianos and organs and materials, 1909				
Individual	360	35,950	\$67,130,296	\$28,452,925	Individual	184	11,938	\$33,679,953	\$16,185,206
Firm	131	3,034	7,360,501	3,012,405	Firm	55	1,744	5,744,849	2,462,897
Corporation	73	7,231	13,969,732	6,087,870	Corporation	26	1,612	2,861,525	1,719,915
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	36.4	10.1	11.0	10.6	Individual	29.9	14.6	17.1	15.2
Firm	20.3	20.1	20.8	21.4	Firm	14.1	13.5	8.5	10.6
Corporation	43.3	69.8	68.2	68.0	Corporation	56.0	71.9	73.4	74.2
Leather goods, 1909					Paint and varnish, 1909				
Individual	483	7,586	\$20,996,602	\$9,364,501	Individual	147	3,047	\$28,559,474	\$10,604,108
Firm	272	2,223	5,883,470	2,501,382	Firm	36	402	3,799,659	1,226,900
Corporation	137	2,763	7,812,400	3,414,884	Corporation	17	196	2,047,838	813,220
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	56.3	20.3	28.0	26.7	Individual	24.5	13.2	13.3	11.5
Firm	28.4	36.4	37.2	36.5	Firm	11.6	6.4	7.2	7.6
Corporation	15.3	34.3	34.8	36.8	Corporation	63.9	80.4	79.5	80.9
Leather, tanned, curried, and finished, 1909					Paper and wood pulp, 1909				
Individual	109	5,688	\$27,642,383	\$6,701,650	Individual	178	12,073	\$48,859,610	\$17,092,327
Firm	41	1,133	3,783,188	1,188,789	Firm	21	273	957,261	371,027
Corporation	35	1,728	9,202,647	1,802,428	Corporation	16	280	975,251	376,378
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	87.6	19.9	13.7	17.7	Individual	11.8	2.3	2.0	2.2
Firm	32.1	30.4	33.3	28.2	Firm	9.0	2.3	2.0	2.2
Corporation	30.3	49.7	53.0	54.0	Corporation	79.2	95.4	96.0	95.6
Liquors, malt, 1909					Printing and publishing, 1909				
Individual	184	8,731	\$77,720,045	\$58,837,018	Individual	4,426	63,120	\$216,946,482	\$180,452,222
Firm	24	1,145	10,089,795	8,069,890	Firm	2,309	10,736	34,420,640	25,878,131
Corporation	17	223	1,286,170	867,085	Corporation	648	6,683	18,983,100	13,606,695
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	13.0	13.1	14.1	13.7	Individual	52.2	17.0	15.9	16.1
Firm	9.2	2.6	1.7	1.5	Firm	14.6	10.6	8.8	8.5
Corporation	77.7	84.3	84.2	84.8	Corporation	30.3	71.4	74.2	74.3
Lumber and timber products, 1909					Slaughtering and meat packing, 1909				
Individual	2,263	27,471	\$72,529,813	\$30,824,722	Individual	238	6,110	\$127,130,051	\$16,961,817
Firm	1,440	7,141	16,730,004	8,258,813	Firm	146	949	17,134,693	2,191,463
Corporation	409	5,522	13,731,626	5,952,774	Corporation	50	937	25,164,420	2,610,493
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	63.9	26.0	23.1	26.8	Individual	61.3	15.5	13.5	12.9
Firm	20.7	20.1	18.9	19.3	Firm	21.0	15.3	10.8	14.8
Corporation	15.4	53.9	58.0	53.9	Corporation	17.6	69.1	66.7	72.3
Malt, 1909					Soap, 1909				
Individual	32	524	\$11,051,078	\$2,178,636	Individual	67	2,976	\$23,582,077	\$7,970,595
Firm	12	106	1,174,874	318,155	Firm	27	423	2,932,231	963,718
Corporation	3	9	169,193	31,170	Corporation	9	310	1,942,507	711,531
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	37.5	20.2	10.6	14.6	Individual	40.3	14.2	12.4	12.1
Firm	9.4	1.7	1.4	1.4	Firm	13.4	10.4	8.2	8.9
Corporation	53.1	78.1	87.9	84.0	Corporation	46.3	75.4	79.3	79.0
Marble and stone work, 1909					Tobacco manufactures, 1909				
Individual	655	6,939	\$17,921,285	\$10,845,761	Individual	3,371	30,019	\$76,061,552	\$45,320,146
Firm	375	1,968	4,968,149	3,043,484	Firm	2,926	9,160	18,038,101	11,024,114
Corporation	174	1,461	3,978,056	2,523,605	Corporation	325	6,603	16,464,570	6,502,638
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	57.3	28.4	27.7	28.1	Individual	86.8	30.5	23.5	24.3
Firm	26.6	21.1	22.2	23.3	Firm	9.6	22.0	21.5	21.1
Corporation	16.2	50.6	50.1	48.7	Corporation	3.6	47.5	55.0	54.6
Millinery and lace goods, 1909					Woolen, worsted, and felt goods, and wool hats, 1909				
Individual	931	21,078	\$52,106,200	\$24,971,417	Individual	64	9,460	\$23,739,421	\$8,995,393
Firm	461	6,773	16,495,172	8,070,934	Firm	14	96	200,029	104,695
Corporation	342	9,565	22,996,632	10,964,278	Corporation	17	1,433	3,773,116	1,604,913
Per cent of total	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
Individual	49.5	32.1	31.7	32.3	Individual	21.9	1.0	0.8	1.2
Firm	36.7	45.4	44.1	43.9	Firm	26.6	15.1	15.9	16.7
Corporation	13.7	22.5	24.2	23.8	Corporation	51.6	83.8	83.3	82.1

* Includes the group "Other," to avoid disclosure of individual operations.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the table on page 25 groups the establishments according to the value of their products. The table also shows the average size of establish-

ments for all industries combined and for important industries separately as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown in the table for the last two censuses, while for the industries separately the figures given are confined to the census of 1909.

Main table containing multiple columns: Industry and Value of Products, Number of establishments, Average number of wage earners, Value of products, Value added by manufacture. It includes detailed data for various industries like Chemicals, Clothing, Confectionery, etc., across years 1900 and 1904.

1 Loss.

2 Less than one-tenth of 1 per cent.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Paper and wood pulp, 1909.					Soap, 1909.				
Less than \$5,000.....	178	12,073	\$48,859,010	\$17,092,327	Less than \$5,000.....	67	2,976	\$23,582,977	\$7,970,595
\$5,000 and less than \$20,000.....	9	17	28,036	13,578	\$5,000 and less than \$20,000.....	18	16	49,280	25,763
\$20,000 and less than \$100,000.....	10	85	134,463	63,779	\$20,000 and less than \$100,000.....	15	44	174,857	78,843
\$100,000 and less than \$1,000,000.....	58	1,136	3,255,305	1,350,940	\$100,000 and less than \$1,000,000.....	18	179	1,064,936	390,679
\$1,000,000 and over.....	90	7,400	28,781,527	10,160,593	\$1,000,000 and over.....	10	521	4,303,259	1,362,516
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....	6	2,216	17,990,645	6,112,794
Less than \$5,000.....	5.1	0.1	0.1	0.1	Less than \$5,000.....	20.9	0.5	0.2	0.3
\$5,000 and less than \$20,000.....	5.6	0.7	0.3	0.4	\$5,000 and less than \$20,000.....	22.4	1.5	0.7	1.0
\$20,000 and less than \$100,000.....	32.6	9.4	6.7	7.9	\$20,000 and less than \$100,000.....	20.9	6.0	4.5	4.9
\$100,000 and less than \$1,000,000.....	50.6	61.3	58.9	59.4	\$100,000 and less than \$1,000,000.....	14.9	17.5	18.2	17.1
\$1,000,000 and over.....	6.2	28.5	31.1	32.2	\$1,000,000 and over.....	9.0	74.5	76.3	76.7
Average per establishment.....	68		\$274,492	\$96,024	Average per establishment.....	44		\$351,985	\$118,964
Printing and publishing, 1909.					Tobacco manufactures, 1909.				
Less than \$5,000.....	4,426	63,120	\$216,946,482	\$160,452,222	Less than \$5,000.....	3,371	30,019	\$76,661,552	\$45,320,146
\$5,000 and less than \$20,000.....	1,559	1,881	4,074,160	3,176,631	\$5,000 and less than \$20,000.....	2,468	1,802	4,723,167	3,015,897
\$20,000 and less than \$100,000.....	1,572	7,003	15,845,601	12,497,692	\$20,000 and less than \$100,000.....	596	2,854	5,408,991	3,867,618
\$100,000 and less than \$1,000,000.....	930	14,132	40,601,847	30,284,593	\$100,000 and less than \$1,000,000.....	208	4,405	8,392,833	5,008,237
\$1,000,000 and over.....	333	25,031	90,743,703	66,924,150	\$1,000,000 and over.....	88	11,795	25,424,502	14,579,257
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....	11	9,103	32,712,020	19,289,137
Less than \$5,000.....	35.2	3.0	1.9	2.0	Less than \$5,000.....	73.2	6.2	6.2	6.7
\$5,000 and less than \$20,000.....	35.5	11.2	7.3	7.8	\$5,000 and less than \$20,000.....	17.7	9.5	7.1	7.4
\$20,000 and less than \$100,000.....	21.0	22.4	18.7	18.9	\$20,000 and less than \$100,000.....	6.2	14.7	10.9	11.2
\$100,000 and less than \$1,000,000.....	7.5	41.1	41.8	41.7	\$100,000 and less than \$1,000,000.....	2.6	39.3	33.2	32.2
\$1,000,000 and over.....	0.7	22.4	30.3	29.6	\$1,000,000 and over.....	0.3	30.3	42.7	42.6
Average per establishment.....	14		\$49,016	\$36,252	Average per establishment.....	80		\$22,741	\$13,444
Slaughtering and meat packing, 1909.					Woolen, worsted, and felt goods, and wool hats, 1909.				
Less than \$5,000.....	238	6,110	\$127,130,051	\$10,961,817	Less than \$5,000.....	64	9,480	\$23,739,421	\$8,995,393
\$5,000 and less than \$20,000.....	20	12	43,462	17,070	\$5,000 and less than \$20,000.....	10	11	19,004	10,061
\$20,000 and less than \$100,000.....	53	86	620,413	161,251	\$20,000 and less than \$100,000.....	3	33	35,739	18,058
\$100,000 and less than \$1,000,000.....	67	295	3,096,392	651,420	\$100,000 and less than \$1,000,000.....	16	415	732,866	327,360
\$1,000,000 and over.....	74	1,259	25,250,030	3,143,123	\$1,000,000 and over.....	30	4,665	12,054,411	4,768,879
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....	5	4,331	10,290,741	3,871,035
Less than \$5,000.....	8.4	0.2	(¹)	0.1	Less than \$5,000.....	15.6	0.1	0.1	0.1
\$5,000 and less than \$20,000.....	22.3	1.4	0.5	1.0	\$5,000 and less than \$20,000.....	4.7	0.4	0.2	0.2
\$20,000 and less than \$100,000.....	28.2	4.8	2.4	3.8	\$20,000 and less than \$100,000.....	25.0	4.4	3.1	3.6
\$100,000 and less than \$1,000,000.....	31.1	20.0	19.9	18.5	\$100,000 and less than \$1,000,000.....	46.9	49.3	53.3	53.0
\$1,000,000 and over.....	10.1	73.0	77.2	70.6	\$1,000,000 and over.....	7.8	45.8	43.4	43.0
Average per establishment.....	26		\$534,160	\$71,298	Average per establishment.....	148		\$370,928	\$140,553

¹ Less than one-tenth of 1 per cent.

This table shows that in 1909 of the 44,935 establishments only 470, or 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 255,383 wage earners, or 25.4 per cent of the total number in all establishments, and reported 37 per cent of the total value of products and 31 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than \$5,000—constituted a considerable proportion (27.3 per cent) of the total number of establishments, but the value of their products amounted to only nine-tenths of 1 per cent of the total. The great bulk of the manufacturing was done in establishments having products valued at \$100,000 or over.

It will be seen from the above table that during the five years from 1904 to 1909 there was a considerable increase in the relative importance, as measured by value of products, of the largest establishments—those reporting products valued at \$1,000,000 or over—and a slight decrease in that of all other classes.

The fact that the average value of products per establishment increased from \$66,902 to \$74,986, and the average value added by manufacture from \$30,643 to \$33,662, can not be taken as in itself indicating a tendency toward concentration. These increased

values may be, and probably are, due in part to the increase that has taken place in the prices of commodities. The average number of wage earners per establishment decreased from 23 to 22.

This table shows further that when the size of the establishments is measured by the average value of products per establishment, the chemical, brewery, and slaughtering and meat-packing industries were conducted in comparatively large establishments, while the carriage and wagon, marble and stone work, tobacco manufactures, and lumber industries were conducted in rather small establishments.

Of the industries shown separately, slaughtering and meat packing had the largest establishments, with an average value of products amounting to \$534,160, and the carriage and wagon industry the smallest, with products valued on the average at \$21,791 per establishment.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The table on the following page shows, for 1909, such a classification for all industries combined and for 58 important industries individually, and gives not only the number of establishments in each group, but also the average number of wage earners employed.

MANUFACTURES—NEW YORK.

INDUSTRY.	ESTABLISHMENTS EMPLOYING—									
	Total.	No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
NUMBER OF ESTABLISHMENTS.										
All industries	44,935	4,067	20,799	10,524	5,057	2,050	1,253	384	143	58
Agricultural implements.....	57	2	22	9	13	4	1	2	3	1
Artificial flowers and feathers and plumes.....	319	7	72	115	87	23	14	1	.....	.....
Automobiles, including bodies and parts.....	113	2	27	29	24	13	10	3	2	3
Boots and shoes, including cut stock and findings.....	296	10	94	72	39	29	30	11	10	1
Boxes, fancy and paper.....	315	1	42	115	94	39	22	1	.....	.....
Brass and bronze products.....	247	12	110	77	20	12	11	4	1	.....
Bread and other bakery products.....	3,978	291	2,991	595	59	26	10	5	.....	1
Butter, cheese, and condensed milk.....	1,552	234	1,249	42	21	5	1	.....	.....	.....
Canning and preserving.....	790	9	579	129	47	17	8	.....	1	.....
Carpets and rugs, other than rag.....	16	.....	.....	4	1	4	1	2	1	3
Carriages and wagons and materials.....	610	55	349	154	26	18	7	1	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	69	.....	3	12	10	13	11	8	11	1
Chemicals.....	74	.....	22	17	15	8	8	2	1	1
Clothing, men's, including shirts.....	2,983	93	640	1,140	755	216	92	33	12	2
Clothing, women's.....	3,083	44	494	1,145	895	324	154	25	2	.....
Coffee and spice, roasting and grinding.....	90	8	36	35	7	1	2	.....	1	.....
Confectionery.....	240	9	103	61	37	16	17	4	2	.....
Copper, tin, and sheet-iron products.....	650	22	364	189	55	29	15	8	3	1
Cordage and twine and jute and linen goods.....	16	.....	3	.....	2	1	5	2	1	2
Cotton goods, including cotton small wares.....	47	1	2	9	8	8	9	5	2	3
Electrical machinery, apparatus, and supplies.....	217	4	86	64	28	16	15	1	1	2
Flour-mill and gristmill products.....	983	150	762	47	13	3	1	.....	1	.....
Food preparations.....	177	16	105	31	9	8	7	1	.....	.....
Foundry and machine-shop products.....	1,872	81	701	549	268	138	88	32	11	4
Fur goods.....	893	.....	428	292	72	13	5	.....	.....	.....
Furnishing goods, men's.....	375	19	125	125	55	21	19	6	4	1
Furniture and refrigerators.....	676	14	237	194	120	70	31	10	.....	.....
Gas and electric fixtures and lamps and reflectors.....	183	3	64	52	35	13	14	2	.....	.....
Gas, illuminating and heating.....	141	27	56	27	12	5	8	4	.....	2
Gloves and mittens, leather.....	225	17	78	69	23	23	11	4	.....	.....
Hats, fur-felt.....	44	4	13	8	9	4	.....	4	1	1
Hosiery and knit goods.....	360	7	44	107	57	44	68	21	9	3
Iron and steel, blast furnaces.....	9	.....	.....	.....	.....	3	2	3	1	.....
Iron and steel, steel works and rolling mills.....	25	.....	2	1	3	4	4	6	2	3
Jewelry.....	479	53	228	137	45	12	2	2	.....	.....
Leather goods.....	483	20	219	144	70	21	7	2	.....	.....
Leather, tanned, curried, and finished.....	109	4	21	23	28	18	12	3	.....	.....
Liquors, malt.....	184	2	15	47	67	35	15	3	.....	.....
Lumber and timber products.....	2,263	105	1,361	506	177	68	37	7	2	.....
Malt.....	32	.....	10	16	.....	4	.....	.....	.....	.....
Marble and stone work.....	655	37	382	145	69	16	6	.....	.....	.....
Millinery and lace goods.....	931	30	244	364	197	65	29	2	.....	.....
Musical instruments, pianos and organs and materials.....	184	1	32	51	40	27	23	7	3	.....
Oil, linseed.....	6	.....	.....	1	1	2	1	1	.....	.....
Paint and varnish.....	147	2	78	31	19	9	8	.....	.....	.....
Paper and wood pulp.....	178	.....	11	44	52	38	24	8	1	.....
Paper goods, not elsewhere specified.....	107	3	36	32	14	9	9	4	.....	.....
Patent medicines and compounds and druggists' preparations.....	743	156	423	109	37	13	5	.....	.....	.....
Photographic apparatus and materials.....	42	2	16	10	8	3	2	.....	.....	.....
Printing and publishing.....	4,426	1,261	1,771	885	286	111	72	25	11	4
Shipbuilding, including boat building.....	255	37	121	61	17	13	2	2	1	1
Silk and silk goods, including throwsters.....	170	3	10	38	37	32	28	11	2	.....
Slaughtering and meat packing.....	238	15	129	49	25	9	5	4	2	.....
Soap.....	67	8	28	15	7	1	5	2	.....	.....
Tobacco manufactures.....	3,371	1,096	1,794	294	95	36	33	13	6	1
Typewriters and supplies.....	43	1	18	12	4	2	2	1	1	2
Wire.....	7	.....	1	1	.....	1	1	1	.....	.....
Woolen, worsted, and felt goods, and wool hats.....	64	5	7	9	11	9	12	7	3	1
All other industries.....	8,011	625	3,932	1,985	830	325	211	68	26	9
AVERAGE NUMBER OF WAGE EARNERS.										
All industries	41,003,981	48,402	121,330	162,696	145,116	180,485	132,046	98,443	106,463	.....
Agricultural implements.....	5,717	53	125	485	321	150	688	2,130	1,765	.....
Artificial flowers and feathers and plumes.....	3,493	218	1,390	2,820	1,698	2,027	331	.....	.....	.....
Automobiles, including bodies and parts.....	9,861	75	380	773	934	1,672	984	1,520	3,523	.....
Boots and shoes, including cut stock and findings.....	21,627	260	865	1,313	2,194	4,800	3,790	7,156	1,159	.....
Boxes, fancy and paper.....	11,538	136	1,460	2,969	2,692	3,230	313	738	.....	.....
Brass and bronze products.....	6,651	304	910	582	789	1,601	1,391	984	.....	.....
Bread and other bakery products.....	21,357	7,669	5,285	1,818	1,876	1,539	1,541	.....	1,629	.....
Butter, cheese, and condensed milk.....	2,866	1,366	402	673	321	104	.....	.....	.....	.....
Canning and preserving.....	7,075	1,112	1,368	1,580	1,306	1,183	.....	520	.....	.....
Carpets and rugs, other than rag.....	11,898	.....	46	47	324	225	718	554	0,984	.....
Carriages and wagons and materials.....	6,116	.....	913	810	1,288	1,116	368	.....	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	16,454	.....	12	170	400	985	1,714	3,007	8,215	1,951
Chemicals.....	5,746	.....	74	222	546	637	1,490	690	714	1,473
Clothing, men's, including shirts.....	91,363	.....	1,733	14,679	24,132	14,880	13,822	11,624	8,407	2,086
Clothing, women's.....	98,104	.....	1,589	14,707	28,779	22,099	22,135	7,688	1,107	.....

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
AVERAGE NUMBER OF WAGE EARNERS—continued.										
Coffee and spice, roasting and grinding	1,519		76	386	179	55	316		507	
Confectionery	8,570		236	722	1,225	1,107	2,691	1,446	1,143	
Copper, tin, and sheet-iron products	14,689		940	1,976	1,718	2,018	2,212	2,494	1,910	1,421
Cordage and twine and jute and linen goods	5,952		6		66	80	744	840	827	3,389
Cotton goods, including cotton small wares	10,663		7	109		269	1,232	1,695	1,135	5,595
Electrical machinery, apparatus, and supplies	18,972		224	677	848	1,147	2,327	457	638	12,654
Flour-mill and gristmill products	2,600		1,255	448	399	190	194		504	
Food preparations	3,023		228	340	263	664	1,149	349		
Foundry and machine-shop products	64,066		1,875	6,378	8,756	9,699	13,187	10,988	7,973	5,310
Fur goods	8,244		1,291	3,004	2,250	805				
Furnishing goods, men's	18,186		345	1,452	1,845	1,556	2,767	1,998	2,063	5,560
Furniture and refrigerators	20,281		651	2,264	3,030	4,990	4,700	3,746		
Gas and electric fixtures and lamps and reflectors	6,017		176	639	1,118	934	2,496	654		
Gas, illuminating and heating	6,422		150	285	383	313	1,145	1,367		2,779
Gloves and mittens, leather	6,287		208	841	726	1,656	1,486	1,370		
Hats, fur-felt	5,013		37	109	257	279		1,521	527	2,283
Hosiery and knit goods	35,950		133	1,409	1,912	3,298	10,326	8,167	6,451	4,254
Iron and steel, blast furnaces	2,298					281	348		520	
Iron and steel, steel works and rolling mills	10,001		5	12	118	201	588	2,419	1,573	5,255
Jewelry	5,379		571	1,536	1,503	839		631		
Leather goods	7,586		529	1,718	2,191	1,520	1,027	601		
Leather, tanned, curried, and finished	5,088		51	306	810	1,338	1,953	1,230		
Liquors, malt	3,023		47	620	2,341	2,452	2,165	1,106		
Lumber and timber products	27,471		2,090	5,613	5,583	4,813	5,330	2,062	1,374	
Malt	324		37	203	47	237				
Marble and stone work	6,939		931	1,031	2,261	1,148	968			
Millinery and lace goods	21,078		780	4,373	6,379	4,612	4,209	725		
Musical instruments, pianos and organs and materials	11,938		71	655	1,343	1,981	3,655	2,393	1,870	
Oil, linseed	686			7	35	146	193	275		
Paint and varnish	3,047		195	319	625	649	1,259			
Paper and wood pulp	12,073		28	587	1,709	2,808	3,884	2,556	501	
Paper goods, not elsewhere specified	4,303		116	401	445	608	1,344	1,380		
Patent medicines and compounds and druggists' preparations	4,728		862	1,238	1,172	909	547			
Photographic apparatus and materials	4,988		47	130	276	223	228			3,184
Printing and publishing	69,120		4,638	9,574	9,231	8,089	10,884	8,543	7,250	4,911
Shipbuilding, including boat building	5,644		264	724	600	934	348	584	548	1,642
Silk and silk goods, including throwsters	12,903		61	482	1,190	2,255	4,170	3,793	1,042	
Slaughtering and meat packing	6,110		310	548	770	607	808	1,361	1,706	
Soap	2,976		70	156	192	69	777	610		1,102
Tobacco manufactures	30,019		3,236	3,021	2,894	2,554	4,984	4,133	4,077	5,120
Typewriters and supplies	4,538		64	155	123	154	272	323	512	2,935
Wire	1,439		1	18		60	387	409	564	
Woolen, worsted, and felt goods, and wool hats	6,460		21	110	344	711	2,067	2,290	2,260	1,661
All other industries	160,534		9,419	22,627	26,595	23,172	32,027	23,559	18,317	13,818

PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.

All industries	100.0	4.8	12.1	16.2	14.5	18.9	13.2	9.8	10.6
Agricultural implements	100.0	0.9	2.2	8.5	5.6	2.6	12.0	37.3	30.9
Artificial flowers and feathers and plumes	100.0	2.6	16.4	33.3	20.0	23.9	3.9		
Automobiles, including bodies and parts	100.0	0.8	3.9	7.8	9.5	17.0	10.0	15.4	35.7
Boots and shoes, including cut stock and findings	100.0	1.2	4.0	6.1	10.1	22.6	17.5	33.1	5.4
Boxes, fancy and paper	100.0	1.2	12.7	25.7	23.3	28.0	2.7	6.4	
Brass and bronze products	100.0	4.6	13.7	8.8	11.9	25.4	20.9	14.8	
Bread and other bakery products	100.0	35.9	24.7	8.5	8.8	7.2	7.2		7.6
Butter, cheese, and condensed milk	100.0	47.7	14.0	23.5	11.2	3.6			
Canning and preserving	100.0	15.7	19.3	22.3	18.5	16.7		7.4	
Carpets and rugs, other than rag	100.0		0.4	0.4	2.7	1.9	6.0	4.7	83.9
Carriages and wagons and materials	100.0	14.9	26.4	13.4	21.1	18.2	6.0		
Cars and general shop construction and repairs by steam-railroad companies	100.0	0.1	1.0	2.4	6.0	10.4	18.3	49.9	11.9
Chemicals	100.0	1.3	3.9	9.5	9.3	25.9	12.0	12.4	25.6
Clothing, men's, including shirts	100.0	1.9	16.1	26.4	16.3	15.1	12.7	9.2	2.3
Clothing, women's	100.0	1.6	15.0	29.3	22.5	22.6	7.8	1.1	
Coffee and spice, roasting and grinding	100.0	5.0	25.4	11.8	3.6	20.8		33.4	
Confectionery	100.0	2.8	8.4	14.3	12.9	31.4	16.9	13.3	
Copper, tin, and sheet-iron products	100.0	6.4	13.5	11.7	13.7	15.1	17.0	13.0	9.7
Cordage and twine and jute and linen goods	100.0	0.1		1.1	1.3	12.5	14.1	13.0	56.9
Cotton goods, including cotton small wares	100.0	0.1	1.0	2.5	5.8	11.6	15.9	10.6	52.5
Electrical machinery, apparatus, and supplies	100.0	1.2	3.6	4.5	6.0	12.3	2.4	3.4	66.7
Flour-mill and gristmill products	100.0	42.0	15.0	13.3	6.4	6.5		16.9	
Food preparations	100.0	7.5	11.2	9.7	22.0	38.0	11.5		
Foundry and machine-shop products	100.0	2.9	9.8	13.7	15.1	20.6	17.2	12.4	8.3
Fur goods	100.0	15.7	36.4	27.3	9.8	10.8			
Furnishing goods, men's	100.0	1.9	8.0	10.1	8.6	15.2	11.0	14.6	30.6
Furniture and refrigerators	100.0	3.2	11.2	19.4	24.0	23.2	18.5		
Gas and electric fixtures and lamps and reflectors	100.0	2.9	10.6	18.6	15.5	41.5	10.9		
Gas, illuminating and heating	100.0	2.3	4.4	6.0	4.9	17.8	21.3		43.3
Gloves and mittens, leather	100.0	3.3	13.4	11.5	26.3	23.0	21.8		

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS—continued.										
Hats, fur-felt.....	100.0	0.7	2.2	5.1	5.6	30.3	10.5	45.5		
Hosiery and knit goods.....	100.0	0.4	3.9	5.3	9.2	28.7	22.7	17.9	11.8	
Iron and steel, blast furnaces.....	100.0				12.2	15.1	50.0	22.6		
Iron and steel, steel works and rolling mills.....	100.0	(1)	0.1	1.2	2.0	5.8	22.0	15.6	52.4	
Jewelry.....	100.0	10.6	28.6	27.9	15.6	5.6	11.7			
Leather goods.....	100.0	7.0	22.6	28.0	20.0	13.5	7.9			
Leather, tanned, curried, and finished.....	100.0	0.0	5.4	14.2	23.5	34.3	21.6			
Liquors, malt.....	100.0	0.5	7.1	26.8	28.1	24.8	12.7			
Lumber and timber products.....	100.0	9.8	20.4	20.3	17.5	19.4	7.5	5.0		
Malt.....	100.0	7.1	38.7	9.0	45.2					
Marble and stone work.....	100.0	13.4	23.5	32.6	16.5	14.0				
Millinery and lace goods.....	100.0	3.7	20.7	30.3	21.0	20.0	3.4			
Musical instruments, pianos and organs and materials.....	100.0	0.6	5.5	11.2	16.0	30.6	19.8	15.7		
Oil, linseed.....	100.0		1.2	6.2	25.8	18.2	48.6			
Paint and varnish.....	100.0	6.4	10.5	20.5	21.3	41.3				
Paper and wood pulp.....	100.0	0.2	4.0	14.2	23.3	32.2	21.2	4.1		
Paper goods, not elsewhere specified.....	100.0	2.7	9.3	10.3	14.1	31.2	32.3			
Patent medicines and compounds and druggists' preparations.....	100.0	18.2	26.2	24.8	19.2	11.6				
Photographic apparatus and materials.....	100.0	1.1	3.2	6.8	5.5	5.6			77.9	
Printing and publishing.....	100.0	7.3	15.2	14.6	12.8	17.2	13.5	11.5	7.8	
Shipbuilding, including boat building.....	100.0	4.7	12.8	10.6	16.5	6.2	10.3	0.7	29.1	
Silk and silk goods, including throwsters.....	100.0	0.5	3.7	9.2	17.5	32.3	28.7	8.1		
Slaughtering and meat packing.....	100.0	5.1	9.0	12.6	9.0	13.2	22.3	27.9		
Soap.....	100.0	2.4	5.2	6.5	2.3	20.1	20.5		37.0	
Tobacco manufactures.....	100.0	10.8	10.1	9.6	8.5	16.6	13.8	13.6	17.1	
Typewriters and supplies.....	100.0	1.4	3.4	2.7	3.4	6.0	7.1	11.3	64.7	
Wire.....	100.0	0.1	1.2		4.2	26.9	28.4	39.2		
Woolen, worsted, and felt goods, and wool hats.....	100.0	0.2	1.2	3.6	7.5	21.8	24.2	23.0	17.5	
All other industries.....	100.0	5.6	13.3	15.7	13.7	18.0	13.0	10.8	8.2	

¹ Less than one-tenth of 1 per cent.

Of the 44,935 establishments reported for all industries, 10.4 per cent employed no wage earners; 46.2 per cent, from 1 to 5; 23.4 per cent, 6 to 20; and 11.3 per cent, 21 to 50. The most numerous single group consists of the 20,799 establishments employing from 1 to 5 wage earners, and the next of the 10,524 establishments employing from 6 to 20 wage earners. There were 585 establishments that employed over 250 wage earners; 58 of these employed over 1,000, of which 4 each were engaged in the foundry and machine-shop and printing and publishing industries, and tobacco manufactures, and 3 each in the automobile, carpet and rug, cotton-goods, hosiery and knit-goods, and steel works and rolling-mill industries.

Of the total number of wage earners, 33.6 per cent were in establishments employing over 250 wage earners. The single group having the largest number of wage earners was the group comprising the establishments employing from 101 to 250. This group employed 189,485 wage earners, or 18.9 per cent of the total number. In 21 of the 58 industries listed separately in the table, establishments employing more than 250 wage earners reported more than one-half of the total number employed in each industry. In 11 of these industries, establishments employing over 500 wage earners reported more than one-half of the total number, while in 7, establishments employing over 1,000 wage earners reported more than one-half of the total. The highest proportion (83.9 per cent)

of wage earners employed by establishments reporting an average of more than 1,000 was in the manufacture of carpets and rugs.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expense which make up the total. The first table on the following page shows, in percentages, for 1909, the distribution of expenses among the classes indicated, for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II, page 82.

This table shows that, for all industries combined, 62.2 per cent of the total expenses were incurred for materials, 24.9 per cent for services—that is, salaries and wages—and 12.9 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The largest proportions shown for the various classes of expenses in the industries presented separately are as follows: For salaries, 17.7 per cent, in printing and publishing; for wages, 45.1 per cent, in the steam-railroad repair shops; for materials, 92.6 per cent, in the flour mills and gristmills; and for miscellaneous expenses (which in this case include internal-revenue taxes), 50.4 per cent, in the breweries.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.				INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.		Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	6.2	18.7	62.2	12.9	Hats, fur-felt.....	4.1	28.3	50.2	11.4
Agricultural implements.....	8.3	26.7	52.3	12.8	Hosiery and knit goods.....	3.4	24.8	64.7	7.0
Afficial flowers and feathers and plumes.....	5.6	19.0	67.4	8.0	Iron and steel, blast furnaces.....	1.7	7.4	88.0	2.9
Automobiles, including bodies and parts.....	5.9	25.6	54.5	14.0	Iron and steel, steel works and rolling mills.....	3.7	18.2	74.7	3.3
Boots and shoes, including cut stock and findings.....	5.0	23.8	64.5	6.7	Jewelry.....	7.0	22.5	61.4	0.2
Boxes, fancy and paper.....	7.3	33.0	48.6	10.2	Leather goods.....	6.7	21.7	61.8	9.8
Brass and bronze products.....	5.2	19.0	60.3	8.6	Leather, tanned, curried, and finished.....	2.7	11.3	81.1	4.9
Bread and other bakery products.....	3.6	18.4	69.8	8.2	Liquors, malt.....	8.0	11.6	30.0	50.4
Butter, cheese, and condensed milk.....	1.3	4.1	91.9	2.8	Lumber and timber products.....	4.3	23.2	64.1	8.3
Canning and preserving.....	5.4	15.1	69.0	10.5	Malt.....	2.1	4.0	88.3	5.5
Carpets and rugs, other than rag.....	3.2	27.1	61.4	8.3	Marble and stone work.....	6.5	36.6	45.9	10.9
Carriages and wagons and materials.....	0.4	32.9	51.1	9.5	Millinery and lace goods.....	7.2	21.6	60.8	10.4
Cars and general shop construction and repairs by steam-railroad companies.....	5.7	45.1	40.4	2.8	Musical instruments, pianos and organs and materials.....	6.1	25.4	57.2	11.3
Chemicals.....	5.9	12.3	71.7	10.1	Oil, linned.....	3.4	2.4	90.0	4.3
Clothing, men's, including shirts.....	4.5	20.0	56.2	19.3	Paint and varnish.....	0.0	7.3	69.9	13.8
Clothing, women's.....	5.0	22.7	61.3	10.4	Paper and wood pulp.....	3.4	15.4	72.6	8.7
Coffee and spice, roasting and grinding.....	5.4	4.8	83.1	0.8	Paper goods, not elsewhere specified.....	9.7	15.0	61.3	13.1
Confectionery.....	6.8	13.3	67.6	12.3	Patent medicines and compounds and druggists' preparations.....	14.3	7.7	43.8	34.2
Copper, tin, and sheet-iron products.....	0.0	24.3	66.9	8.9	Photographic apparatus and materials.....	10.0	22.3	45.5	22.2
Cordage and twine and jute and linen goods.....	3.3	18.0	66.3	11.5	Printing and publishing.....	17.7	23.1	30.0	29.2
Cotton goods, including cotton small wares.....	3.2	22.7	64.0	10.1	Shipbuilding, including boat building.....	5.6	38.8	40.3	15.3
Electrical machinery, apparatus, and supplies.....	9.3	25.6	56.3	8.0	Silk and silk goods, including throwsters.....	6.3	22.6	58.5	12.7
Flour-mill and gristmill products.....	1.5	2.6	92.6	3.4	Slaughtering and meat packing.....	1.4	3.6	91.1	3.9
Food preparations.....	8.1	8.8	63.6	10.6	Soup.....	4.1	7.1	77.5	11.3
Foundry and machine-shop products.....	9.9	30.4	46.1	13.6	Tobacco manufactures.....	4.0	20.8	47.6	26.7
Fur goods.....	5.0	16.3	69.1	9.6	Typewriters and supplies.....	11.3	42.5	26.5	19.7
Furnishing goods, men's.....	7.0	21.2	59.1	12.6	Wire.....	2.3	8.1	83.9	5.6
Furniture and refrigerators.....	7.5	31.0	51.0	10.5	Woolen, worsted, and felt goods, and wool hats.....	3.8	19.4	69.0	7.8
Gas and electric fixtures and lamps and reflectors.....	11.8	28.9	45.2	14.1	All other industries.....	5.4	15.2	60.6	9.7
Gas, illuminating and heating.....	10.4	15.2	52.4	22.0					
Gloves and mittens, leather.....	4.8	22.1	62.4	10.7					

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current), and their total horsepower at

the censuses of 1909, 1904, and 1899. It also shows separately in the lower part of the table the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 ¹	1909	1904	1899 ¹	1909	1904	1899
Primary power, total.....	67,137	19,032	19,699	1,997,662	1,516,592	1,009,931	100.0	100.0	100.0
Owned.....	21,230	10,032	10,600	1,579,977	1,345,607	1,017,392	79.1	88.7	92.5
Steam.....	12,538	12,215	13,340	1,080,877	850,497	650,702	54.1	56.1	60.0
Gas.....	4,656	2,928	1,944	99,899	44,288	16,221	5.0	2.9	1.5
Water wheels.....	3,789	3,629	4,400	394,221	445,197	335,411	10.7	29.4	30.5
Water motors.....	256	260	(²)	1,397	937	(²)	0.1	0.1	(²)
Other.....				3,583	4,778	6,058	0.2	0.3	0.6
Rented.....	45,898	(²)	(²)	417,685	170,895	82,539	20.9	11.3	7.5
Electric.....	45,898	(²)	(²)	389,945	95,284	47,768	19.5	6.3	4.3
Other.....				27,740	75,611	34,771	1.4	5.0	3.2
Electric motors.....	66,979	8,422	2,323	689,976	222,111	77,598	100.0	100.0	100.0
Run by current generated by establishment.....	21,081	8,422	2,323	300,031	126,827	20,830	43.5	57.1	38.4
Run by rented power.....	45,898	(²)	(²)	389,945	95,284	47,768	56.5	42.9	61.6

¹ Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.

² Not reported.

This table indicates that the total primary power increased 481,070 horsepower, or 31.7 per cent, from 1904 to 1909, and 416,661 horsepower, or 37.9 per cent, from 1899 to 1904. The greater part of the increase for the more recent period was in steam and rented electric power. In 1909, as in 1904 and 1899, steam power formed the major part of the primary power, but notwithstanding an increase of 421,175 horsepower during the decade the proportion which such power formed of the total primary power decreased from 60 per cent in

1899 to 56.1 per cent in 1904 and 54.1 per cent in 1909. The more general use of gas engines in recent years is shown by the fact that 4,656 such engines, with an indicated capacity of 99,899 horsepower, were reported in 1909, as against 2,928 engines, with 44,288 horsepower, in 1904 and 1,944 engines, with 16,221 horsepower, in 1899. The figures also show that the practice of renting electric power is increasing rapidly, the horsepower having increased from 95,284 in 1904 to 389,955 in 1909, and 19.5 per cent of the total primary

power having been of this character in 1909, as compared with 6.3 per cent in 1904 and 4.3 per cent in 1899. This condition was due in great measure to the utilization of the electrical energy developed at Niagara Falls, by the establishments located within the considerable area for which this current is made available by transmission.

The use of electric motors for the purpose of applying the power generated within the establishments is shown also to be rapidly becoming more common, the horse-

power of such motors having increased from 29,830 in 1899 to 126,827 in 1904 and 300,031 in 1909.

Fuel.—Closely related to the question of kind of power employed is that of the fuel consumed in generating this power or otherwise used as material in the manufacturing processes.

The following table shows the quantity of each kind of fuel used in 1909 for all industries combined and for certain selected industries:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries.....	4,021,671	7,687,039	2,644,148	306,593	3,995,260	5,129,045
Agricultural implements.....	5,651	58,963	10,745	1,595	43,191	27,910
Artificial flowers and feathers and plumes.....	1,294	33	98	11	.....	12,841
Automobiles, including bodies and parts.....	5,046	33,557	5,207	2	4,590	70,739
Boots and shoes, including out stock and findings.....	22,552	13,108	.....	52	135	23,062
Boxes, fancy and paper.....	7,065	5,188	.....	39	102	80,327
Brass and bronze products.....	24,198	34,580	6,307	1,063	13,915	34,196
Bread and other bakery products.....	151,844	10,378	30,983	11,281	194	258,584
Butter, cheese, and condensed milk.....	23,216	99,204	50	33,808	1,230	13,260
Canning and preserving.....	26,979	34,934	727	693	2,134	21,383
Carpets and rugs, other than rag.....	8,409	100,093	.....	1	16	145
Carrriages and wagons and materials.....	5,705	28,110	301	1,123	2,087	22,511
Cars and general shop construction and repairs by steam-railroad companies.....	89,602	183,584	176	120	25,222	1,670
Chemicals.....	366,505	105,056	3,514	54	6,872	229,078
Clothing, men's, including shirts.....	29,108	6,546	799	383	350	380,352
Clothing, women's.....	14,120	1,886	3	28	407	271,092
Coffee and spice, roasting and grinding.....	32,307	7,491	1	.....	3	13,068
Confectionery.....	40,003	9,728	1,199	19	40	30,684
Copper, tin, and sheet-iron products.....	21,497	40,518	3,345	228	57,256	78,198
Cordage and twine and jute and linen goods.....	26,748	32,532	.....	.....	.....	377
Cotton goods, including cotton small wares.....	39,624	85,025	.....	13	43	3,953
Electrical machinery, apparatus, and supplies.....	44,898	139,883	5,303	30	34,605	80,960
Flour-mill and gristmill products.....	7,515	93,485	60	1,370	7,372	630,395
Food preparations.....	13,600	25,130	152	1	100	29,951
Foundry and machine-shop products.....	137,241	252,022	168,607	9,731	39,487	224,142
Fur goods.....	1,607	952	13	8	4	10,753
Furnishing goods, men's.....	9,118	6,064	.....	.....	1,794	27,697
Furniture and refrigerators.....	22,402	73,829	5,300	2,395	233	31,404
Gas and electric fixtures and lamps and reflectors.....	6,942	4,782	804	17	302	20,106
Gas, illuminating and heating.....	485,900	832,970	110,602	120	3,430,773	.....
Gloves and mittens, leather.....	1,382	3,474	.....	127	112	8,083
Hats, fur-felt.....	4,465	7,790	.....	9	.....	5,525
Hosiery and knit goods.....	36,435	130,576	265	15	220	18,373
Iron and steel, blast furnaces.....	1,317	74,586	2,155,893	946	.....	.....
Iron and steel, steel works and rolling mills.....	9,106	709,404	32,078	6,015	71,464	831,417
Jewelry.....	288	250	31	1	6	20,398
Leather goods.....	2,442	3,201	1	39	2,391	22,486
Leather, tanned, curried, and finished.....	25,327	78,802	30	50	248	10,430
Liquors, malt.....	227,666	220,195	614	35	92	73,001
Lumber and timber products.....	26,829	82,258	1,526	5,551	2,908	41,268
Malt.....	35,676	12,931	176	.....	1	2,561
Marble and stone work.....	24,461	20,511	738	39	1,102	25,895
Millinery and lace goods.....	4,562	340	13	6	4	49,068
Musical instruments, pianos and organs and materials.....	23,062	26,120	1,338	83	10	4,673
Oil, linseed.....	4,000	20,684	.....	48	.....	.....
Paint and varnish.....	37,408	23,408	4,518	11	331	8,634
Paper and wood pulp.....	173,387	872,378	.....	2,775	176	.....
Paper goods, not elsewhere specified.....	21,534	2,508	40	1	65	5,576
Patent medicines and compounds and druggists' preparations.....	20,072	5,266	797	100	18	16,825
Photographic apparatus and materials.....	2,268	39,212	.....	.....	1	7,382
Printing and publishing.....	75,871	20,814	244	629	1,840	235,216
Shipbuilding, including boat building.....	6,247	80,881	100	272	1,620	3,782
Silk and silk goods, including throwsters.....	16,140	20,357	3,601	6	114	36,531
Slaughtering and meat packing.....	71,124	83,556	152	1,328	566	13,473
Soap.....	22,441	83,609	80	24	.....	2,019
Tobacco manufactures.....	11,818	2,754	31	130	55	25,756
Typewriters and supplies.....	6,091	10,066	575	2	2,880	12,068
Wire.....	18,356	23,880	7,050	50	4,891	.....
Woolen, worsted, and felt goods, and wool hats.....	39,972	99,821	.....	153	18	889
All other industries.....	1,410,108	2,579,181	70,283	223,936	231,403	654,888

NOTE.—In addition there were 7,165 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom sawmills and gristmills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and cost of materials and the quantity and value of products and other information for securing which no provision is made on the general schedule. Certain data of this character for 28 important industries in New York are here presented.

Printing and publishing.—Though the printing and publishing industry in New York as a whole shows considerable growth during the last five years when measured by the financial statistics, the growth in the newspaper and periodical branch has been slight, neither the number of publications nor the aggregate circulation showing any considerable increase.

The following table shows the number of the different classes of newspapers and periodicals published in the state in 1909, 1904, and 1899, together with the aggregate circulation per issue for each class:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
	Total	1,953	1,933	1,526	43,953,617	42,640,395	30,216,095
Daily	231	217	207	5,253,521	4,573,040	3,806,907
Sunday	48	44	40	2,057,727	3,061,565	(¹)
Semiweekly and tri-weekly	56	63	60	250,403	302,797	607,042
Weekly	975	981	872	6,750,243	5,336,435	6,997,099
Monthly	521	521	272	25,635,615	28,217,126	15,277,062
Quarterly	54	53	35	2,437,280	909,317	2,120,625
All other classes	68	54	31	662,819	179,515	1,311,300

¹ Included with circulation of dailies.

New York ranks first among the states in the number of newspapers and periodicals published as well as in the circulation of such publications. The number of publications increased 20, or 1 per cent, from 1904 to 1909, and 407, or 26.7 per cent, from 1899 to 1904, while the aggregate circulation increased 1,313,222, or 3.1 per cent, during the more recent period, and 12,424,300, or 41.1 per cent, during the earlier period. From 1904 to 1909 the number of each class of publications increased, with the exception of the semi-weeklies and triweeklies, and the weeklies, which decreased, and of the monthlies, the number of which was the same in both years. There was a decrease of 112,394 in the circulation of the semiweeklies and triweeklies and of 2,581,511 in that of the monthlies, while the circulation of the weeklies shows an increase. The Sunday publications show a decrease of 103,838 in circulation, although there was an increase of 4 in the number of such publications. The largest increase in number shown for any class of publications is that of 14 for the dailies, while the largest increase in circulation, 1,527,972, was in that of the quarterly publications. Of the 231 dailies, in 1909, 84, with an aggregate circulation of 2,168,690, were morning papers.

The following table shows the number and circulation of the different classes of publications in English and in foreign languages, respectively, for 1909 and 1904:

PERIOD OF ISSUE.	Cen-sus.	TOTAL.		IN ENGLISH.		IN FOREIGN LANGUAGES.	
		Num-ber.	Aggregate circulation per issue.	Num-ber.	Aggregate circulation per issue.	Num-ber.	Aggregate circulation per issue.
Total	1909	1,953	43,953,617	1,753	41,856,507	200	2,297,110
	1904	1,933	42,640,395	1,764	40,520,198	169	2,120,197
Daily and Sunday ..	1909	270	8,211,248	228	6,858,818	51	1,352,430
	1904	261	7,635,205	221	6,737,085	40	898,120
Semiweekly and tri-weekly ..	1909	56	250,403	45	206,203	11	44,200
	1904	63	302,797	48	320,412	15	36,385
Weekly	1909	975	6,750,243	881	6,338,740	94	417,494
	1904	981	5,336,435	910	4,955,985	71	380,450
Monthly	1909	521	25,635,615	480	25,251,490	35	384,116
	1904	521	28,217,126	492	27,984,034	29	233,042
Quarterly	1909	54	2,437,280	52	2,424,780	2	12,500
	1904	53	909,317	48	305,817	5	543,500
All other	1909	68	662,819	61	576,440	7	86,370
	1904	54	179,515	45	150,815	9	28,700

In 1909 as well as in 1904 the largest class of publications in foreign languages consisted of the weeklies, but the daily and Sunday papers had the largest circulation during both years. With the exception of quarterlies, each class of the publications in foreign languages increased in circulation from 1904 to 1909.

The following tabular statement distributes the publications in foreign languages in 1909 according to the language in which printed:

LANGUAGE.	NUMBER OF PUBLICATIONS.					
	All classes.	Daily and Sunday publications.	Semi-weeklies and tri-weeklies.	Week-lies.	Month-lies.	All other classes.
Total	200	51	11	94	35	9
German	60	21	3	23	10	13
Italian	27	7	.....	19	1	.....
Yiddish	10	7	.....	0	2	1
German and English	12	.....	.....	5	6	1
Polish	12	3	.....	0	.....	.....
Spanish	11	.....	.....	2	8	1
Swedish	6	.....	.....	5	1	.....
Bohemian	4	4	.....	.....	.....	.....
Croatian	4	2	1	.....	.....	1
French	4	2	.....	1	1	.....
Hungarian	4	2	2	.....	.....	.....
Russian	4	.....	.....	4	.....	.....
Ruthenian	3	.....	1	1	1	.....
Spanish and English	3	.....	.....	1	2	.....
Syrian	3	.....	1	2	.....	.....
Danish	2	.....	.....	2	.....	.....
All other	22	13	13	11	13	12

¹ Two semimonthlies and 1 published every two weeks. ³ Quarterly.
² Published every two weeks. ⁴ Semimonthly.
⁵ Includes 1 each in Arabic, Greek, and Slovenic.
⁶ Includes 1 each in Arabic, Chinese, and Slovak.
⁷ Includes 1 each in Armenian, Chinese, Estonian, Finnish, Dutch, Irish and English, Japanese and English, Norwegian, Serbian, Slovak, and Welsh.
⁸ Includes 1 in German, French, and English; 1 in German, French, Spanish, and English; and 1 in Spanish and Portuguese.
⁹ Includes 1 published every two weeks in Russian and English, and 1 semi-annual in German, French, Spanish, and English.

In 1909 a total of 1,080 publications, with an aggregate circulation of 10,116,760 copies per issue, were devoted to politics and family news; 135, with a circulation of 4,037,905, were religious in character; and 112, with a circulation of 12,664,213, were devoted to general literature. The circulation for 1909 of the first-class increased 56.8 per cent and that of the last class shows but a slight increase over that reported for 1904, while the circulation of the second class in 1909 was more than two and one-half times that reported for 1904.

Textiles.—The relative importance of the principal textile industries of New York, as measured by value of products, is shown in the following table, which presents the total value of products reported for each industry at the last three censuses:

INDUSTRY.	VALUE OF PRODUCTS.		
	1900	1904	1899
Total.....	\$185,780,000	\$142,422,000	\$107,612,000
Hosiery and knit goods.....	67,130,000	46,320,000	36,028,000
Silk and silk goods, including throwsters.....	26,519,000	20,181,000	12,706,000
Carpets and rugs, other than rag.....	25,606,000	19,404,000	15,029,000
Woolen, worsted, and felt goods, and wool hats.....	23,739,000	19,477,000	15,784,000
Cotton goods, including cotton small wares.....	20,352,000	13,434,000	10,788,000
Cordage and twine and jute and linen goods.....	12,215,000	15,866,000	11,675,000
Hats, fur-felt.....	10,219,000	7,740,000	5,002,000

The progress of the textile industries is shown by the increase in the number of spindles, looms, knitting machines, and other equipment. The following table shows the number of the principal machines used in four important textile industries combined and in each of those industries separately in 1909, 1904, and 1899:

MACHINE.	Cen- sus.	Total.	Cotton goods, including cotton small wares.	Woolen, worsted, and felt goods, and wool hats.	Hosiery and knit goods.	Silk and silk goods, including throw- sters.
Producing spindles...	1909	1,385,482	778,036	154,350	303,528	149,559
	1904	1,228,099	704,034	177,487	225,237	121,341
	1899	1,127,149	720,268	152,309	191,026	68,486
Looms.....	1909	24,098	14,088	3,035	.....	7,575
	1904	23,240	13,358	2,899	.....	6,989
	1899	23,038	14,737	3,033	.....	5,208
Knitting machines.....	1909	15,047	.....	.....	15,047	.....
	1904	12,066	.....	.....	12,066	.....
	1899	11,066	.....	.....	11,066	.....
Woolen cards (sets)...	1909	821	.....	364	457	.....
	1904	959	.....	452	507	.....
	1899	1,147	.....	473	674	.....
Wool-combing ma- chines.	1909	89	.....	89	.....	.....
	1904	62	.....	62	.....	.....
	1899	66	.....	66	.....	.....

The total number of producing spindles reported for the four industries covered by the table shows an increase from 1904 to 1909 of 156,783, or 12.8 per cent; that of looms, an increase of 1,452, or 6.2 per cent; that of knitting machines, an increase of 2,381, or 18.8 per cent; and that of wool-combing machines, an increase of 27, or 43.5 per cent. The number of sets of woolen cards decreased 138, or 14.4 per cent. The relative

increases in the number of spindles, looms, and knitting machines were much greater than the gains shown for the previous five-year period, 1899-1904, which were 9 per cent, nine-tenths of 1 per cent, and 8.6 per cent, respectively. During the period from 1904 to 1909 the number of spindles used in the cotton mills increased 73,402, or 10.4 per cent, the number in the hosiery and knitting mills, 78,291, or 34.8 per cent, and the number in the silk mills, 28,218, or 23.3 per cent, while the number used in the woolen and worsted mills decreased 23,128, or 13 per cent. During the preceding five-year period, 1899-1904, the number in the cotton mills decreased, while the number in each of the other three classes of mills increased. Each of the three industries in the table for which looms are reported shows a larger number for 1909 than for 1904, the greatest relative increase being 8.4 per cent in the silk mills.

Hosiery and knit goods.—The manufacture of hosiery and knit goods as a factory industry in New York had its beginning in Cohoes in 1832, with the founding of a factory in which power was for the first time successfully used in the making of knit goods. (See History of Cohoes, by Masten, pp. 61, 62, and 77.) In 1849 there were only three knitting mills in the state, the value of their products amounting to only \$37,000, but in 1859 there were 22 mills in operation and the total production was valued at \$1,944,000. The industry has continued this rapid development, the value of products in 1909 being more than thirty-four times the value reported in 1859.

The following table shows the quantity and cost of the different materials used in 1909, 1904, and 1899:

MATERIAL.	1900	1904	1899
Total cost.....	\$38,677,371	\$28,210,100	\$20,265,933
Cotton:			
Domestic—			
Pounds.....	33,041,491	23,841,021	24,337,305
Cost.....	\$3,770,496	\$2,747,412	\$1,668,014
Foreign—			
Pounds.....	1,623,562	620,560	.....
Cost.....	\$234,871	\$109,954	.....
Wool:			
Foreign (in condition purchased)—			
Pounds.....	164,014	430,020	710,834
Cost.....	\$103,190	\$230,281	\$306,246
Domestic (in condition purchased)—			
Pounds.....	1,803,323	4,537,860	4,817,495
Cost.....	\$846,650	\$1,969,081	\$1,663,529
Wool waste and noils:			
Pounds.....	4,398,570	2,735,224	2,023,552
Cost.....	\$1,420,402	\$947,062	\$817,592
Shoddy:			
Pounds.....	5,410,605	4,444,951	2,105,354
Cost.....	\$551,877	\$444,165	\$199,137
Yarns, not made in mill:			
Cotton—			
Pounds.....	86,076,623	56,512,123	59,112,599
Cost.....	\$13,824,123	\$11,788,385	\$8,517,651
Woolen—			
Pounds.....	3,186,332	1,742,570	902,234
Cost.....	\$2,077,718	\$1,080,360	\$423,411
Worsted—			
Pounds.....	3,232,368	2,340,773	1,585,842
Cost.....	\$3,078,048	\$1,709,171	\$1,221,820
Merino—			
Pounds.....	925,440	1,022,189	562,040
Cost.....	\$693,586	\$425,056	\$232,011
Silk and spun silk—			
Pounds.....	423,230	137,309	142,559
Cost.....	\$1,644,056	\$615,511	\$542,344
All other yarns—			
Pounds.....	11,296	35,124	105,782
Cost.....	\$9,206	\$30,843	\$102,109
Chemicals and dyestuffs.....	\$369,607	\$284,958	\$211,687
Fuel and rent of power.....	\$648,588	\$465,438	\$203,582
All other materials.....	\$9,386,614	\$5,261,614	\$3,976,890

At each of the three censuses raw cotton and cotton yarn were by far the most important materials reported, both as respects quantity and as respects cost, with the exception that in 1899 the cost of the wool consumed was somewhat greater than that of the raw cotton. There was an increase of 10,194,463 pounds, or 41.7 per cent, in the quantity of raw cotton consumed and of \$1,157,001, or 40.5 per cent, in its cost, from 1904 to 1909, as compared with increases of 133,285 pounds, or one-half of 1 per cent, in quantity and \$1,189,352, or 71.3 per cent, in cost from 1899 to 1904. The very great increase in cost shown in 1904 as compared with 1899 was due chiefly to the higher prices of cotton prevailing in 1904. Cotton yarns show an increase of 30,164,500 pounds, or 53.4 per cent, in quantity and \$2,035,738, or 17.3 per cent, in cost for the period 1904-1909, while for the period 1899-1904 a decrease of 2,600,467 pounds, or 4.4 per cent, in quantity and an increase of \$3,270,734, or 38.4 per cent, in cost were reported. All other materials for which figures as to both quantity and cost are given show increases in both respects from 1904 to 1909, with the exception of foreign and domestic wool, and the yarns included under the head of "All other yarns," which decreased in both respects, and of merino yarn, which shows a decrease in quantity only. The gains in the quantity and cost of silk and spun silk yarns are particularly noteworthy, as the quantity more than trebled and the cost very nearly trebled during the five years.

The quantity and value of the various products reported at the last three censuses were as follows:

PRODUCT.	1909	1904	1899
Total value.....	\$67,130,206	\$46,320,311	\$36,028,114
Hose:			
Dozen pairs.....	251,260	167,065	103,300
Value.....	\$403,041	\$286,712	\$234,652
Half hose:			
Dozen pairs.....	104,418	65,732	50,972
Value.....	\$146,144	\$113,950	\$93,547
Shirts and drawers:			
Merino—			
Dozens.....	1,162,148	1,171,123	1,770,330
Value.....	\$7,718,402	\$6,737,966	\$8,304,455
Cotton—			
Dozens.....	11,238,711	8,974,368	6,636,642
Value.....	\$20,577,805	\$24,212,845	\$17,080,721
All other—			
Dozens.....	74,063	204,993	804,538
Value.....	\$914,211	\$1,535,884	\$2,860,118
Combination suits:			
Merino—			
Dozens.....	52,254	27,297	54,153
Value.....	\$500,830	\$313,853	\$378,258
Cotton—			
Dozens.....	938,554	655,324	288,079
Value.....	\$4,238,442	\$2,030,831	\$904,154
All other—			
Dozens.....	(1)	9,934	13,315
Value.....	(1)	\$101,427	\$82,110
Gloves and mittens:			
Dozen pairs.....	1,195,140	750,062	567,729
Value.....	\$4,270,020	\$2,067,185	\$1,570,406
Hoods, scarfs, nubias, etc.:			
Dozens.....	124,301	255,857	171,000
Value.....	\$440,411	\$920,071	\$533,527
Cardigan jackets, sweaters, fancy jackets, etc.:			
Dozens.....	1,656,336	540,236	451,262
Value.....	\$13,915,043	\$4,789,750	\$2,504,713
Cotton yarn:			
Pounds.....	2,409,483	902,834	211,000
Value.....	\$510,454	\$154,842	\$33,200
All other products.....	\$4,396,403	\$3,063,905	\$1,362,253

¹Included with "All other products," to avoid disclosure of individual operations.

From 1904 to 1909 there was a general increase in the quantity and the value of all products, with the exception of the shirts and drawers included under the head of "All other," and of hoods, scarfs, and nubias, which decreased in both respects, and of merino shirts and drawers, which decreased in quantity only. The output and the value of merino and "All other" shirts and drawers and of merino combination suits were less in 1904 than in 1899, and the output of "All other" combination suits also shows a decrease for that period. The most important products were cotton shirts and drawers, the value of which formed 44.1 per cent of the total value of products for the industry in 1909, 52.3 per cent in 1904, and 47.2 per cent in 1899. The largest increase in output from 1904 to 1909 was that of 2,264,343 dozens, or 25.2 per cent, in the quantity of cotton shirts and drawers, and the largest increase in value that of \$9,134,293, or 191.1 per cent, in the value of cardigan jackets, sweaters, fancy jackets, etc.

Silk and silk goods, including throwsters.—This industry had its beginning in the state in 1830, when the manufacture of dress trimmings was commenced in New York City. At the census of 1869, 14 establishments were reported, which employed 739 wage earners and manufactured products valued at \$1,826,000. In 1909 the manufacture of silk goods, with a value of products amounting to \$26,519,000, was second in importance among the textile industries in the state. The development during the decade 1899-1909 was remarkable, the value of products more than doubling.

The statement following shows the quantity and cost of the chief materials used in the industry, as reported for 1909, 1904, and 1899:

MATERIAL.	1909	1904	1899
Total cost.....	\$13,948,589	\$10,490,474	\$6,570,027
Silk:			
Raw—			
Pounds.....	1,817,329	1,006,793	914,265
Cost.....	\$7,092,171	\$3,934,433	\$3,814,708
Spun—			
Pounds.....	315,622	249,896	203,200
Cost.....	\$759,710	\$734,099	\$502,322
Artificial—			
Pounds.....	616,439	280,282	5,350
Cost.....	\$1,309,400	\$1,030,783	\$6,790
Organzine and tram—			
Pounds.....	335,003	603,623	197,781
Cost.....	\$1,471,824	\$2,910,456	\$530,657
Fringe and floss, including waste, noils, etc.—			
Pounds.....	515,545	17,080	20,608
Cost.....	\$326,601	\$28,475	\$88,813
Yarns, other than silk:			
Cotton—			
Pounds.....	2,018,612	1,197,943	1,556,545
Cost.....	\$757,470	\$401,841	\$350,716
Mercerized cotton—			
Pounds.....	483,027	101,943	51,500
Cost.....	\$359,315	\$74,770	\$42,432
Woolen and worsted—			
Pounds.....	94,622	184,340	45,527
Cost.....	\$114,829	\$191,816	\$36,640
Mohair—			
Pounds.....	52,521	14,511	29,697
Cost.....	\$47,408	\$15,264	\$28,776
All other—			
Pounds.....	113,855	71,486	24,167
Cost.....	\$170,491	\$30,950	\$14,364
Chemicals and dyestuffs.....	\$78,107	\$52,066	(2)
Fuel and rent of power.....	\$249,977	\$167,911	\$96,286
All other materials.....	\$1,211,196	\$399,601	\$679,473

¹ Does not include waste, noils, etc.

² Not reported separately.

The cost of the materials used in the silk industry slightly more than doubled during the decade 1899-1909, that of silk in its various forms representing about four-fifths of the total at each census. Raw silk, which is by far the most important single item, as measured by cost, increased 810,536 pounds, or 80.5 per cent, in quantity, and \$3,157,738, or 80.3 per cent, in cost, from 1904 to 1909. The consumption of artificial silk, of which only a small amount was reported in 1899, more than doubled between 1904 and 1909, though the increase in cost was only 25.9 per cent. Organzine and tram purchased, on the other hand, show a marked falling off for the same period, the quantity and cost reported for 1909 being only a little more than half as great as for 1904. Among the materials other than silk, cotton yarns, especially mercerized yarns, show a very rapid increase for the period 1904-1909, while woolen and worsted yarns show a decided loss, amounting to 48.7 per cent in quantity and 40.1 per cent in cost.

The next table shows the quantity and value of the different products reported for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$26,518,821	\$20,181,212	\$12,706,246
Broad silks (all silk and silk mixed):			
Yards.....	15,217,298	10,896,809	7,545,565
Value.....	\$9,042,488	\$6,382,758	\$4,333,114
Plain and fancy—			
Yards.....	7,898,355	5,354,460	4,906,150
Value.....	\$5,554,482	\$3,029,021	\$3,074,806
Jacquard—			
Yards.....	434,690	1,266,680	169,836
Value.....	\$394,466	\$842,948	\$134,258
Piece dyed—			
Yards.....	6,884,253	4,275,069	2,409,570
Value.....	\$3,093,560	\$1,910,789	\$1,124,050
Ribbons.....	\$9,261,289	\$4,083,712	\$4,883,011
Laces, nets, veils, veillings, etc.....	\$794,640	\$291,400	\$377,047
Embroideries.....	\$272,746	\$105,500	\$23,092
Fringes and gimps.....	\$560,027	\$544,544	\$195,528
Braids and bindings.....	\$2,506,881	\$2,042,365	\$388,391
Ladies' dress trimmings.....	\$946,293	\$967,143	\$389,510
Millinery trimmings.....	\$749,785	\$703,742	\$231,000
Organzine and tram for sale:			
Pounds.....	330,026	99,866	48,263
Value.....	\$1,354,540	\$420,718	\$207,500
All other products.....	\$3,364,122	\$3,471,078	\$1,439,835
Amount received for contract work.....	\$906,010	\$268,252	\$288,218

With the exception of Jacquard broad silks, ladies' dress trimmings, and the products included under the head of "All other products," the value of each class of products shown in the table increased from 1904 to 1909. The most pronounced decrease was in Jacquard silks, amounting to \$448,482, or 53.2 per cent, owing to the removal from the state of two establishments in which such fabrics were extensively manufactured in 1904. Ribbons, although the leading class of products next to broad silks in 1904 and 1909, have represented a smaller proportion of the total value of products at each succeeding census since 1899. The proportions which the value of broad silks, the class of products first in importance in 1909 and 1904, formed of the total for all products were 34.1 per cent in 1899, 31.6 per cent in 1904, and 34.1 per cent in 1909. Striking gains occurred during the decade in the production of organzine and tram for sale, both the quantity and the value of this class of products more than doubling

from 1899 to 1904, and both more than trebling from 1904 to 1909. The amount reported as received for contract work was but little more in 1904 than in 1899, but during the next five years it more than doubled. This item represents mainly the receipts for commission throwing.

In 1909 a total of 936,754 pounds of silk were thrown for other establishments under contract, of which 495,053 pounds were thrown into organzine and 441,701 pounds into tram. The corresponding figures for 1904 were 359,248 pounds and 345,830 pounds, respectively, representing a total of 705,078 pounds of silk thrown under contract in that year.

Carpets and rugs, other than rag.—The quantity and cost of the different materials and the quantity and value of the chief products reported for this industry in 1909, 1904, and 1899 are given in the following table:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$13,315,172	\$11,133,063	\$7,681,097
Wool, in condition purchased:			
Pounds.....	36,177,487	23,552,683	23,297,198
Cost.....	\$6,256,326	\$4,707,215	\$3,875,638
Animal hair:			
Pounds.....	3,105,707	(1)	1,325,814
Cost.....	\$277,281		\$99,078
Yarns, purchased:			
Pounds.....	41,498,384	37,147,701	27,287,378
Cost.....	\$4,806,400	\$4,833,950	\$2,501,095
Woolen—			
Pounds.....	564,924	4,239,395	1,594,801
Cost.....	\$137,408	\$921,873	\$296,008
Worsted—			
Pounds.....	1,638,596	1,653,638	281,830
Cost.....	\$779,688	\$800,865	\$113,638
Cotton—			
Pounds.....	6,599,109	4,891,611	3,617,216
Cost.....	\$1,141,660	\$879,580	\$443,351
Linen—			
Pounds.....	4,858,864	5,049,746	5,382,255
Cost.....	\$800,837	\$810,971	\$732,307
Jute and other vegetable fiber—			
Pounds.....	27,836,891	21,403,311	16,411,270
Cost.....	\$1,880,798	\$1,391,691	\$944,001
Chemicals and dyestuffs.....	\$417,770	\$468,372	\$384,835
Fuel and rent of power.....	\$309,335	\$224,235	\$113,700
All other materials.....	\$1,248,060	\$919,201	\$705,845
Products, total value.....	\$25,600,262	\$19,404,133	\$15,029,218
Carpets and rugs:			
Square yards.....	26,973,031	22,559,873	21,804,155
Value.....	\$25,477,756	\$19,104,104	\$14,825,420
Carpets—			
Square yards.....	17,430,969	19,206,308	16,038,562
Value.....	\$16,177,227	\$15,706,173	\$11,530,425
Rugs, woven whole—			
Square yards.....	9,542,662	3,353,565	5,765,593
Value.....	\$9,300,529	\$3,427,931	\$3,294,995
All other products.....	\$128,506	\$210,029	\$203,798

¹ Included under "All other materials," to avoid disclosure of individual operations.

The chief material used in each of the three census years was wool, the cost of which formed 47 per cent of the total for all materials combined in 1909, 42.3 per cent in 1904, and 50.5 per cent in 1899. The quantity of wool used increased 12,624,804 pounds, or 53.6 per cent, from 1904 to 1909, and the cost \$1,549,111, or 32.9 per cent. Jute and other vegetable fiber yarns constituted the class second in importance, showing an increase for the five-year period 1904-1909 of 6,433,580 pounds, or 30.1 per cent, in quantity and \$489,137, or 35.1 per cent, in cost. The amount of woolen yarn purchased in 1909, however, was little more than one-eighth that reported for 1904, owing largely to the purchase of the fiber in the raw state instead of in yarn.

Carpets and rugs, taken together, show an increase for the period 1904-1909 of 4,413,758 square yards, or 19.6 per cent, in quantity and \$6,283,652, or 32.7 per cent, in value, and for the period 1899-1904 an increase of 755,718 square yards, or 3.5 per cent, in quantity and \$4,368,684, or 29.5 per cent, in value. In 1909 seamless rugs constituted 35.4 per cent of the total output of carpets and rugs, as compared with 14.9 per cent in 1904 and 26.4 per cent in 1899.

Axminster and inoquette carpets formed the leading class of carpets manufactured in 1909, with tapestry Brussels, tapestry velvet, and Brussels following in the order named. In 1904 and 1899, however, tapestry Brussels was the leading variety.

Woolen, worsted, and felt goods, and wool hats.—The 64 establishments reported for this industry in 1909, classified according to their products of chief value, comprised 30 woolen mills, 15 worsted mills, 12 felt mills, and 7 wool-hat factories.

The quantity and cost of the different materials reported for 1909, 1904, and 1899 are given in the following table:

MATERIAL.	1909	1904	1899
Total cost	\$14,744,028	\$10,715,224	\$8,683,510
Wool, in condition purchased:			
Pounds.....	26,651,580	26,056,151	20,942,082
Cost.....	\$8,462,700	\$6,826,833	\$4,877,605
Domestic—			
Pounds.....	22,362,412	22,456,770	18,692,443
Cost.....	\$6,754,854	\$5,709,932	\$4,182,727
Foreign—			
Pounds.....	4,289,168	3,599,381	2,249,639
Cost.....	\$1,707,846	\$1,056,901	\$694,878
Equivalent in scoured condition, pounds.....	15,858,034	15,010,370	11,830,350
Animal hair and fur:			
Pounds.....	3,588,381	1,537,450	837,316
Cost.....	\$747,128	\$203,612	\$48,772
Tailors' clippings, rugs, etc.:			
Pounds.....	1,234,161	1,332,056	(¹)
Cost.....	\$68,197	\$77,716	\$43,607
Shoddy, mungo, and wool extract:			
Pounds.....	939,539	2,209,909	641,709
Cost.....	\$135,021	\$271,700	\$116,107
Waste and noils of wool, mohair, etc.:			
Pounds.....	2,008,002	1,716,008	1,923,179
Cost.....	\$960,028	\$512,751	\$569,816
Cotton:			
Pounds.....	599,698	1,326,455	1,009,763
Cost.....	\$83,270	\$175,676	\$84,585
Yarns, purchased:			
Pounds.....	2,820,606	1,594,097	3,465,476
Cost.....	\$1,718,630	\$595,487	\$1,208,732
Worsted—			
Pounds.....	1,412,237	318,244	626,031
Cost.....	\$1,227,155	\$237,631	\$541,901
Cotton—			
Pounds.....	990,204	937,927	2,427,270
Cost.....	\$300,706	\$240,824	\$301,791
Silk and spun silk—			
Pounds.....	13,913	21,018	13,173
Cost.....	\$49,493	\$61,627	\$51,217
All other—			
Pounds.....	413,192	316,908	399,002
Cost.....	\$141,276	\$55,505	\$223,823
Wool hat bodies and hats in the rough:			
Dozens.....	16,057	(²)	2,676
Cost.....	\$47,616	(²)	\$9,618
Chemicals and dyestuffs.....	\$623,270	\$561,490	\$491,373
Fuel and rent of power and heat.....	\$370,969	\$285,388	\$201,066
All other materials.....	\$1,525,693	\$1,204,562	\$1,032,140

¹ Not reported separately.

² Included with "All other materials," to avoid disclosure of individual operations.

The total quantity of all classes of wool purchased was 26,651,580 pounds in 1909, 26,056,151 pounds in 1904, and 20,942,082 pounds in 1899, an increase of 595,429 pounds, or 2.3 per cent, for the later five-year period, and 5,114,069 pounds, or 24.4 per cent, for the

earlier period. The cost of this material represented 57.4 per cent of the total cost reported for all materials in 1909, 63.7 per cent in 1904, and 56.2 per cent in 1899. Worsted yarns purchased show larger relative gains from 1904 to 1909 than any other class of materials, the quantity reported in 1909 being more than four times as great as in 1904, and the cost more than five times as great, while from 1899 to 1904 shoddy, mungo, and wool extract show the largest relative gain in quantity, and animal hair and fur the largest relative gain in value. For the five-year period 1904-1909 tailors' clippings, raw cotton, shoddy, and silk and spun silk yarns all show a decrease in both quantity and cost, while domestic wool shows a decrease in quantity only.

The quantity and value of the chief products reported for the industry in 1909, 1904, and 1899 are shown in the following table:

PRODUCT.	1909	1904	1899
Total value	\$23,739,421	\$19,476,686	\$15,784,121
All-wool woven goods:			
Square yards.....	17,243,627	12,459,972	9,464,705
Value.....	\$12,830,093	\$10,532,885	\$9,558,458
Wool cloths, doeskins, cassimeres, chevrets, etc.:			
Square yards.....	1,702,748	4,427,304	2,026,599
Value.....	\$1,450,578	\$3,857,000	\$2,042,342
Worsted coatings, serges, and suitings—			
Square yards.....	6,823,869	3,195,395	3,132,310
Value.....	\$6,420,030	\$3,694,539	\$2,037,159
Worsted dress goods, cashmeres, serges, etc.—			
Square yards.....	5,375,780	3,857,323	740,724
Value.....	\$2,728,242	\$2,102,435	\$368,314
All other—			
Square yards.....	3,281,239	970,950	2,065,072
Value.....	\$2,230,343	\$818,261	\$1,510,643
Cotton-mixed and cotton-warp goods:			
Square yards.....	7,085,151	8,139,633	9,804,480
Value.....	\$2,487,664	\$3,081,060	\$3,589,355
Worsted-filling dress goods—			
Square yards.....	3,376,396	1,518,320	4,014,479
Value.....	\$1,056,731	\$540,078	\$1,700,998
All other—			
Square yards.....	3,688,755	6,621,307	4,800,001
Value.....	\$1,430,833	\$2,540,982	\$1,888,357
Felt goods:			
Felt cloths, trimming and lining felts, felt skirtings, table covers, and saddle felts—			
Square yards.....	2,802,196	1,120,082	941,056
Value.....	\$976,342	\$590,585	\$361,168
Endless belts—			
Pounds.....	1,881,047	1,100,570	1,626,857
Value.....	\$1,989,988	\$1,101,743	\$617,881
All other.....	\$1,320,638	\$1,130,626	\$686,337
Hats, wool-felt:			
Dozens.....	133,678	136,481	284,404
Value.....	\$1,185,208	\$956,347	\$1,218,498
Worsted yarn for sale:			
Pounds.....	1,237,092	1,051,528	2,080,510
Value.....	\$1,184,621	\$793,285	\$701,166
Noils for sale:			
Pounds.....	1,793,580	858,972	526,925
Value.....	\$531,897	\$201,055	\$165,507
Waste for sale:			
Pounds.....	838,887	852,243	281,804
Value.....	\$145,921	\$128,750	\$36,900
All other products.....	\$1,081,150	\$900,350	\$1,848,791

¹ Square yards.

² Includes tops.

The output of all-wool woven goods reported in 1909 was 17,243,627 square yards, as compared with 12,459,972 square yards in 1904 and 9,464,705 square yards in 1899, the gain in 1909 as compared with 1904 being 4,783,655 square yards, or 38.4 per cent, and that in 1904 as compared with 1899 being 2,995,267 square yards, or 31.6 per cent. The very considerable gain in the output and value of worsted-filling dress goods between 1904 and 1909 was more than offset by a decline

in the manufacture of other woven goods containing cotton. The output of felt cloth in 1909 was more than double that in 1904. The total value of the worsted yarns manufactured for sale was \$1,184,521 in 1909, as compared with \$793,285 in 1904 and \$701,166 in 1899. To the extent that the partly manufactured products, such as yarn, noils, and waste, were sold by the establishments producing them to other establishments in the state engaged in the woolen industry for use as materials in their manufacturing processes, the value of such materials represents a duplication in the total cost of materials and value of products for the industry.

Cotton goods, including cotton small wares.—The quantity and cost of the principal materials used in this industry and the quantity and value of the chief products reported for 1909, 1904, and 1899 are given in the following table:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$11,726,489	\$8,644,728	\$5,718,295
Cotton:			
Pounds.....	68,700,704	51,835,100	52,243,049
Cost.....	\$8,088,203	\$6,190,179	\$3,743,267
Cotton yarn:			
Pounds.....	5,843,677	5,583,162	4,297,684
Cost.....	\$1,472,313	\$1,863,786	\$1,083,604
Starch.....	\$70,581	\$33,094	\$27,465
Chemicals and dyestuffs.....	\$150,405	\$105,294	\$77,884
Fuel and rent of power.....	\$407,128	\$330,290	\$228,577
All other materials.....	\$1,537,799	\$622,074	\$557,498
Products, total value.....	\$20,351,555	\$13,433,904	\$10,788,003
Plain cloths for printing or converting:			
Square yards.....	\$6,800,075	70,321,095	80,123,110
Value.....	\$3,537,890	\$2,883,012	\$2,829,674
Cotton towels and towelings:			
Square yards.....	1,955,025	1,255,460	(¹)
Value.....	\$430,393	\$178,687	(¹)
All other woven goods:			
Square yards.....	58,313,842	40,051,177	50,788,768
Value.....	\$7,095,170	\$4,317,437	\$3,515,851
Yarns, for sale:			
Pounds.....	31,765,481	24,943,095	17,922,997
Value.....	\$6,745,518	\$5,162,181	\$2,782,165
Cotton waste:			
Pounds.....	7,170,930	5,399,761	6,554,045
Value.....	\$250,037	\$177,890	\$126,419
All other products.....	\$2,292,577	\$774,097	\$1,533,894

¹ Not reported separately.

The quantity of raw cotton used increased 16,931,604 pounds, or 32.7 per cent, from 1904 to 1909, although from 1899 to 1904 it decreased 407,949 pounds, or eight-tenths of 1 per cent. The cost of this material, however, increased more rapidly from 1899 to 1904 than it did from 1904 to 1909. The cost of cotton yarn, the material next in importance, increased from census to census but much less rapidly than that of raw cotton. The cost of all the other classes of materials shown in the table likewise increased during both five-year periods.

On the basis of value, the products included under the head of "All other woven goods," which consisted mainly of brown or bleached sheetings and shirtings, corduroy, cotton velvet and plush, lace and lace curtains, mosquito and other netting, and twills and sateens, constituted the most important class of products in 1909 and 1899, while in 1904 yarns for sale formed the leading class. The output of plain cloth decreased between 1899 and 1904, but this decrease

was more than counterbalanced by an increase during the next five years. The value of each class of products shown separately in the table, however, increased during both five-year periods.

To the extent that cotton yarn and waste made in the state were sold by the establishments producing them to other establishments in New York engaged in the cotton-goods industry for use as material in their manufacturing processes, their value represents a duplication in both the total cost of materials and the total value of products for the state.

Fur-felt hats.—This industry includes the manufacture of derbies and soft felt hats, and of felt hats for women's wear, from rabbit, coney, and nutria fur. The quantity and cost of materials used and the number and value of fur-felt hats manufactured in 1909, 1904, and 1899 are shown in the following table:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$5,406,265	\$3,478,454	\$2,607,454
Hatters' fur:			
Pounds.....	1,883,207	1,563,680	1,281,452
Cost.....	\$1,800,052	\$1,265,877	\$1,163,360
Fur-felt hat bodies and hats in the rough:			
Dozens.....	194,268	62,684	21,630
Cost.....	\$1,250,824	\$627,040	\$171,000
Chemicals and dyestuffs.....	\$100,407	\$160,305	\$117,641
All other materials.....	\$2,194,982	\$1,426,232	\$1,154,573
Products, total value.....	\$10,218,060	\$7,739,774	\$5,602,446
Fur-felt hats:			
Dozens.....	776,258	631,374	286,661
Value.....	\$9,405,282	\$6,852,707	\$5,052,500
All other products.....	\$753,378	\$886,977	\$549,946

In 1909 the cost of hat bodies and hats in the rough was over two-thirds as great as that of hatters' fur, having made the remarkable increase from \$171,660 to \$1,250,824 during the last decade.

The number of hats manufactured increased 144,884 dozens, or 22.9 per cent, from 1904 to 1909, and 405,313 dozens, or 179.3 per cent, from 1899 to 1904. The increase in the value of the hats was \$2,612,485, or 38.1 per cent, for the later five-year period, and \$1,800,227, or 35.6 per cent, for the earlier five-year period. The figures for 1909 represent 26 per cent of the number and 21.8 per cent of the value of all fur-felt hats produced in the United States in that year, the corresponding proportions in 1904 being 24.2 per cent and 20 per cent, respectively. In addition to those shown in the above table, fur-felt hats to the value of \$433,391 were made in 18 establishments engaged primarily in the manufacture of other kinds of hats, such as wool and straw.

Slaughtering and meat packing.—The first table on the following page gives the quantity and cost of the different materials used in the industry during the census years 1909, 1904, and 1899.

There were 189,731, or 39.6 per cent, more hives slaughtered in 1909 than in 1904; 83,370, or 28.4 per cent, more calves; 381,084, or 24.8 per cent, more sheep; and 178,911, or 11 per cent, more hogs. The cost re-

ported for each class of animals also increased during the same period, and even more rapidly than the number. The cost of dressed meat purchased, however, which more than doubled between 1904 and 1909, shows a higher rate of increase for that period than any other item presented in the table.

MATERIAL.	1909	1904	1899
Total cost	\$110,168,234	\$66,777,302	\$51,173,032
Beeves slaughtered:			
Number.....	668,447	478,716	378,833
Cost.....	\$47,746,152	\$20,790,375	\$21,492,495
Calves slaughtered:			
Number.....	377,121	203,751	277,016
Cost.....	\$4,406,391	\$2,611,331	\$2,203,940
Sheep slaughtered:			
Number.....	1,918,721	1,537,637	1,487,157
Cost.....	\$10,437,800	\$7,436,300	\$5,976,165
Hogs slaughtered:			
Number.....	1,802,669	1,623,758	1,701,006
Cost.....	\$23,802,670	\$14,124,703	\$12,566,633
Dressed meat, purchased.....	\$14,156,721	\$6,786,824	\$5,395,265
Fuel and rent of power.....	\$507,208	\$288,280	\$168,307
All other materials.....	\$9,111,202	\$5,730,880	\$3,371,227

The following table shows the products reported for this industry at the last three censuses:

PRODUCT.	1909	1904	1899
Total value	\$127,130,051	\$75,549,917	\$58,403,452
Beef, fresh:			
Pounds.....	420,081,714	310,605,538	252,508,096
Value.....	\$41,423,480	\$26,110,570	\$20,046,478
Beef, salted or cured:			
Pounds.....	26,400,602	15,145,733	10,650,190
Value.....	\$3,085,410	\$750,210	\$790,594
Veal, fresh:			
Pounds.....	36,610,306	26,400,486	25,179,357
Value.....	\$4,316,843	\$2,605,948	\$2,404,942
Mutton, fresh:			
Pounds.....	80,774,070	63,435,207	61,858,172
Value.....	\$9,539,554	\$5,991,233	\$5,163,001
Pork, fresh:			
Pounds.....	123,540,054	123,177,559	107,666,721
Value.....	\$12,665,175	\$9,130,670	\$7,340,461
Pork, salted or cured:			
Pounds.....	134,425,208	108,495,014	122,217,119
Value.....	\$17,804,064	\$10,712,616	\$9,874,335
Sausage, fresh or cured.....	\$9,461,800	\$3,369,825	\$2,195,581
All other fresh meat:			
Pounds.....	6,983,008	2,828,915	615,500
Value.....	\$427,106	\$237,108	\$61,430
Lard:			
Pounds.....	47,042,820	35,098,711	31,522,702
Value.....	\$5,814,101	\$2,413,755	\$2,044,009
Tallow and oleo stock and stearin:			
Pounds.....	51,943,253	(1)	(1)
Value.....	\$4,472,780	(1)	(1)
Oleo oil:			
Gallons.....	3,149,003	3,578,246	1,600,009
Value.....	\$2,692,932	\$2,035,410	\$954,064
Fertilizers and fertilizer materials:			
Tons.....	16,928	10,740	5,005
Value.....	\$435,900	\$233,592	\$104,532
Hides:			
Number.....	809,790	607,034	590,824
Pounds.....	49,577,570	36,892,215	26,522,241
Value.....	\$7,105,591	\$3,748,693	\$2,476,993
Sheep pelts:			
Number.....	1,913,895	2,069,553	(1)
Value.....	\$1,389,474	\$1,101,878	(1)
Wool:			
Pounds.....	6,605,170	5,187,937	2,625,676
Value.....	\$2,249,241	\$1,997,334	\$787,209
All other products, including amount received for custom or contract work.....	\$7,241,582	\$5,103,027	\$4,155,703

¹ Figures not available.
² Includes pelts purchased for wool pulling.

With the exception of the quantity of oleo oil and the number of sheep pelts, the output of each of the different products shown separately increased both in quantity and in value from 1904 to 1909, but the percentages of increase in the value of meat products were considerably larger than those in quantity owing to the generally higher prices that prevailed in 1909.

The increase in quantity, however, which is not influenced by such external conditions as changing prices, indicates more accurately the actual growth of the industry

The largest relative increase in quantity was that of 146.8 per cent for the products included under the head of "All other fresh meat," while the largest relative increase in value was that of 306.4 per cent for salted and cured beef. The output of fresh beef increased 119,376,176 pounds, or 38.4 per cent, from 1904 to 1909; that of salted and cured beef, 11,314,869 pounds, or 74.7 per cent; that of fresh veal, 10,209,820 pounds, or 38.7 per cent; that of fresh mutton, 17,339,772 pounds, or 27.3 per cent; that of fresh pork, 362,495 pounds, or three-tenths of 1 per cent; and that of salted and cured pork, 27,929,294 pounds, or 26.2 per cent. The total output of these products increased 186,532,426 pounds, or 28.9 per cent, while its value increased \$33,520,270, or 60.6 per cent, during the same period.

The value of all meat products, including sausage and "All other fresh meats," represented 75.3 per cent of the total value of all products for the industry in 1909, as compared with 78 per cent in 1904. The advance in price, as affecting the gain in value, seems to have been most pronounced in the case of salted and cured beef, whose value per pound in 1909 was more than double that in 1904. In the case of lard, the value increased 140.9 per cent, while the output increased only 34 per cent.

Lumber and timber products.—According to some authorities the first sawmills operated in the territory now comprised within the limits of the United States were erected at New Amsterdam and Fort George on the Hudson River early in the seventeenth century. Lumbering has been one of the leading industries in New York state from the beginning, and while its maximum annual production was reached and passed more than a decade ago, the industry still ranks ninth among the industries of the state in value of products and seventh in average number of wage earners employed.

The following statement shows the quantity of rough lumber, lath, and shingles produced by the sawmills of the state in 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber.....M feet b. m.	681,440	878,448
Lath.....thousands..	70,878	66,468
Shingles.....thousands..	91,886	160,294

As indicated by the figures, the quantity of lumber cut in New York decreased 22.4 per cent from 1899 to 1909, and the output of shingles 42.7 per cent, while there was an increase of 6.6 per cent in the production of lath. In 1899 about three-fourths of all the lumber

cut in the state was softwood, while in 1909 the softwood varieties constituted only 59.4 per cent of the total. In 1909 more lumber was sawed from hemlock than from any other species, the quantity being 162,784 M feet board measure, or 23.9 per cent of the entire production. Spruce and white pine were next in order, with 127,864 M feet and 104,658 M feet, respectively. While 11 varieties of hardwood lumber were reported in 1909, maple, beech, oak, and basswood, ranking in the order named, were the species cut in largest quantities, and together contributed 68.6 per cent of the total output of hardwood lumber in New York in that year.

Flour-mill and gristmill products.—New York ranks first among the states in the quantity of corn, buckwheat, and oats ground during 1909, third in that of wheat and rye, and sixth in that of barley. The following table shows the quantity and value of the different products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	\$69,802,278	\$54,546,435	\$35,930,493
Wheat flour:			
White—			
Barrels.....	6,671,722	5,637,588	
Value.....	\$35,530,539	\$27,933,291	5,107,418
Graham—			
Barrels.....	24,906	41,155	\$18,560,427
Value.....	\$129,252	\$184,592	
Corn meal and corn flour:			
Barrels.....	2,000,537	3,004,220	2,937,282
Value.....	\$5,967,943	\$6,928,206	\$5,530,454
Rye flour:			
Barrels.....	226,092	332,710	230,405
Value.....	\$970,797	\$1,424,315	\$770,051
Buckwheat flour:			
Pounds.....	66,632,357	66,234,603	37,354,585
Value.....	\$1,724,854	\$1,639,873	\$311,260
Barley meal:			
Pounds.....	1,530,356	7,005,960	5,101,778
Value.....	\$25,587	\$90,844	\$66,401
Hominy and grits:			
Pounds.....	19,534,650	32,614,004	607,400
Value.....	\$280,941	\$357,957	\$9,389
Feed:			
Tons.....	637,270	401,727	451,309
Value.....	\$18,745,100	\$10,354,492	\$8,238,470
Offal:			
Tons.....	219,653	220,375	113,927
Value.....	\$4,090,333	\$4,210,280	\$1,705,932
All other products.....	\$1,427,832	\$356,585	\$231,410

Wheat flour, which contributed slightly more than one-half of the total value of all products at each census, shows an increase of 17.9 per cent in quantity and 26.6 per cent in value for the period 1904-1909, as compared with an increase of 11.2 per cent in quantity and 51.7 per cent in value for the period 1899-1904. The output of offal, which consists mainly of bran and middlings, the by-products from the flour mills, decreased three-tenths of 1 per cent in quantity from 1904 to 1909, but increased 18.5 per cent in value; for the earlier five-year period, however, it shows an increase of 93.4 per cent in quantity and 146.8 per cent in value. Feed, which consists largely of corn and oats ground together, was the second product in importance at each census, and shows an increase of 58.6 per cent in quantity and 81 per cent in value for the period 1904-1909; between 1899 and 1904, however, there was a decrease in the output, though its value increased 25.7 per cent. The output of corn meal and corn flour increased in both quantity and value during the earlier five-year period, but decreased

in both respects during the later period. Buckwheat flour shows an increase in both quantity and value of output for both periods, while the remaining products presented separately in the table show gains in both quantity and value for the period 1899-1904 and losses for the period 1904-1909, the greatest decreases being those shown for barley meal, amounting to 78.2 per cent in quantity and 73.6 per cent in value.

Of the 983 mills reported in 1909, 270 were engaged in milling wheat flour. Of these, 105 produced less than 1,000 barrels during the year; 86, from 1,000 to 4,999 barrels; 49, from 5,000 to 19,999 barrels; 19, from 20,000 to 99,999 barrels; and 11, 100,000 barrels or over. The equipment reported in 1909 consisted mainly of 3,873 pairs of rolls and 1,111 runs of stone and steel burrs. In 1904 there were 4,200 pairs of rolls and 1,326 runs of stone and steel burrs. Barrels were manufactured by 9 of the establishments reported in 1909.

Paper and wood pulp.—Of the total of 178 paper and pulp mills in the state in 1909, 27 were engaged exclusively in the manufacture of wood pulp, 100 made paper only, and 51 produced both pulp and paper. The wood pulp manufactured in mills producing pulp exclusively was used largely as material by the paper mills of the state, and to the extent that it was so used its value represents a duplication both in the total cost of materials and in the total value of products shown for the industry.

The following table gives the quantity and cost of the principal materials used in the industry during 1909, 1904, and 1899:

MATERIAL.	1909	1904	1899
Total cost	\$31,767,283	\$22,805,751	\$14,563,222
Pulp wood.....	\$9,667,705	\$6,530,006	\$3,208,522
Wood pulp, purchased:			
Tons.....	331,143	204,862	180,510
Cost.....	\$10,075,720	\$7,012,081	\$4,595,914
Ground—			
Tons.....	150,844	111,082	93,740
Cost.....	\$3,202,648	\$1,942,151	\$1,485,176
Sulphite fiber—			
Tons.....	102,847	145,074	60,769
Cost.....	\$6,157,218	\$4,801,063	\$2,519,060
Other chemical fiber—			
Tons.....	17,452	7,800	20,001
Cost.....	\$715,863	\$268,867	\$590,772
Rags, including cotton and flax waste and sweepings:			
Tons.....	27,809	21,056	17,800
Cost.....	\$403,271	\$335,503	\$420,870
Old or waste paper:			
Tons.....	155,436	101,472	51,691
Cost.....	\$2,000,335	\$1,167,592	\$504,463
Manila stock, including jute bagging, rope, waste, threads, etc.:			
Tons.....	11,952	23,119	23,673
Cost.....	\$429,368	\$554,335	\$646,770
Fuel and rent of power.....	\$3,028,118	\$2,293,285	\$1,438,052
All other materials.....	\$6,072,697	\$4,012,040	\$3,688,625

The cost of pulp wood shows an increase of \$3,137,759, or 48.1 per cent, for the five-year period 1904-1909, as compared with an increase of \$3,321,484, or 103.5 per cent, between 1899 and 1904; these figures, however, do not afford an entirely satisfactory index of the increase in the amount of wood consumed, as the price of wood advanced materially during the decade. In 1909 a total of 921,882 cords

of pulp wood were used in the industry, of which imported spruce formed 44.3 per cent, domestic spruce 41.7 per cent, domestic poplar 5.7 per cent, and imported poplar 1.9 per cent.

The wood pulp purchased increased 66,281 tons, or 25 per cent, in quantity and \$3,063,648, or 43.7 per cent, in cost from 1904 to 1909. In addition to the pulp purchased, 399,659 tons in 1909, 370,572 tons in 1904, and 180,336 tons in 1899 were used in the mills where manufactured. A substantial increase between 1904 and 1909 was reported in the cost of all the other classes of materials shown in the table, with the exception of manila stock, which was the only class to show a decrease in quantity.

The quantity and value of the different products manufactured during the last three census years are shown in the following table:

PRODUCT.	1909	1904	1899
Total value	\$48,859,610	\$37,750,605	\$20,715,628
News paper:			
Tons.....	374,808	347,546	204,957
Value.....	\$14,662,245	\$13,465,093	\$6,879,013
In rolls—			
Tons.....	355,155	330,423	162,153
Value.....	\$13,842,670	\$12,719,853	\$5,406,452
In sheets—			
Tons.....	19,653	17,123	42,804
Value.....	\$819,569	\$745,240	\$1,473,561
Book, cover, plate, and coated paper:			
Tons.....	68,717	33,567	31,461
Value.....	\$4,567,173	\$2,381,336	\$2,029,074
Wrapping paper:			
Tons.....	150,088	157,186	157,385
Value.....	\$7,724,244	\$7,180,993	\$7,406,185
Manila (rope, jute, tag, etc.)—			
Tons.....	17,347	20,888	22,760
Value.....	\$1,045,375	\$980,273	\$1,410,059
Heavy (mill wrappers, etc.)—			
Tons.....	18,051	12,741	38,550
Value.....	\$695,468	\$466,846	\$2,164,465
Bogus or wood manila—			
Tons.....	79,952	75,262	74,724
Value.....	\$4,206,208	\$3,859,980	\$3,092,370
All other—			
Tons.....	33,848	48,265	21,345
Value.....	\$1,777,193	\$2,373,594	\$789,661
Boards:			
Tons.....	141,467	90,094	40,394
Value.....	\$5,105,735	\$3,347,317	\$1,368,585
Wood pulp—			
Tons.....	23,757	11,011	12,133
Value.....	\$948,796	\$508,000	\$411,655
News—			
Tons.....	5,477	7,230	3,775
Value.....	\$144,844	\$255,843	\$103,316
All other—			
Tons.....	112,233	71,853	24,486
Value.....	\$4,012,065	\$2,583,474	\$853,614
Tissues:			
Tons.....	30,949	18,101	8,415
Value.....	\$2,786,101	\$1,764,011	\$763,945
Hanging papers:			
Tons.....	62,179	42,722	30,593
Value.....	\$2,805,839	\$1,073,050	\$1,502,405
Building, roofing, asbestos, and sheathing paper:			
Tons.....	21,743	10,963	8,044
Value.....	\$825,081	\$352,521	\$260,051
All other paper products:			
Tons.....	41,187	19,861	15,163
Value.....	\$1,344,042	\$1,229,579	\$1,083,967
Wood pulp made for sale or for consumption in mills other than where produced:			
Tons.....	279,875	235,442	214,200
Value.....	\$8,820,696	\$5,021,342	\$5,232,451
Ground—			
Tons.....	100,883	128,005	122,607
Value.....	\$1,859,391	\$1,921,371	\$1,896,783
Sulphite fiber—			
Tons.....	146,256	89,368	76,658
Value.....	\$5,580,136	\$3,076,740	\$2,779,922
Soda fiber—			
Tons.....	33,236	17,379	15,034
Value.....	\$1,375,169	\$623,231	\$555,746
All other products.....	\$157,854	\$428,863	\$64,892
Wood pulp produced (including that used in mills where manufactured), total, tons.....	679,534	606,014	394,635
Ground, tons.....	405,370	379,029	245,293
Sulphite fiber, tons.....	234,717	200,019	124,906
Soda fiber, tons.....	39,441	20,966	24,346

News paper was the principal product of the industry in 1909 and 1904, its value constituting 30 per cent of the total for all products in 1909, 35.7 per cent in 1904, and 25.7 per cent in 1899. Among the different paper products, the largest increase in value from 1899 to 1904 was that of \$6,586,080 reported for news paper, whereas from 1904 to 1909 the largest gain was that of \$2,185,837 in the value of book, cover, plate, and coated paper. Of the total output of news paper manufactured in 1899, 79.2 per cent was in rolls, while in 1904 and 1909 the proportions were 95.1 per cent and 94.8 per cent, respectively. News boards and the wrapping paper included under the head of "All other" are the only paper products which show losses in both quantity and value from 1904 to 1909, although the output of manila wrapping paper shows a decrease in quantity alone. In 1909 New York contributed 31.3 per cent of the total value of the news paper manufactured in the United States, 21.3 per cent of the value of the bogus or wood manila wrapping paper, and 32.6 per cent of the value of the tissues.

Of the total quantity of wood pulp manufactured in the state in 1909, including that used in the mills where it was made, 59.7 per cent was ground wood pulp, 34.5 per cent sulphite fiber, and 5.8 per cent soda fiber, while in 1899, 62.2 per cent of the total quantity was ground wood pulp, 31.7 per cent was sulphite fiber, and 6.2 per cent soda fiber, a comparison of the figures showing a slight increase in the proportion of sulphite fiber during the decade. Fifty-eight and eight-tenths per cent of the pulp manufactured in 1909 was used in the mills where it was made, as compared with 61.1 per cent in 1904 and 45.7 per cent in 1899. Of the pulp manufactured for sale or for use in other mills in 1909, 35.9 per cent was ground wood pulp, while 52.3 per cent was sulphite fiber, and 11.9 per cent was soda fiber. In 1904 and 1899, however, ground wood pulp constituted more than one-half the total quantity of pulp manufactured for sale. The figures given in the table show that there has been a marked increase, especially since 1904, in the amount of sulphite and soda fiber manufactured for sale, and a considerable decrease in the amount of ground wood pulp, though the total amount of each kind of pulp manufactured shows an increase throughout the decade. The value of sulphite fiber constituted more than one-half the total value of pulp manufactured for sale in each census year, amounting in 1909 to 63.3 per cent.

The first table on the following page shows the number and capacity of the Fourdrinier and cylinder machines used in the paper mills, and of the grinders and digesters used in the pulp mills in 1909, 1904, and 1899.

The number of paper machines increased from 290 in 1904 to 331 in 1909, while their annual capacity increased 215,174 tons, or 24.4 per cent, during the

same time; from 1899 to 1904 the increase in the number of machines was relatively small, but their capacity increased 44.1 per cent. Fourdrinier machines formed more than half the total number in 1904 and 1899, but in 1909 they were considerably outnumbered by the cylinder machines, which are generally used in the manufacture of tissue paper, boards, and certain other special kinds of paper. The average capacity of the Fourdrinier machines, however, was more than twice as great as that of the cylinder machines, so that the former still represented in 1909 more than two-thirds of the total paper-making capacity. The number of pulp grinders decreased somewhat from 1904 to 1909, but their yearly capacity increased 118,733 tons, or 21 per cent; the number of sulphite digesters increased from 84 to 93, and their capacity increased 75,338 tons, or 32.3 per cent; and the number of soda digesters remained unchanged, while their capacity increased 12,161 tons, or 37.4 per cent.

MACHINE.	1909	1904	1899
Paper machines:			
Total number.....	331	290	266
Capacity, yearly, tons.....	1,000,094	880,020	611,179
Fourdrinier—			
Number.....	153	155	130
Capacity per 24 hours, tons.....	2,475	2,230	(¹)
Cylinder—			
Number.....	178	135	127
Capacity per 24 hours, tons.....	1,124	815	(¹)
Pulp equipment:			
Grinders, number.....	500	535	449
Digesters, total number.....	114	105	82
Sulphite, number.....	93	84	(²)
Soda, number.....	21	21	(²)
Capacity, yearly, tons of pulp, total.....	1,038,741	832,500	495,668
Ground.....	685,430	566,703	(²)
Sulphite.....	308,622	233,284	(²)
Soda.....	44,683	32,522	(²)

¹ Not reported.

² Not reported separately.

Boots and shoes.—The following table shows the number of pairs of the various kinds of boots and shoes manufactured during 1909, 1904, and 1899:

KIND.	NUMBER OF PAIRS.		
	1909	1904	1899
Boots and shoes.....	20,105,346	19,010,064	16,521,347
Men's.....	3,853,855	5,570,787	3,870,221
Boys' and youths'.....	745,527	1,285,183	1,402,000
Women's.....	10,141,133	7,174,040	5,896,307
Misses' and children's.....	5,364,831	4,993,445	5,352,093
Slippers.....	2,518,469	2,037,412	1,607,410
Men's, boys', and youths'.....	701,356	393,908	435,215
Women's, misses', and children's.....	1,817,113	1,643,444	1,232,195
Infants' shoes and slippers.....	3,707,675	(¹)	(¹)
All other kinds of footwear.....	2,116,961	2,779,814	1,265,166

¹ Not reported separately.

This table indicates that 20,105,346 pairs of boots and shoes and 2,518,469 pairs of slippers, or 8.1 per cent and 14.4 per cent of the respective totals for the United States, were manufactured in New York in 1909, these figures representing increases of 5.8 per cent and 23.6 per cent, respectively, as compared with 1904. The production of women's boots and shoes increased 41.3 per cent between 1904 and 1909, and that of misses' and children's boots and shoes 7.4 per

cent. On the other hand, a decrease of 30.9 per cent occurred in the output of men's boots and shoes, and a decrease of 41.1 per cent in that of boys' and youths' boots and shoes. With the exception of the footwear included under the head of "All other kinds of footwear," which comprises, for the most part, sandals and bath slippers, the remaining classes in the table show substantial gains for this period.

The following table shows the number of pairs of the various kinds of footwear made in 1909, classified according to the methods used in their manufacture:

KIND.	NUMBER OF PAIRS, BY METHOD OF MANUFACTURE.				
	Total.	Machine or hand welt.	Turned.	McKay.	All other methods. ¹
Boots and shoes.....	20,105,346	7,309,540	5,070,057	5,374,211	2,261,538
Men's.....	3,853,855	1,128,506	(²)	707,043	2,017,400
Boys' and youths'.....	745,527	204,582	(²)	296,833	244,132
Women's.....	10,141,133	4,905,261	2,330,233	2,905,639	.....
Misses' and children's.....	5,364,831	1,161,211	2,739,824	1,403,796	.....
Slippers.....	2,518,469	360,670	621,300	1,523,174	13,325
Men's, boys', and youths'.....	701,356	73,847	146,395	470,850	1,258
Women's, misses', and children's.....	1,817,113	286,823	474,905	1,043,318	12,067
Infants' shoes and slippers.....	3,707,675	291,842	3,440,029	22,203	37,601
All other kinds of footwear.....	2,116,961	780,192	163,008	763,103	401,600

¹ Includes wire-screw or metal-fastened, and wooden-pegged.
² Included under "All other methods."

Of the total number of pairs of boots and shoes manufactured in New York in 1909, 36.8 per cent were machine or hand welt sewed, 26.7 per cent were McKay sewed, 25.2 per cent were turned, and 11.2 per cent manufactured by other methods, the latter class comprising wire-screw or metal-fastened, and wooden-pegged shoes. More than half of the total number of men's boots and shoes were of the last-mentioned types. About two-fifths of the boys' and youths' boots and shoes and more than half of the slippers were manufactured by the McKay process. Almost half of the women's boots and shoes were made by the machine or hand welt process, and more than half of the misses' and children's boots and shoes, together with nearly all of the infants' shoes and slippers, were turned.

Butter, cheese, and condensed milk.—The quantity of milk used in this industry increased from 2,309,599,597 pounds in 1899 to 2,722,580,187 pounds in 1904, but decreased to 2,422,727,788 pounds in 1909, whereas the quantity of cream used increased from 2,496,730 pounds in 1899 to 6,176,069 pounds in 1904 and 17,842,320 pounds in 1909. Owing to the importance of the condensed-milk branch of the industry in the state, the quantity of milk used by all branches of the industry combined has not decreased as rapidly since 1904 as it has done in most other states. The quantity of milk used in the butter-making branch of the industry, however, has decreased decidedly on account of the radical change in the method of handling milk which has taken place in the last decade. Formerly it was a common practice for the farmer to sell

the whole milk to the creamery, but now the milk is usually separated on the farm and only the cream is sold. Of the 1,552 establishments included in this industry in 1909, 512 used separators, whereas 705 of the 1,766 plants in operation during 1904 reported such machinery. The number of separators in these establishments in 1909 was 1,065, as against 1,219 in 1904.

The quantity and value of the different products for 1909, 1904, and 1899 are presented in the following table:

PRODUCT.	1909	1904	1899
Total value.....	\$42,458,345	\$31,047,770	\$20,557,888
Butter:			
Pounds.....	45,807,210	58,250,504	40,003,846
Value.....	\$13,471,482	\$12,310,059	\$8,087,210
Packed solid—			
Pounds.....	31,451,828	46,208,732	33,008,820
Value.....	\$9,127,057	\$9,522,572	\$6,471,515
Prints or rolls—			
Pounds.....	14,415,388	12,047,772	7,025,020
Value.....	\$4,344,425	\$2,793,487	\$1,616,695
Cheese:			
Pounds.....	105,194,808	132,830,482	127,380,022
Value.....	\$14,200,024	\$10,812,747	\$12,220,783
Full cream—			
Pounds.....	80,655,411	(1)	(1)
Value.....	\$12,502,907	(1)	(1)
Part cream—			
Pounds.....	7,171,365	(1)	(1)
Value.....	\$778,770	(1)	(1)
Skimmed—			
Pounds.....	4,455,081	(1)	(1)
Value.....	\$291,246	(1)	(1)
Other kinds—			
Pounds.....	4,512,441	(1)	(1)
Value.....	\$693,911	(1)	(1)
Condensed milk:			
Pounds.....	120,601,999	102,480,355	75,447,148
Value.....	\$9,428,283	\$6,718,380	\$4,801,223
Sweetened—			
Pounds.....	87,658,031	78,149,508	75,447,148
Value.....	\$7,575,218	\$5,433,068	\$4,901,223
Unsweetened—			
Pounds.....	32,943,968	24,330,847	.....
Value.....	\$1,853,065	\$1,284,712	.....
Cream sold:			
Pounds.....	27,078,783	5,072,020	11,943,408
Value.....	\$3,481,290	\$428,941	\$784,023
Casein:			
Pounds.....	6,712,071	6,736,506	6,223,085
Value.....	\$482,308	\$310,053	\$154,272
All other products².....	\$1,328,052	\$400,000	\$503,777

¹ Not reported separately.
² Includes skimmed milk sold and whey.

Cheese was the most important product, as measured by value, in 1909 and 1899, and butter the leading product in 1904. The total value of cheese represented 33.6 per cent of the total value of products for the industry in 1909, and that of butter 31.7 per cent; for 1904 the corresponding percentages were 34.8 and 39.7, while for 1899 they were 46 and 30.5, respectively.

The output of cheese increased in quantity but decreased in value from 1899 to 1904, while from 1904 to 1909, though it decreased 20.8 per cent in quantity, it increased 31.9 per cent in value. From 1899 to 1904 both the total quantity and the total value of butter increased decidedly, but from 1904 to 1909 its value increased much less rapidly and its quantity decreased more than one-fifth. The total output of condensed milk increased substantially in both quantity and value during the decade.

The proportions which the values of these three classes of products for the state formed of the corresponding totals for the United States in 1909 were as

follows: Cheese, 33 per cent; butter, 7.5 per cent; and condensed milk, 28.1 per cent. Measured by value of products, New York held first place among the states in the manufacture of condensed milk, second in the manufacture of cheese, and fourth in the manufacture of butter.

Gas, illuminating and heating.—The following table shows the quantity and cost of the different materials used in the gas industry during 1909 and 1904:

MATERIAL.	1909	1904
Total cost.....	\$15,018,406	\$10,940,401
Coal:		
Tons.....	1,275,404	1,159,196
Cost.....	\$4,305,405	\$3,934,231
Coke:		
Tons.....	101,012	37,274
Cost.....	\$330,338	\$77,052
Oil:		
Gallons.....	171,212,040	128,365,316
Cost.....	\$5,578,560	\$5,509,761
Calcium carbide:		
Pounds.....	897,350	31,600
Cost.....	\$27,489	\$1,251
Gas, purchased.....	\$2,965,563	\$02,151
Fuel for boilers and retorts.....	\$384,712	\$358,370
Lamps and appliances.....	\$986,370	(1)
All other materials.....	\$439,969	\$907,585

¹ Figures not available.

Oil was the most important material used, both in 1909 and in 1904, contributing 37.1 per cent of the total cost of materials for the industry in the later year and 50.4 per cent in the earlier. Although the quantity used in 1909 was practically one-third more than in 1904, the cost was but slightly greater. The material next in importance was coal, the cost of which represented 28.7 per cent of the cost of all materials in 1909 and 36 per cent in 1904. The quantity used increased 116,208 tons, or 10 per cent, and its cost \$371,174, or 9.4 per cent, during the five-year period. Although contributing a very small proportion of the total cost of materials, calcium carbide, which is used in the manufacture of acetylene gas, shows the greatest relative gain in quantity, and also, with the exception of gas purchased, in cost. A number of companies manufacturing gas within the state purchase considerable quantities of gas for distribution from other New York gas companies, such purchases amounting in 1909 to 6,289,180,000 cubic feet and costing \$2,965,563. These figures, in a measure, represent the extent of duplication in the industry for the year. The decrease in cost shown for "All other materials" is due largely to the fact that in 1904 this class included lamps and appliances, which were reported separately in 1909.

The quantity and value of the different products manufactured during 1909 and 1904 are shown in the first table on the following page.

The total quantity of all kinds of gas reported in 1909 was 45,768,354,000 cubic feet, valued at \$34,851,565, as compared with 34,180,625,000 cubic feet, valued at \$33,483,741, in 1904, an increase of 11,587,729,000 cubic feet, or 33.9 per cent, in quantity, and an increase of \$1,367,824, or 4.1 per cent, in value.

PRODUCT.	1909	1904
Total value.....	\$42,346,726	\$36,314,903
Gas:		
Cubic feet, thousands.....	45,768,354	34,180,625
Value.....	\$34,851,565	\$33,483,741
Straight coal—		
Cubic feet, thousands.....	6,258,297	2,277,537
Value.....	\$4,267,355	\$2,084,077
Carbureted water—		
Cubic feet, thousands.....	34,750,676	22,336,001
Value.....	\$26,704,625	\$18,569,697
Mixed—		
Cubic feet, thousands.....	4,003,866	9,261,881
Value.....	\$3,490,211	\$12,518,259
Oil—		
Cubic feet, thousands.....	134,167	303,186
Value.....	\$322,878	\$306,270
Acetylene—		
Cubic feet, thousands.....	3,488	128
Value.....	\$48,837	\$2,014
All other—		
Cubic feet, thousands.....	8,860	1,892
Value.....	\$17,659	\$3,424
Coke:		
Bushels.....	17,509,858	11,839,567
Value.....	\$1,163,509	\$732,712
Tar:		
Gallons.....	15,304,307	13,334,182
Value.....	\$312,749	\$317,214
All other products.....	\$4,984,977	\$152,823
Receipts from sales of lamps and appliances.....	\$1,033,026	\$628,413

¹ In addition 6,439,061 gallons were reported without value.

Carbureted water gas formed more than three-fourths of the total quantity of gas reported in 1909, its production having increased 12,423,675,000 cubic feet, or 55.6 per cent, from 1904 to 1909; the value of this gas constituted 52.6 per cent of the total value of all products in the former year, and 63.1 per cent in the latter. Straight coal gas was second in importance in 1909, although in 1904 mixed gas ranked second in both quantity and value. During this period the output of straight coal gas increased 3,980,760,000 cubic feet, or 174.8 per cent, and its value \$2,183,278, or 104.8 per cent. The quantity of mixed gas and of oil gas decreased more than one-half from 1904 to 1909; acetylene gas, on the other hand, shows a remarkable increase, although the output was comparatively small even in 1909. There was a substantial increase during the five years in the output of coke produced for sale, and of tar, the former increasing 5,670,291 bushels, or 47.9 per cent, and the latter 1,970,125 gallons, or 14.8 per cent.

Iron and steel, steel works and rolling mills.—The next table shows the quantity and the cost of the principal classes of materials and the quantity and value of the main groups of products reported by the steel works and rolling mills of New York for 1909, 1904, and 1899.

Pig iron and ferroalloys (spiegeleisen, ferromanganese, etc.), constituted the most important group of materials used in 1909 and 1904, as regards both the tonnage and cost, but a slightly larger cost was reported for scrap iron in 1899. The cost of pig iron and the other materials included in this group formed 58.3 per cent of the total cost of materials used in 1909, as compared with 51.3 per cent in 1904 and 29.2 per cent in 1899. From 1904 to 1909 there was a general increase in the tonnage of each of the three main groups of materials used, as well as in the cost of each class of materials shown in the table, the

largest relative gains in both respects being shown for the group comprising ingots, blooms, etc. In addition to the scrap iron and steel shown in the table, which was acquired from outside sources, a little over 200,000 tons produced in the works themselves during 1909 were charged back into the furnaces.

Rolled, forged, and other classified products, which contributed 85.8 per cent of the total value of products for the industry in both 1909 and 1904, and 88.6 per cent in 1899, show an increase from 1904 to 1909 of 486,645, or 85.5 per cent, in tonnage, and \$15,705,046, or 86.2 per cent, in value. The total production of steel in the state in 1909 was 1,115,250 tons and in 1904 474,258 tons, a little more than half being manufactured by the Bessemer process. Of the steel product for 1909, 1,088,840 tons were in ingots, of which 1,087,518 tons were converted into rolled forms in the works where produced, and 26,410 tons were in castings.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials, total cost.....	\$25,889,170	\$13,260,039	\$4,168,056
Pig iron and ferroalloys—spiegeleisen, ferromanganese, etc.:			
Tons.....	947,541	506,902	69,290
Cost.....	\$15,087,047	\$6,800,549	\$1,218,071
Scrap, purchased, including old rails not intended for rerolling: ¹			
Tons.....	183,112	156,985	68,658
Cost.....	\$3,230,711	\$2,181,434	\$1,257,237
Ingots, blooms, billets, slabs, muck and scrap bar, rails for rerolling, and sheet and tin-plate bars:			
Tons.....	66,601	24,811	25,907
Cost.....	\$1,874,010	\$676,895	\$695,835
Fuel and rent of power.....	2,170,165	1,577,541	471,663
All other materials.....	3,516,728	2,023,520	525,249
Products, total value.....	\$30,532,414	\$21,227,399	\$8,812,408
Rolled, forged, and other classified products:			
Tons.....	1,055,068	509,323	137,981
Value.....	\$33,021,048	\$18,216,002	\$7,809,118
All other products, including value added to rolling-mill products by further manufacture.....	\$5,011,366	\$3,011,397	\$1,003,290

¹ Includes scrap transferred to the establishment reporting from other works of the company.

Iron and steel, blast furnaces.—The following table shows the quantity and value of pig iron produced in the years 1909, 1904, and 1899, together with the value of the other products of the blast-furnace industry in those years:

PRODUCT.	1909	1904	1899
Total value.....	\$26,620,948	\$8,634,737	\$5,046,146
Pig iron:			
Tons.....	1,717,001	609,588	334,512
Value.....	\$26,506,413	\$8,411,946	\$5,042,550
All other products.....	\$24,535	\$222,791	\$3,695
<i>Pig iron, classified by grades, tons.</i>			
Bessemer.....	622,115	225,414	.....
Basic.....	262,846	4,009	.....
Foundry.....	629,005	275,104	291,093
Forge or mill.....	48,446	34,403	38,699
Malleable Bessemer.....	107,973	34,848	.....
All other.....	45,806	35,150	3,820

The production of pig iron increased remarkably during the decade 1899–1909, the actual gain from 1899 to 1904 being 275,076, or 82.2 per cent, in tonnage, and \$3,369,396, or 66.8 per cent, in value, and from 1904 to 1909, 1,107,503, or 181.7 per cent, in

tonnage, and \$18,184,467, or 216.2 per cent, in value. Of the 1909 product, all of which was coke iron, 770,429 tons were manufactured for use in the plants of the producing companies, and 946,662 tons were produced for sale. The leading grade of pig iron manufactured during each of the three census years was that for foundry purposes, which formed 36.7 per cent of the total production in 1909, 45.1 per cent in 1904, and 87.3 per cent in 1899. No Bessemer pig iron was reported in 1899, but it was second in importance both in 1909 and in 1904, the output amounting to 622,115 tons in 1909, as compared with 225,414 tons in 1904.

There were 19 active furnaces in 1909, of which 17 were located in the western part of the state, in Erie, Niagara, and Monroe Counties, and 2 in the Champlain district. The western group of furnaces used Lake Superior ores, while those of the Champlain district used ores mined in the neighborhood. Four furnaces of the Lackawanna Steel Company having a daily capacity of 600 tons each are included in the western group. This is the largest size of furnace in use, there being only five others in the United States having this capacity.

Chemicals.—The following table shows the quantity and value of the more important chemicals and groups of chemicals manufactured during 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$35,340,072	\$23,021,705	\$15,994,306
Acids.....	\$2,651,874	\$1,101,874	\$444,510
Sodas.....	\$9,070,225	\$5,542,930	\$4,021,144
Soda ash—			
Tons.....	142,131	173,721	167,552
Value.....	\$2,271,613	\$2,815,718	\$2,000,422
Sal soda—			
Tons.....	37,106	25,824	28,095
Value.....	\$437,631	\$408,361	\$357,303
Bicarbonate of soda—			
Tons.....	40,300	44,247	43,812
Value.....	\$860,330	\$537,098	\$885,003
Other soda products.....	\$2,609,345	\$1,641,153	\$1,612,416
Alums.....	\$454,623	.....	\$503,070
Coal-tar products.....	\$108,610	\$37,000	\$43,300
Bleaching materials.....	\$010,627	\$567,774	\$340,012
Chemical substances produced by the aid of electricity.....	\$12,018,719	\$4,784,640	\$1,102,481
Plastics.....	\$550,005	\$2,030	.....
Compressed and liquefied gases.....	\$010,304	\$400,316	\$226,452
Fine chemicals:			
Silver salts—			
Ounces.....	450,140	407,051	325,121
Value.....	\$100,130	\$101,170	\$120,104
Chloroform—			
Pounds.....	1,047,506	150,000	62,540
Value.....	\$417,204	\$50,127	\$31,270
All other.....	\$1,464,047	\$2,472,246	\$324,124
Glycerin: ²			
Pounds.....	19,871,614	8,000,000	8,000,000
Value.....	\$2,760,879	\$1,120,000	\$1,120,000
Cream of tartar:			
Pounds.....	13,309,512	11,553,600	4,800,000
Value.....	\$2,504,809	\$2,263,872	\$660,000
Other chemicals.....	\$2,707,903	\$1,766,703	\$53,275
All other products.....	\$900,453	\$2,610,408	\$5,714,024

¹Including sulphuric, nitric, and mixed acids and wood distillation products valued at \$3,908,400.
²Not including 8,955,980 pounds, valued at \$1,212,006, in 1909, and 3,432,515 pounds, valued at \$383,885, in 1904, produced in the state by manufacturers of soap.

The chemical substances produced by the aid of electricity formed the most important group in respect to value, in 1909, and show the largest actual gains, the value having increased \$3,682,159, or 334 per cent, from 1899 to 1904, and \$8,134,079, or 170

per cent, from 1904 to 1909. The value of these products constituted 36.5 per cent of the total value of all products reported for the industry in the state in 1909, as compared with 20.8 per cent in 1904, and 6.9 per cent in 1899. The remarkable growth in the manufacture of this group of products in New York is due largely to the extensive utilization of water power in the western part of the state for the generation of electric current. The value of this group of products manufactured in New York during 1909 represented nearly three-fourths of the total value of such products for the United States. The principal substances constituting this group in 1909 were aluminum (which is obtained exclusively by the electrolytic process), calcium carbide, hypochlorites, caustic soda, sodium, chlorates, phosphorus, and carbundum.

The next group in importance in point of value in 1909 consisted of sodas, the total value of which increased \$621,786, or 12.6 per cent, from 1899 to 1904, and \$536,295, or 9.7 per cent, from 1904 to 1909. Soda ash was the most important single item of the group, and bicarbonate of soda the second. It is noteworthy that the quantity and value of soda ash and the value of sal soda decreased from 1904 to 1909. This group of products was the most important in 1904, but since that period has been superseded by "chemical substances produced by the aid of electricity."

Glycerin and cream of tartar represented the largest values of any of the chemicals shown separately in the table in 1909. The output of glycerin in New York (by the establishments engaged primarily in the manufacture of chemicals) shows an increase from 1904 to 1909 of 11,871,614 pounds, or 148.4 per cent, in quantity and \$1,646,879, or 147 per cent, in value. Nearly all of the cream of tartar manufactured in the United States during 1909 was made in New York.

The most decided relative increase from 1904 to 1909 was in the value of plastics. The manufacture of plastics in New York is a comparatively new industry, for the total output in 1904 was valued at only \$2,636, whereas in 1909 it reached \$556,005, of which the value of casein, fibrin, or gluten compositions represented 95.3 per cent. Chloroform also shows large relative gains in quantity and value.

In addition to those shown in the above table, chemicals valued at \$1,835,321 were produced incidentally during 1909 by 17 establishments primarily engaged in the manufacture of products classified under other industry designations.

Musical instruments, pianos and organs and materials.—The number and value of the different classes of instruments manufactured during 1909, 1904, and 1899 are shown in the first table on the following page.

A total of 141,389 pianos were made in 1909, an increase of 39,357, or 38.6 per cent, over the number

reported in 1904, which, in turn, was 42 per cent greater than the number reported in 1899. The value of pianos constituted 70.6 per cent of the total value of products for the industry in 1909, 71.3 per cent in 1904, and 80.4 per cent in 1899. By far the greater part of the pianos were uprights without player attachments, this class showing a substantial increase both in number and in value for both five-year periods. The growth in the production of pianos for or with player attachments, however, has been remarkable, the number having increased from 83 in 1899 to 1,506 in 1904 and 18,917 in 1909. Comparatively few organs were made in the state during any one of the three census years. The number dropped from 1,774 in 1899 to 58 in 1904, but advanced to 275 during the next five-year period. Of these instruments, all in 1904 and nearly all in 1909 were pipe organs. There were 1,701 reed organs manufactured in 1899, but none were reported in 1904 and only 30 in 1909. Both in 1904 and 1909 the value of parts and materials constituted a considerable proportion of the total value of products. The major portion of this amount represents the value of the output of independent establishments manufacturing cases and other parts of instruments which were used as materials in the instrument factories of the state, so that their value was counted again as a part of the value of the finished pianos and organs and thus represents a duplication in the total cost of materials and value of products for the industry.

PRODUCT.	1909	1904	1899
Total value	\$33,679,953	\$23,389,504	\$14,746,431
Pianos:			
Number.....	141,389	102,032	71,855
Value.....	\$23,771,703	\$16,684,911	\$11,862,257
Upright			
Number.....	137,091	98,491	69,274
Value.....	\$21,401,242	\$14,819,717	\$10,899,392
Without player attachments—			
Number.....	118,174	66,985	60,191
Value.....	\$16,777,094	\$14,505,035	\$10,876,742
For or with player attachments—			
Number.....	13,917	1,506	83
Value.....	\$4,024,148	\$314,082	\$22,050
Grand—			
Number.....	4,298	3,541	2,581
Value.....	\$2,370,521	\$1,865,194	\$962,865
Player attachments made separate from pianos:			
Number.....	2,789	2,672	(1)
Value.....	\$829,405	\$321,865	(1)
Organs:			
Number.....	275	58	1,774
Value.....	\$334,573	\$133,471	\$279,941
Pipe—			
Number.....	245	58	73
Value.....	\$330,373	\$133,471	\$216,120
Reed—			
Number.....	30	—	1,701
Value.....	\$4,200	—	\$63,821
Parts and materials	\$7,276,182	\$5,142,812	(1)
All other products	\$1,468,030	\$1,106,445	\$2,604,233

¹ Not reported separately.

Automobiles, including bodies and parts.—The next table shows the number and value of the different classes of machines manufactured during 1909 and 1904.

During 1909, 8,064 automobiles, valued at \$17,509,582, were made in the automobile factories of New York, as compared with 1,808 automobiles, valued at

\$3,071,093, in 1904, the number in 1909 being over four times as great and the value nearly six times as great as in 1904. Of the automobiles manufactured in 1909, 7,529, or 93.4 per cent of the total number, were propelled by gasoline, as compared with 1,496, or 82.7 per cent of the total, in 1904. There were 7,447 passenger automobiles made in 1909, of which 5,440 were touring cars, and 617 business vehicles, of which 475 were trucks and 139 were delivery wagons. During the five-year period the number of gasoline automobiles increased 403.3 per cent, while those propelled by electricity and steam increased only 71.5 per cent. The most noteworthy increase in the different classes of vehicles manufactured was in touring cars, which show an increase from 421 in 1904 to 5,440 in 1909. Of the 8,064 automobiles manufactured in 1909, 686 were rated at less than 10 horsepower; 1,410, at 10 but less than 20 horsepower; 1,089, at 20 but less than 30 horsepower; 4,198, at 30 but less than 50 horsepower; 666, at 50 but less than 90 horsepower; and 15, at 90 horsepower or over. Of the 126,593 automobiles made in the United States during 1909 by the establishments engaged primarily in this industry, 6.4 per cent were made in New York.

PRODUCT.	1909		1904	
	Number.	Value.	Number.	Value.
Total value		\$30,979,527		\$4,260,164
Automobiles	8,064	17,509,582	1,808	3,071,093
Gasoline.....	7,529	16,446,788	1,496	2,164,918
Electric and steam.....	535	1,062,794	312	906,175
Passenger vehicles	7,447	16,332,660	1,650	2,539,154
Touring cars.....	5,440	12,296,292	421	1,022,582
Runabouts and buggies.....	1,304	1,835,650	1,120	1,222,564
Limousines, cabs, etc.....	667	2,093,020	—	—
All other (omnibuses, patrol wagons, etc.).....	36	107,698	109	285,000
Business vehicles	617	1,176,913	158	549,957
Delivery wagons.....	139	282,989	77	191,477
Trucks and all other.....	478	893,924	81	348,480
All other products, including repair work		13,469,945		1,189,071

¹ In addition, 39 automobiles, valued at \$110,168, and bodies and parts valued at \$527,863, were manufactured by establishments engaged primarily in the manufacture of other commodities.

² Includes 5 steam touring cars.

The products included under the head of "All other products" at the census of 1909, the value of which amounted to \$13,469,945, or 43.5 per cent of the total for all products, consisted largely of automobile bodies and parts manufactured by establishments where no finished vehicles were produced. It has been the practice to segregate the manufacture of the different parts to a considerable extent and to distribute the various processes among different establishments. As these partly manufactured products became the materials for other establishments which assemble the parts and produce the complete vehicle, there was a duplication, approximately equivalent to the value of such bodies and parts used in the factories of the state, in the total cost of materials and value of products reported for the industry.

Paint and varnish.—The quantity and value of the different products for 1909, 1904, and 1899 are shown in the following table:

PRODUCT.	1909	1904	1899
Total value	\$28,559,474	\$25,121,446	\$18,878,232
Pigments:			
White lead, dry—			
Pounds.....	12,173,520	¹ 74,518,249	¹ 30,109,000
Value.....	\$630,841	¹ \$3,051,795	¹ \$647,440
Oxides of lead—			
Pounds.....	20,180,006	15,825,810	12,420,000
Value.....	\$1,181,254	\$822,933	\$633,170
Lamp and other carbon blacks—			
Pounds.....	532,700	27,040	(²)
Value.....	\$12,587	\$2,004	(²)
Iron oxides and other earth colors—			
Pounds.....	11,019,174	9,172,633	15,458,000
Value.....	\$190,666	\$64,565	\$121,534
Dry colors, including vermilion and other fine colors—			
Pounds.....	44,639,112	24,679,202	42,605,643
Value.....	\$2,595,124	\$2,054,800	\$2,772,554
Barytes—			
Pounds.....	4,393,000	40,000	(²)
Value.....	\$23,167	\$400	(²)
Pulp colors sold moist—			
Pounds.....	14,020,581	14,779,079	12,941,596
Value.....	\$672,111	\$593,504	\$580,623
Paints:			
White lead in oil—			
Pounds.....	62,973,138	(²)	(²)
Value.....	\$3,765,227	(²)	(²)
Paints in oil, in paste—			
Pounds.....	21,453,365	27,233,382	68,009,820
Value.....	\$2,274,401	\$2,273,822	\$4,009,897
Paints in oil, already mixed for use—			
Gallons.....	3,331,001	3,947,600	2,922,134
Value.....	\$3,618,181	\$3,412,447	\$2,008,441
Varnishes and japans:			
Oleo-resinous varnishes—			
Gallons.....	5,199,289	5,070,399	4,928,208
Value.....	\$4,328,544	\$4,173,126	\$4,065,714
Spirit varnishes—			
Gallons.....	253,266	323,596	220,705
Value.....	\$306,681	\$603,670	\$401,428
Pyroxylin varnishes—			
Gallons.....	372,689	3,669	102,777
Value.....	\$422,550	\$3,758	\$99,000
All other varnishes.....	\$1,305,376	\$149,513	.....
Drying japans and lacquers.....	\$1,270,148	\$831,873	\$1,074,113
Liquid fillers:			
Gallons.....	201,232	188,014	(²)
Value.....	\$180,561	\$125,385	(²)
Paste and dry fillers and putty:			
Pounds.....	15,096,299	14,584,498	(²)
Value.....	\$420,399	\$390,704	(²)
Water paints, dry:			
Pounds.....	25,490,405	23,335,015	(²)
Value.....	\$856,159	\$748,391	(²)
Linseed oil:			
Gallons.....	1,426,964	(²)	(²)
Value.....	\$731,731	(²)	(²)
Bleached shellac:			
Pounds.....	1,730,727	(²)	(²)
Value.....	\$398,253	(²)	(²)
All other products.....	\$3,331,522	\$4,528,087	\$1,034,372

¹ Includes white lead in oil.

² Not reported separately.

A larger value was reported for oleoresinous varnishes at each of the three censuses than for any other single product presented in the table, though in 1909 the combined value of white lead dry and white lead in oil was slightly greater. The value of this class of varnishes was considerably less in 1909, however, than in 1899, a decrease of 10.6 per cent between 1899 and 1904 having been only partly made up by an increase (3.7 per cent) between 1904 and 1909. The quantity and value of white lead, both dry and in oil, manufactured in New York in 1909 formed 22.6 per cent and 23 per cent, respectively, of the corresponding totals for this product in the United States. Other leading products, in the order of their importance in 1909 as measured by value, were paints in oil, already mixed for use, the pigments classified as dry colors, and paints in oil in paste. Of these five leading products, all except dry colors show a gain from 1904 to

1909 in value of output, and all except the paints in oil show an increase in quantity. The largest absolute increase in value from 1904 to 1909 was that of \$753,273, or 20.6 per cent, in the value of white lead dry and in oil combined, while the most striking increase in quantity was that of 19,959,910 pounds, or 80.9 per cent, in the output of dry colors. The most pronounced relative increase in quantity was reported for barytes, and in value, for pyroxylin varnishes.

In addition to the various products reported in the preceding table for 1909, paint and varnish to the value of \$806,814 were manufactured as secondary products by 15 establishments included under other classifications. These products consisted mainly of bleached shellac, drying japans and dryers, and paints in oil, ready for use. There were also 43,431,580 pounds of dry white lead, 737,214 gallons of varnish, and 170,249 pounds of lead oxide manufactured and used in further processes of manufacture within the paint and varnish establishments reporting.

During 1909, 36,203 tons of pig lead, valued at \$2,733,997; 46,520 gallons of grain alcohol, valued at \$23,381; and 101,669 gallons of wood alcohol, valued at \$49,906, were used in the manufacture of paint and varnish in the state.

Leather, tanned, curried, and finished.—The quantity and cost of the different kinds of materials used in this industry during the last three census years are shown in the following table:

MATERIAL.	1909	1904	1899
Total cost	\$20,940,733	\$16,274,903	\$17,424,300
Hides:			
Number.....	¹ 1,639,467	1,590,760	2,000,132
Cost.....	\$10,473,690	\$7,804,223	\$8,969,164
Skins:			
Number.....	9,781,180	9,002,450	10,516,312
Cost.....	\$6,951,107	\$4,009,700	\$4,893,981
Calf and kip—			
Number.....	2,107,584	1,135,591	1,048,722
Cost.....	\$2,751,704	\$1,083,168	\$1,120,903
Sheep—			
Number.....	6,491,352	7,124,420	6,665,810
Cost.....	\$3,214,723	\$2,708,110	\$1,945,142
All other—			
Number.....	² 1,182,244	1,702,448	2,801,780
Cost.....	\$984,620	\$1,178,528	\$1,821,876
Rough leather, purchased	\$361,413	\$282,738	\$418,080
Sides—			
Number.....	10,934	52,172	111,300
Cost.....	\$83,570	\$180,147	\$393,580
All other.....	277,843	102,591	24,500
All other materials.....	\$3,154,514	\$3,218,146	\$3,143,075

¹ Cattle hides only.

² Includes horsehides.

Hides show a greater increase in cost during the five-year period 1904–1909 than any other of the materials used, namely, \$2,669,476, or 34.2 per cent, but the number used increased only 69,717, or 4.4 per cent. The cost of hides constituted 50 per cent of the total cost of all materials used in 1909, 48 per cent in 1904, and 51.5 per cent in 1899. Eight and nine-tenths per cent of the hides tanned in the United States during 1909 were tanned in New York establishments. The largest relative increase in number from 1904 to 1909 is shown for calf and kip skins, while the largest decrease is shown for sheepskins.

The following table shows the quantity and value of the different products of this industry in 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$27,642,383	\$21,642,945	\$23,205,991
Leather.....	25,859,801	10,265,208	21,883,703
Sole.....	5,933,249	4,027,072	4,655,818
Upper, other than colt, calf, or kip skins.....	\$5,825,075	\$4,901,639	\$0,903,770
Horsehides and colt skins—			
Number.....	91,887	50,019	16
Value.....	\$285,213	\$159,998	\$70
Calf and kip skins, tanned and finished—			
Number.....	2,106,084	1,122,832	990,213
Value.....	\$3,779,513	\$1,662,513	\$1,442,322
Goatskins, tanned and finished—			
Number.....	565,831	1,033,155	1,801,518
Value.....	\$407,876	\$922,035	\$1,898,957
Sheepskins, tanned and finished—			
Number.....	3,469,260	4,768,772	2,967,030
Value.....	\$2,406,610	\$3,049,703	\$1,360,885
Harness—			
Sides.....	237,198	134,182	146,341
Value.....	\$1,648,537	\$995,947	\$765,500
Carriage, automobile, and furniture—			
Hides.....	83,684	31,637	9,061
Value.....	\$851,055	\$223,025	\$57,177
Trunk, bag, and pocketbook.....	\$376,978	\$109,834	\$379,586
Glove.....	\$2,074,701	\$1,218,868	\$1,860,388
Sold in rough.....	\$599,947	\$836,408	\$1,130,248
All other.....	\$1,671,047	\$1,158,106	\$1,428,967
All other products.....	\$597,502	\$1,320,483	\$278,633
Work on materials for others.....	\$1,185,080	\$1,057,254	\$1,043,650

The value of upper leather (exclusive of colt, calf, and kip skins) constituted a larger proportion of the total value of all products for the industry at the censuses of 1904 and 1899 than that of any other product, but by 1909 sole leather had taken the lead in this respect. For the five-year period 1904-1909, tanned and finished calf and kip skins show the largest relative increase both in number and in value—87.6 per cent and 127.3 per cent, respectively. During the same period both the number and the value of the tanned and finished goatskins and sheepskins decreased. In 1909 New York contributed 17.6 per cent of the total number of tanned and finished sheepskins, and 11.1 per cent of the tanned and finished calf and kip skins reported for the United States. In addition to that shown in the above table, leather valued at \$2,357,587 was tanned and curried during 1909 by establishments which used it in further manufacture.

The amount charged for tanning, currying, or finishing for others shows a slight increase both from 1899 to 1904 and from 1904 to 1909. The estimated value, after treatment, of the stock treated on a custom basis for others than tanners, curriers, or finishers during 1909 was \$7,286,944. If this amount be added to the total value of products, \$27,642,383, reported for the industry, less the \$1,185,080 received for work performed, the result, \$33,744,247, will represent fairly the importance of the leather industry in the state.

The statement which follows gives the quantity and estimated value of the products tanned, curried, or

finished by the leather-manufacturing establishments of the state during the years 1909 and 1904 for others who were not tanners, curriers, or finishers:

PRODUCT.	1909	1904
Total estimated value of stock after treatment.....	\$7,286,944	\$5,640,448
Tanned:		
Hides—		
Number.....	18,271	25,652
Estimated value.....	\$169,189	\$40,836
Skins—		
Number.....	1,827,426	4,130,092
Estimated value.....	\$1,637,551	\$2,433,050
Curried or finished:		
Sides—		
Number.....	825	
Estimated value.....	\$6,600	
Splits—		
Number.....	172,800	3,765
Estimated value.....	\$201,000	\$5,647
Skins—		
Number.....	5,001,599	4,346,892
Estimated value.....	\$5,272,004	\$3,155,915

The number of hides tanned for others, exclusive of tanners, curriers, and finishers, in 1909 was less than three-fourths the number so treated in 1904, and the number of skins less than one-half the number in 1904. The number of sides, splits, and skins curried or finished, however, increased.

Soap.—The quantity and cost of the principal materials used in the manufacture of soap during 1909 and 1904 are shown in the following table:

MATERIAL.	1909	1904
Total cost.....	\$15,612,382	\$8,410,867
Tallow, grease, and other fats:		
Pounds.....	98,083,852	105,415,180
Cost.....	\$5,843,965	\$4,133,201
Cocoonut and palm-kernel oil:		
Gallons.....	1,740,124	907,704
Cost.....	\$583,258	\$400,793
Cottonseed oil:		
Gallons.....	4,237,007	1,780,255
Cost.....	\$1,703,923	\$537,069
Rosin:		
Pounds.....	43,642,255	34,527,670
Cost.....	\$939,230	\$637,347
Foots:		
Pounds.....	9,825,800	3,495,053
Cost.....	\$429,904	\$139,489
Caustic soda:		
Tons.....	11,006	13,823
Cost.....	\$449,716	\$569,950
Soda ash:		
Tons.....	24,958	12,648
Cost.....	\$463,152	\$236,517
Fuel and rent of power.....	\$290,146	\$179,206
All other materials.....	\$4,600,688	\$1,670,366

Tallow, grease, and other fats, which at both censuses constituted the most important item, as measured by cost, among the materials used, show for the five-year period a decrease of 7,331,337 pounds, or 7 per cent, in quantity, but an increase of \$1,710,704, or 41.4 per cent, in cost. This class of materials represented 37.4 per cent of the cost of all materials used in 1909 and 49.1 per cent in 1904. With the exception of caustic soda, each of the remaining items shows an increase for the five-year period in both quantity and cost. The largest actual increase in cost reported for any class of materials was that of \$3,038,722 for the items included under the head of "All other

materials." Cottonseed oil and foots made the most pronounced relative gains in both quantity and cost, the increase in each case amounting to more than 100 per cent in quantity and to more than 200 per cent in value.

The following table gives the quantity and value of hard and soft soap and of glycerin reported for the last two census years, together with the value of the other products reported:

PRODUCT.	1909	1904
Total value.....	\$23,582,977	\$13,401,726
Hard soap:		
Pounds.....	373,520,337	207,377,794
Value.....	\$18,004,061	\$12,440,255
Soft soap:		
Pounds.....	14,607,378	16,427,585
Value.....	\$171,702	\$114,107
Glycerin:		
Pounds.....	8,955,000	3,432,515
Value.....	\$1,212,606	\$383,885
All other products.....	\$4,104,608	\$463,470

The quantity of hard soap, which increased 76,151,-543 pounds, or 25.6 per cent, during the five years covered by the table, represented 21.5 per cent of the total reported for the United States in 1909 by establishments classified as engaged in the soap industry, and 21.9 per cent in 1904. Soft soap, the second largest product in point of quantity, shows a decrease of 1,820,207 pounds, or 11.1 per cent, in this respect, but the value increased materially. Glycerin increased 160.9 per cent in quantity and 215.9 per cent in value. The largest relative gain in value is shown for "All other products," which in 1909 consisted largely of perfumes, paints, flavoring extracts, and baking powders.

In addition to the products shown in the above table, soap valued at \$181,502 was manufactured during 1909 by 16 establishments which were classified under other industry designations. These products consisted mainly of 1,061,481 pounds of hard soap, of which 729,782 pounds was toilet soap.

Canning and preserving.—It was not until about 1850 that canning and preserving, as a factory industry, assumed commercial prominence. New York was one of the first states in which it was developed, and the growth of the industry in that state has been remarkable. Of the 790 establishments reported in 1909, 674 were engaged primarily in canning and preserving fruits and vegetables; 101 in the manufacture of pickles, preserves, and sauces; and 15 in canning and curing fish.

The quantity and value of the different products for 1909, 1904, and 1899 are shown in the next table.

The case, which is used as the unit of measure, consists of 24 standard-size cans—No. 2 (also called 2-pound cans) for beans, corn, peas, berries, cherries, and plums, and No. 3 (also called 3-pound cans) for all other fruits and vegetables. Where the output of fruits and vegetables has been reported in other forms

by the canneries, the quantities so reported have been reduced to standard cases in the table.

PRODUCT.	1909	1904	1899
Total value.....	\$10,039,735	\$16,821,221	\$12,506,329
Canned vegetables:			
Cases.....	3,455,991	3,022,068	2,070,275
Value.....	\$6,271,904	\$6,836,451	\$4,410,251
Beans—			
Cases.....	569,170	551,081	274,932
Value.....	\$1,024,005	\$1,055,253	\$448,314
Corn—			
Cases.....	771,475	1,444,344	1,341,352
Value.....	\$1,107,909	\$2,272,632	\$1,025,496
Succotash—			
Cases.....	68,673	.....	12,324
Value.....	\$174,119	.....	\$27,506
Peas—			
Cases.....	1,438,059	1,509,029	751,535
Value.....	\$2,681,300	\$2,598,201	\$1,473,012
Pumpkin—			
Cases.....	103,127	45,063	24,769
Value.....	\$160,974	\$72,780	\$35,370
Tomatoes—			
Cases.....	347,714	184,894	254,616
Value.....	\$657,375	\$389,036	\$483,112
All other—			
Cases.....	157,767	187,057	10,747
Value.....	\$360,006	\$448,409	\$16,541
Canned fruits:			
Cases.....	900,870	585,264	655,261
Value.....	\$2,182,455	\$1,207,700	\$1,347,390
Apples—			
Cases.....	420,180	250,296	320,678
Value.....	\$753,231	\$354,817	\$500,048
Berries—			
Cases.....	214,134	150,730	155,306
Value.....	\$596,130	\$372,171	\$321,759
Cherries—			
Cases.....	90,445	46,160	21,207
Value.....	\$323,803	\$133,814	\$71,881
Peaches—			
Cases.....	41,727	10,000	29,111
Value.....	\$141,142	\$39,399	\$72,501
Pears—			
Cases.....	51,086	51,309	58,036
Value.....	\$210,858	\$172,944	\$226,082
Plums—			
Cases.....	52,853	41,195	70,800
Value.....	\$76,449	\$58,839	\$94,879
All other—			
Cases.....	20,845	26,514	33
Value.....	\$74,842	\$75,770	\$150
Dried fruits:			
Pounds.....	33,722,573	31,543,381	21,542,807
Value.....	\$2,346,875	\$1,346,040	\$1,275,100
Apples—			
Pounds.....	33,652,115	31,458,702	21,542,807
Value.....	\$2,333,137	\$1,331,805	\$1,275,109
All other—			
Pounds.....	70,458	84,679	.....
Value.....	\$13,738	\$14,145	.....
Fish:			
Pounds.....	6,873,885	6,381,124	3,644,310
Value.....	\$1,170,700	\$890,342	\$175,392
Canned fish, all kinds—			
Pounds.....	121,256	407,896	166,896
Value.....	\$75,777	\$37,826	\$23,025
Smoked fish—			
Pounds.....	4,180,002	4,623,080	2,300,600
Value.....	\$780,103	\$777,859	\$101,082
Herring—			
Pounds.....	335,800	466,000	1,094,000
Value.....	\$29,026	\$34,534	\$17,040
Salmon—			
Pounds.....	2,505,614	1,880,600	97,000
Value.....	\$486,910	\$319,620	\$13,900
Sturgeon—			
Pounds.....	408,237	1,523,500	454,000
Value.....	\$152,286	\$332,350	\$60,110
All other—			
Pounds.....	750,441	752,080	64,600
Value.....	\$111,881	\$91,355	\$4,032
Salted fish—			
Pounds.....	2,572,537	1,350,148	1,107,814
Value.....	\$323,820	\$90,057	\$51,285
Herring—			
Pounds.....	693,786	812,830	1,046,600
Value.....	\$94,681	\$37,757	\$42,500
All other—			
Pounds.....	1,878,751	537,318	121,214
Value.....	\$229,139	\$42,900	\$8,785
All other products.....	\$7,058,801	\$6,534,628	\$5,298,187

¹ Does not include canned vegetables to the value of \$70,458, dried fruit to the value of \$28,271, and salted fish to the value of \$2,195, reported by establishments engaged primarily in industries other than canning and preserving.

² Excluding statistics for one establishment, to avoid disclosure of individual operations.

With the exception of canned vegetables, each of the main groups of products shows a substantial gain from 1904 to 1909 both in quantity and in value.

The output of canned vegetables, which constitute the most important group, as measured by value, shows a decrease of 466,077 cases, or 11.9 per cent, in quantity and \$564,547, or 8.3 per cent, in value. Measured by value, the most important single product in 1909 was canned peas, the value of which formed 14.1 per cent of the aggregate value of all products. The value of each of the vegetable products shown separately, with the exception of beans and corn, increased from 1904 to 1909. The fruits included under the head of "All other" were the only canned fruits to show a decrease in either quantity or value in 1909 as compared with 1904, while the largest absolute increase in each item was reported for apples.

Dried apples show an increase of 2,193,413 pounds, or 7 per cent, in quantity and \$1,001,242, or 75.2 per cent, in value from 1904 to 1909. The production of dried apples in New York during 1909 represented 75.5 per cent of the total output of this product for the United States and 75.3 per cent of its value.

The quantity of smoked fish decreased during the five-year period 1904-1909, owing chiefly to the decided decrease of 1,025,263 pounds in smoked sturgeon. More salmon was smoked in 1909 than any other variety of fish. The increase in the quantity and value of salted fish from 1904 to 1909 is noteworthy.

New York ranked first among the states of the Union in 1909 in the output of dried and of canned apples, second in that of canned peas, third in that of canned beans, and sixth in that of canned corn.

Agricultural implements.—Although the fiftieth industry in the state when measured by value of products, this industry is of considerable interest owing to the importance of agriculture in New York. The following table gives the value of the different general groups of implements manufactured during 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$14,970,980	\$13,045,891	\$10,537,254
Implements of cultivation.....	3,348,203	2,543,947	
Seeders and planters.....	247,357	1,800,182	10,071,310
Harvesting implements.....	5,950,777	5,841,889	
Seed separators.....	790,494	401,814	
All other products, including amount received for repair work.....	4,634,149	2,396,559	465,044

Harvesting implements formed the most important single group, as measured by value, in 1909 and 1904, and represented 39.7 per cent and 44.8 per cent of the totals for the respective census years. With the exception of seeders and planters, each of the different groups shows an increase in value for the five-year period, the largest being for the items included under the head of "All other products," which nearly doubled in value.

Gloves and mittens, leather.—The next table shows the number of pairs and the value of the different kinds of leather gloves, mittens, and gauntlets manufactured in New York in 1909, 1904, and 1899.

Although the number of pairs of gloves, mittens, and gauntlets manufactured decreased slightly from 1904 to 1909, their value increased \$4,328,565, or 44.2 per cent, owing largely to a general rise in prices. The output of men's unlined gloves, mittens, and gauntlets, which formed the most important single class at each of the last three censuses, shows a decrease from 1904 to 1909 of 74,509 dozen pairs, or 8.4 per cent, although its value shows an increase of \$2,351,406, or 54.1 per cent. The output of women's and children's unlined gloves, mittens, and gauntlets, the class second in importance in 1909, increased 181,472 dozen pairs, or 124.7 per cent, and its value \$2,085,202, or 180.3 per cent, during the same period. Of the total output of men's gloves, mittens, and gauntlets reported in 1909, 63.7 per cent, representing 70 per cent of the value, were unlined, the corresponding percentages for women's and children's gloves, mittens, and gauntlets being 57.3 and 71.2, respectively.

PRODUCT.	1909	1904	1899
Total value.....	\$14,336,365	\$9,946,443	\$10,854,221
Gloves, mittens, and gauntlets:			
Dozen pairs.....	1,850,438	1,881,104	1,721,831
Value.....	\$14,122,040	\$9,794,075	\$10,507,769
Men's—			
Dozen pairs.....	1,270,500	1,503,306	1,280,595
Value.....	\$9,568,409	\$7,810,971	\$7,731,868
Lined—			
Dozen pairs.....	404,817	674,114	643,440
Value.....	\$2,868,551	\$3,462,510	\$3,547,825
Unlined—			
Dozen pairs.....	814,743	880,252	637,155
Value.....	\$6,699,858	\$4,348,452	\$4,184,043
Women's and children's—			
Dozen pairs.....	570,878	317,828	424,142
Value.....	\$4,554,231	\$1,983,104	\$2,672,905
Lined—			
Dozen pairs.....	243,861	173,283	193,540
Value.....	\$1,312,817	\$820,892	\$1,015,744
Unlined—			
Dozen pairs.....	327,017	145,545	230,602
Value.....	\$3,241,414	\$1,162,212	\$1,657,251
All other products.....	\$213,725	\$152,368	\$346,432

¹ Includes 17,094 dozen pairs of gauntlets, valued at \$102,026, not distributed by kinds.

The following table gives, for 1909, a more detailed classification, showing for each class the total value of the output and the number of pairs made from the different kinds of leather:

PRODUCT.	Value.	DOZEN PAIRS.			
		Total.	Lamb or sheep skin.	Kid.	All other.
Total value.....	\$14,336,365				
Gloves, mittens, and gauntlets.....	14,122,040	1,850,438	1,408,620	67,369	374,419
Dress.....	11,418,955	1,287,618	1,046,654	66,464	174,560
Men's—					
Lined.....	1,981,224	282,069	198,340	4,600	79,111
Unlined.....	5,405,690	575,097	485,841	31,197	58,059
Women's and children's—					
Lined.....	930,064	142,511	118,030	2,956	20,016
Unlined.....	3,002,977	287,941	243,825	27,702	16,414
Working.....	2,708,685	562,820	361,066	935	199,919
Men's—					
Lined.....	887,327	182,748	121,592		61,156
Unlined.....	1,294,168	239,646	129,735	935	108,976
Boys'—					
Lined.....	373,753	101,350	80,310		21,040
Unlined.....	148,437	39,076	30,320		8,747
All other products.....	213,725				

Of the total output of leather gloves, mittens, and gauntlets in 1909, 76.1 per cent were manufactured from lambskin or sheepskin, 3.6 per cent from kid, and 20.2 per cent from other kinds of leather. Of the dress gloves, about 80 per cent were lambskin or sheepskin, and about 5 per cent were kid, while of the working gloves, mittens, and gauntlets nearly two-thirds were sheepskin or lambskin, less than 1 per cent were kid, and the remainder were made of other kinds of leather.

Carriages and wagons and materials.—The number and value of the different kinds of horse-drawn vehicles manufactured during the census years 1909, 1904, and 1899 are shown in the following table:

PRODUCT.	1909	1904	1899
Total value	\$13,292,531	\$14,643,510	\$14,002,904
Carriages (family and pleasure):			
Number.....	25,474	42,240	58,170
Value.....	\$2,344,487	\$4,550,893	\$4,930,600
Wagons:			
Number.....	21,937	19,870	22,775
Value.....	\$2,032,813	\$2,448,670	\$2,186,935
Business—			
Number.....	17,747	12,707	(1)
Value.....	\$2,005,589	(1)	(1)
Farm—			
Number.....	4,026	6,090	(1)
Value.....	\$253,942	(1)	(1)
Government, municipal, etc.—			
Number.....	154	83	(1)
Value.....	\$73,282	(1)	(1)
Public conveyances:			
Number.....	210	742	650
Value.....	\$187,036	\$518,460	\$480,142
Sleighs and sleds:			
Number.....	10,823	19,433	14,500
Value.....	\$349,643	\$502,768	\$412,075
All other products, including parts and repair work.....	\$7,477,652	\$6,532,710	\$5,975,143

¹ Not reported separately.

In view of the extraordinary development of the automobile industry, particularly during the last five years, it is but natural that the output of horse-drawn vehicles should decrease materially. In 1899, 96,107 such conveyances were manufactured in New York by the carriage and wagon establishments reported, but the number had decreased to 82,303 in 1904, and to 58,453 in 1909. The value of the vehicles made, however, increased 1 per cent from 1899 to 1904, although from 1904 to 1909 it decreased 28.3 per cent. During the five-year period 1904–1909 the only kinds of vehicles showing an increase in number were business wagons and government and municipal wagons, while the largest decrease was in the number of family and pleasure carriages. The number of sleighs and sleds made decreased 8,610 and their value \$243,125 during the same period. In point of numbers, family and pleasure carriages were the most important of the different classes, but their value in 1909 was exceeded by that reported for business wagons.

Shipbuilding, including boat building.—This classification includes the operations of shipyards building or repairing steel and wooden steam, sail, or unrigged vessels, yachts, motor boats, rowboats, and canoes, and the manufacture of masts, spars, oars, and rigging.

The number and gross tonnage of the different classes of vessels launched in 1909, 1904, and 1899 are shown in the following statement:

PRODUCT.	1909		1904		1899	
	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.
Vessels of 5 gross tons and over launched during the year.....	309	60,153	361	104,405	393	86,310
Steel.....	16	7,332	24	14,008	17	11,084
Steam.....	7	3,963	10	8,573	14	7,582
Motor.....	2	100	.....	.....	.....	.....
Sail.....	.....	.....	7	4,005	.....	.....
Unrigged.....	7	3,269	1	800	3	3,502
Wooden.....	293	52,820	337	90,427	376	75,226
Steam.....	23	3,565	30	5,759	87	4,817
Motor.....	76	1,190	61	706	.....	.....
Sail.....	15	678	27	451	85	1,400
Unrigged.....	170	47,387	210	83,511	204	69,000
Power boats of less than 5 gross tons.....	700	.....	463	.....	552	.....

The foregoing table shows that the total gross tonnage as well as the average gross tonnage of the vessels launched, not including power boats of less than 5 tons gross register, was greater in 1904 than in either 1909 or 1899, and that the total number of vessels launched was smaller in each succeeding census year, the decrease being principally in the number of wooden vessels. Increases from 1904 to 1909 are shown for the number of steel motor and unrigged vessels and for wooden motor boats. A considerable increase is also shown in the number of power boats of less than 5 tons gross register during the same period.

The value of the work done upon vessels and boats of all kinds during 1909, 1904, and 1899 is shown in the following table:

CLASS OF WORK.	1909	1904	1899
Total value	\$11,417,189	\$11,265,303	\$8,647,371
Work done during the year on new vessels and boats.....	3,977,934	4,181,772	3,281,815
Vessels of 5 gross tons and over.....	3,294,121	3,007,085	2,627,113
Boats of less than 5 gross tons.....	683,813	574,687	654,702
Power boats, all kinds.....	424,270	378,635	454,643
Sailboats, rowboats, scows, etc.....	259,543	196,052	200,059
Repair work.....	6,931,117	6,720,959	4,857,916
All other.....	508,138	350,572	507,640

Increases are shown for the decade 1899–1909 for all of the items presented in the table, with the exception of the value of the work done on power boats of less than 5 tons gross register. From 1904 to 1909 there was an increase in every item except the value of work done on new vessels of 5 tons gross register and over, which shows a decrease of 8.7 per cent.

The statistics presented in the two preceding tables do not include those for the United States navy yard in Brooklyn, which launched 5 steam cutters having a total displacement of 68 tons, and did work upon 1 steel vessel of 21,825 tons displacement and 6 small boats having a total displacement of 21 tons, and various repair work, the whole aggregating \$7,032,416 in value.

Wire.—This classification includes only those mills which draw wire from purchased wire rods. The figures for the wire departments of rolling mills which roll the wire rods, which would otherwise be presented in a supplementary note, can not be shown without disclosing the operations of individual establishments. The tonnage and cost of the principal materials used in 1909 were as follows:

MATERIAL.	1909
Total cost.....	\$7,823,518
Wire rods:	
Steel—	
Tons.....	14,850
Cost.....	\$561,362
Copper—	
Tons.....	22,195
Cost.....	\$6,285,465
Other metal (iron, brass, etc.)—	
Tons.....	367
Cost.....	\$62,150
Purchased wire:	
Tons.....	240
Cost.....	\$77,875
Fuel.....	\$185,851
All other materials.....	\$650,815

Comparative figures for 1904 and 1899 are not available. A total of 37,412 tons (2,000 pounds) of wire rods, costing \$6,908,977, were used, copper rods contributing 59.3 per cent of the tonnage and 91 per cent of the cost.

The tonnage and value of the main products reported for the industry in 1909 were as follows:

PRODUCT.	1909
Total value.....	\$10,065,431
Wire and manufactures of wire:	
Steel and iron—	
Tons.....	14,632
Value.....	\$1,593,005
Wire drawn for sale—	
Tons.....	12,151
Value.....	\$1,338,220
Manufactures of wire, nails, woven wire, rope, etc.—	
Tons.....	2,481
Value.....	\$555,775
Copper wire—	
Tons.....	22,375
Value.....	\$7,053,200
Other metal (chiefly brass) wire and manufactures of wire—	
Tons.....	310
Value.....	\$175,593
All other products.....	\$342,634

Of the total quantity of wire and manufactures of wire shown in the above table, 59.9 per cent was copper, 39.2 per cent was iron and steel, and nine-tenths of 1 per cent was made from other metals. Of the total value of wire products, \$9,722,797, the proportions contributed by each class were 78.7 per cent, 19.5 per cent, and 1.8 per cent, respectively. The seven wire mills in the state in 1909 reported 703 wire-drawing blocks, with an annual capacity of 39,519 tons.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for

manufacturing industries. There were 508 such establishments in the state of New York in 1909, of which 126 were in New York City; 25 in Buffalo; 23 in Syracuse; 16 in Rochester; 15 in Troy; 12 in Utica; 10 each in Albany, Binghamton, and Poughkeepsie; 7 each in Auburn, Schenectady, and Watertown; 6 each in Elmira and Jamestown; and 5 in Oswego. No other incorporated place had as many as 5 steam laundries.

The following statement summarizes the statistics:

Number of establishments.....	508
Persons engaged in the industry.....	14,063
Proprietors and firm members.....	523
Salaried employees.....	962
Wage earners (average number).....	12,578
Primary horsepower.....	12,637
Capital.....	\$7,316,808
Expenses.....	9,483,116
Services.....	6,081,311
Materials.....	1,856,703
Miscellaneous.....	1,545,102
Amount received for work done.....	11,446,663

The most common form of ownership was the individual, with 292 establishments. The firm and corporate forms of ownership were represented by 105 and 111 establishments, respectively. One hundred and forty-five establishments had receipts for the year's business of less than \$5,000; 222, receipts of \$5,000 but less than \$20,000; 119, receipts of \$20,000 but less than \$100,000; and 22, receipts of \$100,000 or over.

The number of wage earners employed each month and the percentage which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	12,129	93.0	July.....	13,010	98.7
February.....	12,160	93.2	August.....	13,046	100.0
March.....	12,107	92.8	September.....	12,890	98.0
April.....	12,155	93.2	October.....	12,782	98.0
May.....	12,312	94.4	November.....	12,735	97.8
June.....	12,762	97.4	December.....	12,897	98.0

The different kinds of primary power, the number of engines or motors, and the horsepower used in 1909 are shown in the following tabular statement:

KIND.	Number of engines or motors.	Horsepower.
Primary power, total.....		12,637
Owned:		
Steam.....	321	0,014
Gas.....	59	528
Water wheels.....	3	51
Water motors.....	3	15
Rented:		
Electric.....	260	1,437
Other.....		992

The kind and amount of fuel used are shown below:

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	63,770
Bituminous coal.....	Tons.....	29,547
Coke.....	Tons.....	2,842
Wood.....	Cords.....	796
Oil.....	Barrels.....	618
Gas.....	1,000 feet.....	100,760

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries, but are presented in the next summary.

	Custom sawmills.	Custom gristmills.
Number of establishments.....	211	403
Persons engaged in the industry.....	452	628
Proprietors and firm members.....	243	462
Salaried employees.....	8	4
Wage earners (average number).....	206	162
Primary horsepower.....	6,599	14,078
Capital.....	\$423,786	\$1,278,100
Expenses.....	69,303	2,353,010
Services.....	78,613	69,104
Materials.....	7,090	1,274,335
Miscellaneous.....	15,600	38,571
Value of products.....	207,624	1,324,948

¹ Includes estimate of all grain ground. A similar estimate of the value of the lumber sawed by custom sawmills is impracticable.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
			Expressed in thousands.										
STATE—All industries.....	1909 1904 1899	44,935 37,194 35,957	1,203,241 996,725	47,569 41,766	151,891 98,012 68,030	1,003,981 1,518,592 1,099,931	1,997,662 1,518,592 1,099,931	\$2,779,497 2,031,460 1,523,503	\$186,032 111,145 76,740	\$557,231 430,015 337,324	\$1,850,904 1,348,803 1,018,377	\$3,369,490 2,488,346 1,871,831	\$1,512,586 1,139,743 853,454
Agricultural implements.....	1909 1904 1899	57 75 87	6,851 7,279 6,290	41 60 80	1,093 934 659	5,717 6,270 5,551	10,744 12,019 8,228	26,109 23,436 20,116	1,012 809 670	3,270 3,241 2,797	6,415 5,678 4,825	14,071 13,046 10,537	8,556 7,368 5,712
Artificial flowers and feathers and plumes.	1909 1904 1899	319 149 157	9,813 3,740 4,477	417 205 229	903 210 229	8,493 3,325 4,019	215 80 106	7,982 1,805 2,981	1,025 175 227	3,452 1,102 1,257	12,258 1,463 2,190	21,162 3,097 5,016	8,904 2,534 2,817
Artificial stone.....	1909 1904 1899	176 20 1	967 656	185 20	71 54	711 582	1,122 688	1,429 629	60 71	390 364	523 282	1,357 930	634 648
Automobiles, including bodies and parts.	1909 1904 1899	113 35 15	11,610 2,101	59 21	1,690 231 56	9,801 1,849 288	9,398 1,254	25,102 3,347 639	1,604 231 166	7,016 1,227 106	14,908 1,907 173	30,980 4,260 456	16,072 2,353 283
Babbitt metal and solder.....	1909 1904 1899	24 15 11	349 210 251	18 27 19	139 94 20	192 128 203	191 84	1,918 1,110 1,198	181 68 33	149 86 116	5,071 4,307 2,719	6,123 4,966 3,077	1,052 659 358
Bags, other than paper.....	1909 1904 1899	21 17 18	1,127 707 714	14 15 17	113 60 52	1,000 722 645	751 416	1,888 807 678	149 83	330 230	4,116 3,012	4,986 3,648	870 636 552
Bags, paper.....	1909 1904 1899	20 12 16	1,157 604	12 9	113 60 65	1,032 535 508	1,046 369	3,281 4,774 1,787	204 111 80	426 215 169	3,933 1,792 1,119	5,013 2,858 1,695	1,680 1,066 570
Baskets, and rattan and willow ware..	1909 1904 1899	169 194 180	1,486 1,851 1,298	170 217 208	70 65 31	1,237 1,569 1,059	1,882 1,907	1,181 1,119 693	62 56 23	583 587 314	820 651 416	1,047 1,949 1,002	1,127 1,298 586
Belting and hose, leather.....	1909 1904 1899	28 25 21	924 997 693	22 22 18	298 218 117	604 759 558	1,988 908	4,442 3,669 2,363	365 287 134	395 424 320	4,101 3,764 2,400	6,420 5,749 3,203	2,310 1,925 893
Bicycles, motorcycles, and parts.....	1909 1904 1899	20 32 66	636 466 2,427	15 28 57	63 28 267	558 410 2,103	406 612	853 658 3,327	74 26	345 206	522 347	1,165 759	643 412
Blackening and cleansing and polishing preparations.	1909 1904 1899	88 65 68	1,188 829 745	58 50 67	472 223 181	658 553 497	539 565	2,232 1,260 904	561 280 222	297 214 206	1,827 1,418 948	3,836 2,719 1,913	2,009 1,301 965
Boots and shoes, including cut stock and findings.	1909 1904 1899	296 259 320	23,815 18,776 18,167	293 292 376	1,895 1,006 1,136	21,027 17,418 10,655	10,450 6,571	20,048 15,571 12,959	2,254 1,032 1,067	10,669 7,873 6,431	28,975 22,400 17,309	48,186 37,521 28,117	19,211 15,121 10,808
Boxes, cigar.....	1909 1904 1899	56 57 66	1,725 1,094 1,331	67 68 76	127 115 57	1,531 1,811 1,198	1,180 1,377	1,129 1,134 801	151 132 51	669 754 463	1,126 1,107 700	2,234 2,344 1,537	1,108 1,237 777
Boxes, fancy and paper.....	1909 1904 1899	315 260 246	12,792 11,821 9,025	851 296 311	813 814 438	11,538 10,711 8,276	4,677 3,573	8,072 6,804 3,725	924 818 365	4,261 3,584 2,617	0,113 5,562 3,347	14,234 12,748 8,380	8,121 7,186 5,033
Brass and bronze products.....	1909 1904 1899	247 184 172	7,596 4,477	218 207	727 388 229	6,651 3,882 3,456	13,397 3,694	16,591 6,442 6,180	1,024 428 275	3,951 2,088 1,726	13,139 3,868 5,303	22,184 8,045 9,327	9,045 4,177 3,788
Bread and other bakery products....	1909 1904 1899	3,978 3,164 3,000	29,039 22,505 19,803	4,212 3,362 3,168	3,470 1,435 2,081	21,357 17,708 14,584	10,319 6,265	38,573 24,551 19,434	2,727 1,099 1,473	13,881 10,172 7,414	52,738 36,389 23,558	80,233 61,034 43,061	33,495 24,645 19,403
Brick and tile.....	1909 1904 1899	205 192 217	8,630 7,183 7,178	212 213 288	338 243 183	8,080 6,737 8,741	28,734 19,080 18,107	13,864 10,954 8,741	406 281 167	3,958 3,161 2,705	1,717 1,368 1,100	8,433 7,430 5,684	6,716 6,062 4,576
Brooms and brushes.....	1909 1904 1899	171 176 170	3,410 3,639 3,084	185 207 224	337 250 212	2,897 3,182 2,648	1,680 1,316	3,926 3,308 2,718	406 233 166	1,326 1,220 1,021	3,180 2,840 2,266	6,290 5,402 4,335	3,110 2,553 2,069
Butter, cheese, and condensed milk..	1909 1904 1899	1,552 1,766 1,908	4,930 4,804 4,438	1,483 1,721 1,772	581 215 227	2,896 2,868 2,439	16,629 14,322 13,905	12,216 9,066 7,084	507 192 122	1,607 1,485 1,157	36,161 26,793 22,487	42,458 31,048 26,558	6,207 4,255 4,071
Buttons.....	1909 1904 1899	165 61 49	6,877 3,638 2,800	206 68 48	545 333 105	6,126 3,237 2,647	3,911 1,571	6,367 2,034 1,195	647 284 83	2,462 1,008 813	4,168 1,488 943	9,373 3,849 2,371	5,205 2,361 1,428
Candles.....	1909 1904 1899	9 8	420 362	4 5	69 47	347 340	147 171	1,170 1,331	106 67	136 128	1,099 933	1,070 1,332	571 399
Canning and preserving.....	1909 1904 1899	790 666 604	8,818 9,171	879 750	864 625 457	7,075 7,796 6,384	12,469 9,741	15,825 12,822 8,159	916 652 411	2,563 2,409 1,791	11,069 9,829 7,735	19,040 16,821 12,506	7,371 6,092 4,771
Carpets and rugs, other than rag.....	1909 1904 1899	16 12 12	12,272 11,354 8,795	11 8 3	363 269 189	11,898 11,077 8,603	11,901 10,151	27,528 19,830 12,870	686 328 250	5,870 4,507 3,308	13,315 11,133 7,081	25,066 19,404 15,029	12,291 8,271 7,348

¹ Not reported separately.

² Excluding statistics for one establishment, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
ALBANY—All industries.....	1909	395	11,607	410	1,336	9,861	15,029	\$26,276	\$1,581	\$5,234	\$10,521	\$22,825	\$12,305
	1904	490	10,685	550	1,159	8,976		15,876	1,377	4,269	9,377	20,209	10,832
	1899	511			761	8,106		15,011	914	3,852	7,507	17,269	9,762
Boxes, fancy and paper.....	1909	3	63	5	4	54	15	39	5	22	37	88	51
	1904	5	129	8	5	116		54	4	32	43	115	72
	1899	4	107	7	6	94		16	2	23	34	87	53
Brass and bronze products.....	1909	6	55	5	9	41	59	114	9	31	88	143	55
	1904	4	43	2	12	29		76	9	20	38	83	45
	1899												
Bread and other bakery products.....	1909	69	451	70	86	289	143	843	52	169	735	1,210	475
	1904	78	403	88	55	320	(1)	508	20	153	588	958	370
	1899	70	351	70	58	223		402	25	109	413	756	343
Brick and tile.....	1909	4	99	5	4	90	365	180	3	39	21	143	122
	1904	5	99	6	4	89		126	2	39	44	135	91
	1899	5	89	6	3	80		143	2	33	13	63	50
Carrriages and wagons and materials..	1909	4	65	10	7	48	63	203	12	37	32	92	60
	1904	11	115	19	0	90		247	8	51	45	154	109
	1899	8			1	49		91	1	25	21	74	53
Clothing, men's, including shirts.....	1909	13	1,075	24	60	991	250	604	38	331	233	668	435
	1904	20	1,244	25	105	1,114		642	90	327	401	1,031	540
	1899	27	189	29	23	137		105	15	46	91	209	118
Coffee and spice, roasting and grinding.	1909	5	43	11	10	22	170	155	8	11	221	288	67
	1904	5	55	12	13	30		229	13	13	175	228	53
	1899	4	55	7	9	39		108	8	24	243	320	77
Confectionery.....	1909	6	123	6	1	116	140	166	2	35	140	246	160
	1904	5	115	6	11	98		166	10	38	121	232	111
	1899	7			10	119		203	7	43	181	296	115
Cutlery and tools, not elsewhere specified.	1909	3	29	6	4	19	20	20	3	12	10	47	37
	1904	3	21	4		17		20		9	10	25	15
	1899												
Foundry and machine-shop products.	1909	18	745	19	90	636	809	2,923	110	306	559	1,354	795
	1904	23	1,040	24	87	929		1,660	110	608	734	1,774	1,040
	1899	30			79	1,250		2,792	136	643	696	1,026	1,230
Hats and caps, other than felt, straw, and wool.	1909	3	29	5	3	21	3	29	2	14	27	63	6
	1904	3	20	4	1	21		12	1	11	17	36	19
	1899	5	25	6		19		17		9	22	47	25
Liquors, malt.....	1909	8	431		125	306	2,328	4,203	364	292	653	3,056	2,403
	1904	10	385	2	102	281		3,204	322	226	667	2,449	1,882
	1899	10	453	4	105	343		3,776	277	236	528	2,479	1,951
Lumber and timber products.....	1909	9	185	12	13	100	715	338	15	82	206	468	172
	1904	11	221	12	15	194		322	15	94	430	613	183
	1899	9	269	12	11	236		413	10	113	224	415	191
Marble and stonework.....	1909	8	47	14		33	68	52		23	32	56	54
	1904	7	95	6	19	70		256	23	41	42	150	108
	1899	5	27	5	1	21		10	1	12	10	31	21
Patent medicines and compounds and druggists' preparations.	1909	8	28	9	7	12	19	48	4	5	27	69	42
	1904	12	36	18	5	13		28	2	4	11	42	31
	1899	14	82	16	2	14		30	1	6	11	36	25
Photo-engraving.....	1909	3	35		9	26	8	27	12	21	12	50	38
	1904	3	35	1	8	20		21	13	20	7	50	43
	1899	3	35	1	4	30		22	5	26	10	50	40
Printing and publishing.....	1909	64	2,003	51	317	1,635	1,324	3,119	307	957	1,274	3,249	1,075
	1904	59	1,616	50	229	1,337		1,707	220	768	520	2,351	1,822
	1899	54			134	1,150		2,014	126	620	505	1,930	1,425
Slaughtering and meat packing.....	1909	7	30	8	2	20	91	58	1	13	211	266	55
	1904	8	51	9	4	38		99	2	19	124	170	52
	1899	9				43		151		22	672	753	81
Tobacco manufactures.....	1909	52	322	56	21	245	60	444	29	124	280	677	397
	1904	74	658	90	70	498		628	66	247	396	1,074	678
	1899	74	504	91	43	370		517	38	192	232	700	528
All other industries.....	1909	102	5,749	88	564	5,097	8,973	12,711	605	2,020	5,633	10,563	4,930
	1904	147	4,238	164	408	3,666		6,711	432	1,649	4,965	8,533	3,568
	1899	173			271	3,889		7,111	266	1,670	3,661	7,037	3,436
BUFFALO—All industries.....	1909	1,763	61,246	1,489	8,345	51,412	121,791	\$193,041	\$9,347	\$28,727	\$136,538	\$218,804	\$82,266
	1904	1,538	50,390	1,559	5,264	43,567		137,023	5,842	21,622	88,367	147,378	59,011
	1899	1,478			3,767	34,275		95,740	3,429	15,678	66,938	106,627	39,689
Automobiles, including bodies and parts.	1909	23	3,640	13	583	3,044	4,561	9,300	283	2,200	4,503	9,598	5,002
	1904	5	679	1	53	625		791	71	390	580	1,386	806
	1899	3			7	23		112	6	15	34	78	44
Bicycles, motorcycles, and parts.....	1909	7	181	4	27	150	161	339	31	105	149	390	241
	1904	7	39	7	2	30		46	2	15	13	42	29
	1899	14	673	11	65	597		1,064	70	264	597	1,223	626

1 Figures can not be shown without disclosing individual operations.

2 Excluding statistics for two establishments, to avoid disclosure of individual operations.

3 Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
Expressed in thousands.													
BUFFALO—Continued.													
Blacking and cleansing and polishing preparations.	1909	11	287	4	147	136	209	\$942	\$123	\$67	\$411	\$964	\$553
	1904	15	46	3	7	36	48	94	4	8	84	136	52
	1899	16	81	7	26	46	38	76	23	10	65	135	70
Boots and shoes, including cut stock and findings.	1909	14	722	14	55	653	370	910	55	267	835	1,356	521
	1904	2 12	466	12	26	428	343	343	20	144	404	707	303
	1899	2 17	813	19	60	725	540	540	59	192	571	890	310
Brass and bronzo products.....	1909	18	414	12	55	347	2,417	1,047	72	211	1,141	1,791	650
	1904	9	113	8	16	89	102	102	15	48	231	349	118
	1899	17	42	8	2	32	47	47	1	16	40	75	35
Bread and other bakery products....	1909	189	1,794	180	259	1,355	1,191	4,369	251	725	3,335	5,544	2,209
	1904	144	1,046	144	185	1,317	1,191	2,912	150	619	2,530	4,452	1,922
	1899	154	1,295	163	129	1,003	1,003	1,947	96	413	1,413	2,548	1,135
Brick and tile.....	1909	5	178	5	10	163	265	402	11	88	25	165	140
	1904	7	276	10	12	254	222	658	9	128	46	243	197
	1899	6	241	12	7	222	222	678	5	93	38	203	165
Canning and preserving.....	1909	8	73	9	22	42	100	98	13	17	142	204	62
	1904	4	14	5	5	9	9	30	5	9	22	13	13
	1899	5	30	7	2	21	21	41	1	6	27	47	20
Carriages and wagons and materials..	1909	48	504	48	27	429	551	983	44	247	557	1,196	639
	1904	40	615	43	47	525	525	1,303	56	259	591	1,164	573
	1899	47	.....	.....	44	547	.....	1,501	37	280	584	1,280	696
Cars and general shop construction and repairs by steam-railroad companies.	1909	7	3,474	.....	284	3,190	2,768	2,391	219	1,988	2,277	4,524	2,247
	1904	7	2,939	.....	205	2,734	.....	1,714	163	1,512	1,901	3,600	1,708
	1899	9	3,325	.....	80	3,245	.....	1,694	94	1,528	2,556	4,191	1,635
Clothing, men's, including shirts.....	1909	60	1,681	70	181	1,430	365	2,309	182	601	1,797	3,699	1,902
	1904	91	2,016	105	134	1,777	.....	2,216	132	633	2,311	4,369	2,058
	1899	124	.....	.....	99	1,627	.....	1,751	97	489	1,533	2,943	1,410
Clothing, women's.....	1909	14	655	12	87	556	61	448	63	182	565	1,014	449
	1904	11	397	10	21	366	.....	218	16	114	269	509	240
	1899	10	280	13	0	258	.....	76	5	57	143	273	130
Confectionery.....	1909	26	633	22	106	505	604	614	93	160	739	1,180	441
	1904	20	675	17	79	579	.....	545	65	100	620	1,251	631
	1899	10	.....	.....	59	452	.....	350	46	102	617	930	313
Cooperage and wooden goods, not elsewhere specified.	1909	13	194	12	10	172	206	306	12	94	428	600	181
	1904	18	227	21	6	200	.....	239	3	93	254	427	163
	1899	29	.....	.....	2	310	.....	227	1	176	250	527	277
Copper, tin, and sheet-iron products..	1909	67	1,882	68	262	1,552	1,955	4,127	288	853	2,272	4,123	1,851
	1904	40	1,653	50	124	1,479	.....	2,230	129	595	1,309	2,555	1,246
	1899	1 27	.....	.....	28	354	.....	611	21	181	427	829	402
Cutlery and edge tools.....	1909	11	273	6	36	231	350	503	47	123	141	452	311
	1904	16	138	7	17	114	.....	190	17	51	37	160	123
	1899	8	.....	.....	.....	2	.....	4	.....	1	1	5	4
Electrical machinery, apparatus, and supplies.	1909	8	347	4	61	282	654	1,175	85	141	336	661	325
	1904	8	244	2	33	209	.....	508	32	97	169	398	229
	1899	8	67	7	10	10	.....	126	8	20	76	161	85
Flour-mill and gristmill products.....	1909	10	793	1	316	470	10,987	5,313	310	324	17,470	19,942	2,472
	1904	9	540	4	111	425	.....	4,017	129	210	8,602	9,808	1,206
	1899	9	243	11	37	195	.....	1,594	44	112	2,932	3,264	332
Foundry and machine-shop products.	1909	140	10,018	94	1,056	8,868	11,690	20,326	1,343	5,144	8,811	20,775	11,964
	1904	2 118	7,932	111	690	7,131	.....	21,383	672	3,934	6,053	14,557	8,499
	1899	105	.....	.....	430	5,044	.....	10,738	404	2,623	4,228	9,279	5,051
Fur goods.....	1909	12	122	11	23	88	6	214	17	61	192	350	158
	1904	7	82	6	1	75	.....	118	2	30	116	217	101
	1899	13	67	15	5	47	.....	63	2	17	44	107	63
Furniture and refrigerators.....	1909	33	2,347	25	270	2,052	2,840	4,083	312	1,037	2,150	4,185	2,029
	1904	26	1,797	34	104	1,669	.....	4,328	115	786	1,205	2,543	1,338
	1899	21	1,329	27	82	1,220	.....	2,608	92	497	794	1,829	1,036
Gloves and mittens, leather.....	1909	9	98	10	12	76	12	108	14	35	73	148	75
	1904	5	60	8	4	48	.....	58	3	20	50	88	38
	1899	4	76	3	19	54	.....	64	13	19	55	106	51
Instruments, professional and scientific.	1909	7	130	6	14	110	34	178	25	54	29	151	122
	1904	5	132	2	24	100	.....	267	20	34	54	153	104
	1899	4	.....	.....	18	58	.....	135	23	31	15	108	93
Jewelry.....	1909	14	401	22	81	298	116	1,307	90	174	385	979	594
	1904	16	374	28	40	306	.....	831	25	154	439	917	478
	1899	10	204	13	18	173	.....	322	33	87	194	414	220
Jewelry and instrument cases.....	1909	8	458	6	36	416	100	342	47	113	131	393	262
	1904	9	493	12	14	467	.....	197	9	110	111	303	192
	1899	4	125	7	11	107	.....	43	7	31	33	91	58

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.
² Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
NEW YORK CITY—Contd.													
Gas, illuminating and heating.....	1909 1904 1899	15 12 13	0,296 4,324 5,020	..... ..... .....	1,070 1,207 961	4,326 5,117 4,005	23,177	\$203,758 104,523 134,178	\$2,320 1,300 1,031	\$3,115 3,675 3,037	\$12,730 9,347 5,041	\$34,117 20,715 17,116	\$21,381 20,369 12,075
Glass.....	1909 1904 1899	9 10 9	948 1,100 1,046	3 4 0	61 61 40	884 1,035 994	450	1,267 1,100 849	95 88 49	487 627 441	281 498 287	1,128 1,552 940	847 1,054 653
Glass, cutting, staining, and ornamenting.	1909 1904 1899	111 94 108	2,360 1,831 1,557	126 121 141	182 101 114	2,052 1,000 1,302	529	1,008 1,032 1,107	250 135 111	1,352 1,024 750	1,130 756 1,138	3,448 2,577 2,641	2,318 1,821 1,503
Gloves and mittens, leather.....	1909 1904 1899	38 17 34	465 299 548	46 23 38	23 8 27	306 262 483	17	318 147 245	25 5 25	195 137 192	291 150 230	668 374 586	377 215 350
Gold and silver, leaf and foil.....	1909 1904 1899	34 37 36	402 481 509	39 47 43	15 37 20	348 307 446	41	285 306 402	10 30 22	201 220 200	476 505 652	833 945 1,184	357 440 532
Gold and silver, reducing and refining, not from the ore.	1909 1904 1899	10 5 14	64 43 80	13 0 18	9 3 8	42 34 54	97	540 317 602	13 20 10	34 27 30	2,396 3,689 4,314	2,603 3,778 4,528	207 87 214
Hair work.....	1909 1904 1899	126 39 44	2,704 492	100 40	253 68 22	2,291 375 353	2	3,250 679 446	230 57 19	1,050 102 139	4,482 461 277	7,817 998 771	3,335 537 494
Hand stamps and stencils and brands.	1909 1904 1899	46 47 50	430 376 428	45 54 61	75 39 22	316 283 345	104	364 281 350	83 49 25	191 145 166	155 96 128	578 452 552	423 356 424
Hats and caps, other than felt, straw, and wool.	1909 1904 1899	226 188 266	3,822 3,856 4,686	324 302 372	288 173 188	3,210 3,381 4,126	390	2,688 1,819 2,475	378 187 180	1,940 1,795 1,896	3,730 3,196 4,055	7,515 6,657 7,932	3,785 3,461 3,877
Hats, fur-felt.....	1909 1904 1899	33 30 7	1,993 1,842 1,471	32 34 4	101 123 72	1,770 1,685 1,305	781	2,947 2,336 1,447	222 132 130	1,084 1,065 867	2,567 1,619 2,241	4,765 3,890 2,241	2,195 2,280 1,350
Hosiery and knit goods.....	1909 1904 1899	180 102 73	6,082 4,329 2,713	203 120 88	408 184 167	5,381 4,025 2,521	1,551	8,003 4,582 2,727	653 220 105	2,353 1,451 924	7,515 3,149 1,832	13,565 6,235 3,628	6,050 3,086 1,796
House-furnishing goods, not elsewhere specified.	1909 1904 1899	73 49 51	809 1,055 1,429	86 50 65	111 140 151	702 859 1,213	338	1,225 1,163 979	113 113 118	341 381 418	1,503 1,362 1,794	2,534 2,471 2,891	1,031 1,109 1,097
Ice, manufactured.....	1909 1904 1899	37 35 26	863 584 314	11 11 13	107 69 45	685 504 256	14,794	4,454 5,125 2,043	200 74 38	547 363 163	830 523 231	2,813 1,502 900	1,974 679 869
Ink, printing.....	1909 1904 1899	26 24 22	883 422 336	18 28 22	357 123 123	508 271 101	2,190	2,968 1,372 1,057	574 181 152	358 179 117	1,850 1,070 681	3,965 2,250 1,381	2,115 1,186 709
Ink, writing.....	1909 1904 1899	6 6 6	213 171 118	5 8 8	62 30 13	146 127 97	58	602 542 431	120 78 26	62 52 47	283 214 255	737 562 499	454 348 244
Instruments, professional and scientific.	1909 1904 1899	63 61 81	1,358 777 750	55 58 100	222 72 71	1,081 947 582	1,416	2,420 820 761	272 85 50	678 375 344	654 300 255	1,900 1,109 983	1,255 809 728
Jewelry.....	1909 1904 1899	438 263 220	6,668 4,615 3,448	553 376 333	1,076 502 282	5,030 3,737 2,833	1,445	12,253 8,230 5,454	1,001 542 270	3,617 2,436 1,901	10,004 5,643 5,160	19,230 11,348 9,712	9,232 5,705 4,552
Jewelry and instrument cases.....	1909 1904 1899	57 47 33	878 781 465	66 65 42	76 68 28	736 648 395	93	761 536 318	75 60 10	305 292 180	532 437 235	1,353 1,102 658	821 665 423
Kaolin and ground earths.....	1909 1904 1899	10 6 5	167 150 40	8 7 0	10 14 2	89 129 38	345	135 245 78	14 24 3	47 75 22	138 204 73	245 376 134	107 172 61
Lasts.....	1909 1904 1899	6 6 8	225 176 120	2 4 7	28 13 10	195 159 103	285	197 166 79	53 23 13	135 95 58	144 52 50	455 259 186	311 207 136
Lead, bar, pipe, and sheet.....	1909 1904 1899	6 6 5	211 177 106	1 3 7	33 27 22	177 147 77	1,127	945 681 535	72 50 28	114 93 42	1,574 2,700 1,310	1,891 3,098 1,592	317 398 282
Leather goods.....	1909 1904 1899	380 331 277	7,672 7,356	485 440	886 579 475	6,301 6,337 4,658	946	7,912 5,524 4,406	1,026 542 435	3,440 2,711 2,046	10,049 7,955 5,526	17,775 14,525 10,400	7,726 6,570 4,874
Leather, tanned, curried, and finished	1909 1904 1899	20 21 17	533 691 804	18 29 25	62 56 29	453 606 750	985	1,177 1,684 2,366	89 63 33	235 299 362	1,270 1,508 2,474	1,946 2,228 3,331	679 630 857

MANUFACTURES—NEW YORK.

67

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
NEW YORK CITY—Contd.													
Silverware and plated ware.....	1909	42	1,852	43	368	1,441	1,144	\$3,794	\$398	\$978	\$1,865	\$4,199	\$2,334
	1904	32	1,800	36	216	1,554	.....	3,153	260	605	1,472	3,505	2,033
	1899	47	2,154	61	246	1,847	.....	3,160	260	1,008	1,804	4,100	2,392
Slaughtering and meat packing.....	1909	112	4,863	127	812	3,924	8,715	25,185	1,212	3,171	83,834	95,862	12,028
	1904	63	2,633	84	380	2,160	.....	12,055	558	1,703	49,929	55,938	6,009
	1899	80	2,484	103	365	2,016	.....	9,458	419	1,367	38,355	43,860	5,005
Smelting and refining, not from the ore.	1909	11	331	16	81	234	285	2,664	109	161	7,776	8,417	641
	1904	8	187	9	33	145	.....	1,197	79	86	4,426	4,845	410
	1899	7	244	9	75	100	.....	819	97	127	1,428	2,074	640
Soap.....	1909	41	2,191	34	622	1,535	3,144	8,012	563	840	9,169	13,925	4,750
	1904	42	1,454	43	223	1,188	.....	4,491	300	674	4,717	7,929	3,512
	1899	50	1,223	50	192	981	.....	4,055	244	408	4,529	7,730	3,201
Stationery goods, not elsewhere specified.	1909	49	788	46	200	542	245	1,158	221	277	770	1,748	978
	1904	33	651	29	117	505	.....	1,038	119	224	660	1,387	727
	1899	35	777	38	100	630	.....	1,091	97	257	635	1,512	877
Steam packing.....	1909	25	839	14	98	727	1,210	2,707	166	362	1,197	2,090	893
	1904	17	650	13	71	575	.....	3,927	142	203	553	1,524	971
	1899	21	148	22	43	83	.....	253	62	49	123	348	225
Stereotyping and electrotyping.....	1909	34	1,036	26	220	790	1,180	1,054	300	771	547	1,901	1,414
	1904	28	833	36	120	677	.....	1,033	137	597	321	1,380	1,030
	1899	26	567	29	70	468	.....	604	66	339	209	860	661
Stoves and furnaces, including gas and oil stoves.	1909	23	1,342	17	292	1,123	2,506	3,185	280	746	1,605	3,106	1,501
	1904	15	430	16	59	365	.....	922	78	226	426	1,081	655
	1899	7	204	8	29	167	.....	434	26	83	413	622	209
Surgical appliances and artificial limbs	1909	49	514	49	127	338	172	682	139	208	381	1,119	738
	1904	42	539	41	75	423	.....	507	69	239	243	873	630
	1899	46	271	48	40	177	.....	228	34	105	93	480	387
Tobacco manufactures.....	1909	2,036	20,664	2,199	1,944	22,521	2,115	34,093	2,607	10,307	25,430	62,488	37,058
	1904	2,173	20,294	1,495	1,495	25,449	.....	40,641	1,518	10,068	10,522	50,525	31,003
	1899	1,854	24,345	2,050	1,018	21,277	.....	16,804	1,316	9,129	15,323	41,828	26,565
Toys and games.....	1909	59	1,284	61	128	1,095	297	1,075	121	416	753	1,634	881
	1904	35	591	36	32	623	.....	527	38	189	281	740	459
	1899	38	542	46	33	463	.....	531	37	173	304	736	432
Type founding and printing materials.	1909	23	260	17	54	180	217	511	85	131	357	749	392
	1904	22	272	17	45	210	.....	735	63	134	145	554	409
	1899	21	455	14	40	392	.....	878	71	218	252	781	529
Typewriters and supplies.....	1909	27	905	19	220	660	407	2,251	248	385	729	1,901	1,232
	1904	16	629	9	106	514	.....	1,125	107	270	322	1,081	759
	1899	14	569	7	90	466	.....	998	87	261	269	911	642
Umbrellas and canes.....	1909	134	2,322	170	255	1,897	405	2,219	248	899	4,113	6,374	2,261
	1904	94	1,812	130	192	1,490	.....	1,262	169	614	2,847	4,689	1,842
	1899	92	.....	.....	103	1,556	.....	1,551	156	601	3,240	5,081	1,841
Vinegar and cider.....	1909	4	57	2	15	40	75	133	13	20	83	131	48
	1904	4	50	4	6	40	.....	96	4	16	63	116	53
	1899	8	74	8	3	63	.....	229	2	36	60	133	73
Wall paper.....	1909	7	811	2	143	660	566	2,020	190	369	1,144	2,437	1,293
	1904	5	858	2	73	783	.....	1,908	96	301	1,069	2,297	1,228
	1899	12	1,896	6	107	1,098	.....	3,098	352	911	2,005	3,888	1,833
Wall plaster.....	1909	12	912	5	103	804	3,730	3,833	228	429	1,755	2,993	1,148
	1904	11	782	9	68	705	.....	2,361	95	371	1,456	2,173	717
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Window shades and fixtures.....	1909	67	761	72	167	522	130	1,717	209	299	3,015	4,125	1,110
	1904	32	694	36	119	539	.....	993	131	196	1,349	1,970	630
	1899	33	.....	.....	66	317	.....	848	78	147	1,476	2,011	535
Wirework, including wire rope and cable.	1909	67	1,200	68	158	974	724	1,672	208	534	1,152	2,358	1,200
	1904	117	2,066	155	237	1,074	.....	1,827	215	829	1,134	3,015	1,881
	1899	65	712	70	60	573	.....	760	64	282	445	1,090	645
Wood, turned and carved.....	1909	82	1,012	104	80	328	824	910	103	403	662	1,707	1,045
	1904	85	500	104	17	379	.....	373	17	257	260	771	511
	1899	104	678	126	21	526	.....	471	15	333	285	928	643
Woolen, worsted, and felt goods, and wool hats.	1909	11	468	13	36	419	565	1,036	34	207	963	1,512	549
	1904	5	163	12	9	142	.....	191	10	67	267	427	160
	1899	29	989	11	100	378	.....	1,221	90	258	510	1,145	635
All other industries.....	1909	1,421	38,104	1,461	5,921	30,722	60,664	159,735	8,261	17,811	208,475	272,198	63,723
	1904	1,292	37,852	1,473	4,166	32,213	.....	147,922	5,145	16,957	203,858	260,509	50,651
	1899	1,229	.....	.....	2,808	26,440	.....	140,217	3,673	12,827	163,068	188,761	35,693

¹ Not reported separately.

² Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
Expressed in thousands.													
NEW YORK CITY—Manhattan and Bronx Boroughs—Continued.													
Instruments, professional and scientific.	1909 1904 1899	40 41 55	433 437 415	29 33 67	77 40 40	327 364 308	209	\$649 402 432	\$81 46 33	\$217 209 180	\$246 176 169	\$714 680 612	\$468 504 443
Jewelry	1909 1904 1899	414 255 221	6,391 4,543 3,341	524 303 319	1,043 408 278	4,824 3,082 2,744	1,351	11,926 8,159 5,106	1,073 538 265	3,482 2,407 1,839	9,348 5,005 4,762	18,305 11,253 9,173	8,957 5,618 4,411
Jewelry and instrument cases	1909 1904 1899	54 44 28	702 695 376	64 61 35	68 59 24	660 575 317	92	641 501 282	69 54 18	372 275 161	503 419 219	1,285 1,043 601	782 624 382
Leather goods	1909 1904 1899	327 290 236	6,995 6,913	418 392	814 558 469	5,763 5,963 4,410	853	6,939 5,088 4,228	930 517 430	3,214 2,552 1,943	9,497 7,665 5,345	16,452 13,917 9,993	7,045 6,252 4,648
Leather, tanned, curried, and finished.	1909 1904 1899	9 9 8	137 170	6 16	34 17 12	97 137 149	248	495 457 1,072	55 16 10	65 83 83	512 408 592	821 815 771	309 207 179
Liquors, malt	1909 1904 1899	36 41 42	4,334 3,782 3,506	11 17 19	651 592 567	3,672 3,173 2,920	20,696	56,208 50,064 46,281	1,906 1,050 1,506	3,102 2,674 2,335	8,231 6,548 4,738	34,412 26,195 24,460	20,181 10,647 10,722
Looking-glass and picture frames	1909 1904 1899	94 85 89	1,210 1,138	98 101	181 126 111	931 911 1,076	334	1,248 819 995	229 147 126	578 536 579	958 647 1,040	2,387 1,894 2,470	1,429 1,247 1,436
Lumber and timber products	1909 1904 1899	167 169 123	3,835 4,055 2,932	103 220 145	450 417 226	3,222 3,418 2,561	7,026	5,547 5,294 3,872	542 531 254	2,244 2,273 1,459	5,177 4,570 3,949	9,787 9,713 6,980	4,610 5,143 3,031
Marble and stone work	1909 1904 1899	96 89 105	2,331 3,740	101 113	257 303 233	1,973 3,324 2,846	6,330	5,268 4,864 3,936	405 417 274	1,863 3,098 2,136	2,799 3,085 2,633	6,397 8,260 7,017	3,598 5,175 4,384
Mattresses and spring beds	1909 1904 1899	88 71 73	1,139 981 972	92 88 96	165 112 101	882 781 775	655	1,778 853 752	152 106 129	543 440 403	2,180 1,785 1,330	3,607 2,930 2,530	1,427 1,145 1,200
Millinery and lace goods	1909 1904 1899	821 515 361	22,490 17,280 12,304	1,103 750 534	2,789 1,725 1,161	18,598 14,811 10,609	2,972	17,863 10,529 7,556	2,986 1,397 1,029	8,600 5,800 3,875	25,095 16,281 10,972	47,916 31,311 20,513	22,821 15,030 9,541
Mirrors	1909 1904 1899	31 29 30	759 820 989	41 50 50	89 82 86	629 688 853	639	1,115 924 1,352	100 76 100	415 381 484	1,398 1,702 2,444	2,250 2,531 3,806	852 829 1,362
Models and patterns, not including paper patterns.	1909 1904 1899	74 58 50	893 580 382	84 59 57	109 69 23	700 452 302	395	1,080 594 316	155 66 24	459 202 188	451 251 134	1,745 913 540	1,294 662 406
Musical instruments and materials, not specified.	1909 1904 1899	29 38 32	226 413 361	31 42 32	25 31 26	170 340 303	82	273 1,069 903	20 43 36	68 182 176	96 235 187	296 654 495	200 419 308
Musical instruments, pianos and organs and materials.	1909 1904 1899	121 102 93	8,931 6,903 5,344	69 76 105	748 549 341	7,214 6,278 4,898	4,744	20,034 12,254 9,420	1,373 921 495	4,024 4,014 2,907	12,414 7,301 5,086	23,511 16,162 11,396	11,097 8,801 6,310
Paint and varnish	1909 1904 1899	27 29 35	580 695	16 30	226 175 209	338 490 685	726	1,427 1,822 2,260	215 168 258	236 284 415	1,549 1,770 2,917	2,560 2,679 4,300	1,011 963 1,392
Paper goods, not elsewhere specified	1909 1904 1899	62 60 53	2,886 2,297 1,768	38 53 59	589 242 247	2,259 2,002 1,462	1,476	4,339 2,499 2,570	644 298 276	929 662 565	2,899 1,886 1,686	5,763 3,811 3,236	2,664 1,025 1,550
Patent medicines and compounds and druggists' preparations.	1909 1904 1899	354 364 219	3,902 3,654 2,910	245 252 213	1,454 1,061 884	2,203 2,341 1,819	1,430	8,882 7,133 7,628	2,172 1,468 1,091	1,093 1,037 730	6,153 5,215 3,979	18,305 15,047 11,956	12,152 8,832 7,977
Pens, fountain, stylographic, and gold.	1909 1904 1899	25 22 22	1,025 743 508	21 18 22	341 131 88	663 594 398	177	1,783 874 561	359 133 103	389 352 236	1,400 854 494	3,017 1,994 1,160	1,557 1,050 675
Photo-engraving	1909 1904 1899	46 35 46	1,517 1,025 860	25 26 64	305 169 129	1,187 830 667	275	807 728 491	357 201 121	1,195 737 518	490 362 206	2,517 1,722 1,090	2,027 1,360 884
Pipes, tobacco	1909 1904 1899	13 20 28	468 584 914	14 29 35	36 10 79	418 539 800	124	351 343 650	31 20 72	205 276 464	451 507 783	858 1,002 1,026	407 495 843
Printing and publishing	1909 1904 1899	2,525 2,054 1,626	65,522 54,450 42,489	1,979 1,881 1,745	22,038 16,885 8,275	41,505 35,684 32,469	32,366	106,826 89,154 73,116	27,189 18,636 10,890	30,899 24,347 20,699	41,062 28,487 24,162	168,176 128,971 92,301	127,114 99,484 68,139

¹ Excluding statistics for five establishments, to avoid disclosure of individual operations.

² Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
			Expressed in thousands.										
NEW YORK CITY—Manhattan and Bronx Boroughs—Continued.													
Rubber goods, not elsewhere specified.	1909	28	372	24	86	262	72	\$542	\$103	\$160	\$708	\$1,305	\$537
	1904	33	1,282	24	167	1,091		1,716	205	309	2,000	3,791	1,791
	1899	45	1,410	51	160	1,193		1,944	212	442	2,043	3,682	1,689
Saws.....	1909	4	11	5	.....	6	16	7	.....	4	5	15	10
	1904	5	14	6	.....	8		8	.....	3	4	17	13
	1899	4	8	5	.....	3		8	.....	1	5	13	8
Shipbuilding, including boat building.	1909	22	827	18	67	742	845	2,530	102	582	560	1,003	1,037
	1904	18	1,597	23	80	1,494		3,177	136	1,141	825	2,533	1,708
	1899	27	1,659	42	42	1,585		2,270	89	950	604	2,264	1,000
Show cases.....	1909	9	169	13	18	138	139	149	20	74	120	314	194
	1904	7	125	9	7	110		87	7	62	47	188	141
	1899	6	136	5	19	112		75	16	48	47	146	90
Silk and silk goods, including throwsters.	1909	90	5,169	98	510	4,561	2,485	7,755	656	2,118	4,916	10,051	5,135
	1904	56	4,456	58	483	3,915		6,359	537	1,696	3,709	7,887	4,178
	1899	50	4,220	56	169	4,001		4,428	272	1,579	3,301	6,758	3,467
Silverware and plated ware.....	1909	34	1,208	33	250	925	704	2,794	318	689	1,404	3,151	1,747
	1904	27	1,401	30	105	1,176		2,591	228	642	1,241	2,906	1,665
	1899	42	1,629	51	230	1,648		2,977	249	942	1,702	3,745	2,043
Slaughtering and meat packing.....	1909	80	3,033	81	605	3,187	7,896	22,275	1,055	2,591	69,090	79,288	10,198
	1904	51	2,229	67	315	1,847		10,614	485	1,540	43,133	48,366	5,253
	1899	63	2,186	78	330	1,778		8,829	387	1,213	34,549	39,195	4,646
Smelting and refining, not from the ore.	1909	5	218	9	69	140	100	2,300	94	109	6,682	7,219	537
	1904	4	161	6	27	128		1,115	69	70	4,189	4,558	372
	1899	4	102	6	73	113		710	93	94	1,148	1,745	507
Soap.....	1909	24	797	20	191	596	874	1,823	204	316	2,520	4,320	1,800
	1904	20	1,140	27	165	948		3,442	232	438	3,361	5,694	2,333
	1899	31	956	31	133	792		3,213	188	375	3,735	6,479	2,744
Stationery goods, not elsewhere specified.	1909	44	663	42	171	450	220	971	190	239	639	1,499	860
	1904	32	608	28	107	473		983	108	213	631	1,320	689
	1899	20	631	33	70	510		658	70	220	563	1,347	784
Steam packing.....	1909	15	159	9	30	120	140	252	47	82	140	381	241
	1904	9	109	9	7	63		70	0	41	83	190	107
	1899	11	69	14	24	31		128	34	23	56	204	148
Stereotyping and electrotyping.....	1909	34	1,036	26	220	700	1,180	1,054	300	771	547	1,961	1,414
	1904	28	833	36	120	677		1,083	137	597	321	1,389	1,059
	1899	26	667	29	70	498		604	60	339	209	860	651
Stoves and furnaces, including gas and oil stoves.	1909	16	586	14	112	400	391	1,141	104	364	744	1,579	835
	1904	14	418	14	58	346		611	77	221	410	1,051	641
	1899												
Surgical appliances and artificial limbs.	1909	38	374	37	88	249	77	516	100	154	220	771	551
	1904	35	464	32	67	365		434	63	198	206	763	557
	1899	37	224	40	30	178		170	28	90	79	411	332
Tobacco manufactures.....	1909	1,341	23,112	1,430	1,804	19,878	1,783	29,447	2,423	9,194	22,585	54,880	32,295
	1904	1,500	27,140	1,642	1,447	24,051		39,198	1,476	10,272	18,460	47,749	29,289
	1899	1,220	21,991	1,384	942	19,005		16,184	1,239	8,409	13,725	37,431	23,706
Toys and games.....	1909	39	932	41	110	781	235	885	105	322	580	1,268	838
	1904	19	307	21	31	255		381	35	112	173	493	320
	1899	26	337	29	33	325		433	37	132	252	604	352
Type founding and printing materials.	1909	18	194	11	48	135	166	343	79	92	298	616	318
	1904	21	254	16	45	193		713	53	117	142	528	386
	1899	21	455	14	49	392		878	71	218	252	781	529
Umbrellas and canes.....	1909	122	2,088	154	229	1,705	472	2,018	223	805	3,454	5,530	2,076
	1904	87	1,726	120	190	1,416		1,215	157	592	2,809	4,594	1,785
	1899	88		193		1,499		1,501	166	578	3,198	4,992	1,794
Window shades and fixtures.....	1909	54	519	60	121	338	35	999	121	198	1,637	2,612	775
	1904	23	177	30	30	117		193	30	53	416	626	210
	1899	29		29	200			421	34	86	766	1,093	327
Wirework, including wire rope and cable.	1909	47	627	49	87	491	311	730	90	246	685	1,293	608
	1904	62	1,463	122	109	1,195		993	125	535	743	2,001	1,258
	1899	49	457	61	31	365		430	31	181	282	685	403
Wood, turned and carved.....	1909	60	594	81	52	461	428	454	63	339	383	1,069	686
	1904	68	412	86	12	314		268	12	216	175	599	424
	1899	77	472	93	16	379		250	12	226	182	623	441
All other industries.....	1909	1,294	28,795	1,293	4,923	22,579	23,771	66,885	6,295	13,908	52,023	90,842	38,819
	1904	1,180	26,895	1,345	3,250	22,309		49,580	3,510	11,635	47,670	78,569	30,890
	1899	1,171		2,347		19,053		53,001	2,785	9,895	39,204	63,852	24,558

¹ Not reported separately.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Consus.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
Expressed in thousands.													
NEW YORK CITY—Brooklyn Borough—All industries.	1909	5,218	145,222	5,495	15,844	123,883	147,580	\$362,337	\$21,146	\$68,328	\$235,132	\$417,223	\$182,091
	1904	4,182	119,524	4,597	9,932	104,995	-----	313,452	13,521	54,535	230,809	373,463	142,654
	1899	4,301	-----	-----	6,826	87,445	-----	263,471	9,097	42,341	206,335	313,617	107,262
Artificial stone.....	1909	6	66	3	9	54	77	238	12	20	79	153	74
	1904	4	239	1	21	217	-----	416	35	202	159	499	340
	1899	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Boxes, cigar.....	1909	7	42	9	3	30	1	19	1	11	25	47	22
	1904	7	43	8	4	31	-----	21	3	15	26	61	35
	1899	7	79	10	-----	69	-----	47	-----	33	43	105	62
Brass and bronze products.....	1909	43	1,448	37	171	1,240	1,074	2,028	217	721	1,418	3,170	1,758
	1904	^a 36	1,006	39	125	842	-----	1,195	125	441	588	1,402	874
	1899	^a 30	627	44	33	550	-----	724	32	251	688	1,182	494
Bread and other bakery products.....	1909	853	5,550	884	872	3,794	1,035	5,051	654	2,745	10,287	16,005	6,618
	1904	767	4,527	789	267	3,471	-----	3,590	189	2,242	7,472	12,453	4,081
	1899	805	3,961	819	204	2,548	-----	3,251	205	1,711	4,802	9,030	4,228
Canning and preserving.....	1909	20	227	18	43	166	168	474	46	66	666	935	260
	1904	^a 14	264	11	17	236	-----	333	34	93	860	1,108	248
	1899	20	-----	-----	47	302	-----	1,734	57	101	546	923	377
Carpets, rug.....	1909	6	31	6	5	20	7	17	4	13	15	40	34
	1904	6	32	7	-----	25	-----	16	-----	11	13	39	26
	1899	10	19	10	-----	9	-----	7	-----	3	5	16	10
Carriages and wagons and materials..	1909	68	678	80	34	564	656	1,030	37	386	406	1,126	720
	1904	^a 69	749	86	30	633	-----	800	30	401	395	1,115	720
	1899	^a 71	-----	-----	13	544	-----	841	13	325	360	985	625
Chemicals.....	1909	19	1,215	9	224	982	3,151	7,377	413	703	3,401	10,827	2,426
	1904	18	984	10	162	812	-----	4,610	288	460	5,979	7,978	1,900
	1899	17	481	8	83	300	-----	2,107	118	210	2,691	3,574	883
Clocks and watches, including cases and materials.	1909	7	1,379	-----	99	1,280	441	3,005	151	674	1,050	2,603	1,553
	1904	^a 5	284	3	21	260	-----	785	37	102	669	978	309
	1899	^a 8	408	6	24	378	-----	641	43	250	900	1,453	403
Clothing, men's, including shirts.....	1909	563	17,957	749	546	16,662	2,580	6,676	572	8,543	6,172	10,243	13,071
	1904	377	9,959	465	194	9,300	-----	2,428	323	3,913	2,777	6,050	6,273
	1899	505	-----	-----	102	7,327	-----	2,250	143	3,065	1,675	6,522	4,847
Clothing, women's.....	1909	290	7,289	376	338	6,525	1,066	2,854	310	2,702	3,975	8,508	4,533
	1904	153	3,625	203	103	3,319	-----	1,118	86	1,222	1,632	3,620	1,988
	1899	125	2,846	149	93	2,604	-----	990	78	987	1,206	3,233	1,967
Cordage and twine and jute and linen goods.	1909	6	4,576	-----	178	4,398	9,377	10,008	267	1,589	4,188	7,264	3,076
	1904	^a 6	2,675	-----	129	2,546	-----	6,106	211	1,025	5,238	8,167	2,929
	1899	^a 6	-----	-----	72	2,302	-----	5,145	154	848	5,205	7,311	2,100
Cutlery and tools, not elsewhere specified.	1909	19	238	19	29	190	106	279	21	91	175	362	187
	1904	^a 18	119	24	-----	95	-----	150	-----	58	45	156	111
	1899	^a 16	151	22	5	124	-----	209	5	81	42	202	160
Dyeing and finishing textiles.....	1909	11	433	5	53	375	597	611	113	172	271	716	445
	1904	5	236	8	31	107	-----	320	31	74	67	313	246
	1899	6	162	10	13	139	-----	303	12	63	43	104	161
Electroplating.....	1909	13	88	20	1	67	95	41	1	38	18	90	78
	1904	9	84	15	7	62	-----	40	3	35	18	84	66
	1899	9	-----	-----	1	65	-----	28	-----	34	17	73	50
Fancy articles, not elsewhere specified.	1909	28	635	25	69	541	353	747	96	280	596	1,288	692
	1904	^a 17	363	23	37	303	-----	320	33	139	208	491	283
	1899	17	338	24	30	284	-----	245	20	90	152	371	210
Food preparations.....	1909	36	617	35	128	454	643	743	151	171	1,064	1,697	633
	1904	31	431	44	32	355	-----	439	38	108	533	852	310
	1899	30	382	44	24	314	-----	560	17	104	611	859	278
Foundry and machine-shop products.	1909	305	13,096	244	1,897	10,955	14,845	43,016	2,723	7,679	9,081	28,137	16,056
	1904	^a 263	13,178	262	1,512	11,404	-----	35,813	1,988	7,335	8,904	26,078	17,084
	1899	277	-----	-----	965	11,511	-----	30,613	1,300	6,526	10,998	25,411	14,413
Fur goods.....	1909	17	443	17	80	351	103	809	64	160	705	1,193	488
	1904	15	268	17	33	218	-----	590	34	120	384	660	282
	1899	30	350	37	49	264	-----	693	43	154	415	795	380
Furnishing goods, men's.....	1909	16	578	20	74	484	67	710	68	170	487	856	360
	1904	^a 15	1,050	20	86	944	-----	541	48	237	847	1,331	484
	1899	10	-----	-----	29	457	-----	284	17	147	389	635	246
Furniture and refrigerators.....	1909	79	2,778	169	236	2,433	2,422	3,208	317	1,467	2,857	5,750	2,893
	1904	59	1,875	88	116	1,671	-----	1,735	167	900	1,273	2,940	1,673
	1899	40	1,546	59	94	1,393	-----	1,273	107	688	1,200	2,614	1,414
Furs, dressed.....	1909	36	662	51	38	573	887	407	42	394	183	845	662
	1904	24	400	33	11	416	-----	224	16	306	81	575	494
	1899	21	316	27	8	281	-----	273	10	170	140	426	280

¹ Not reported separately.
² Excluding statistics for one establishment, to avoid disclosure of individual operations.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁴ Excluding statistics for four establishments, to avoid disclosure of individual operations.
⁵ Excluding statistics for three establishments, to avoid disclosure of individual operations.
⁶ Excluding statistics for five establishments, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	PERSONS ENGAGED IN INDUSTRY.					Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
		Number of establishments.	Total.	Pro- pri- etors and firm mem- bers.	Salaried employ- ees.	Wage earners (average num- ber).							
NEW YORK CITY Brook- lyn Borough—Continued.													
Gas and electric fixtures and lamps and reflectors.	1909	27	906	29	137	740	564	\$1,299	\$189	\$421	\$700	\$1,571	\$871
	1904	19	678	16	91	571	.....	775	110	286	484	1,108	624
	1899	23	518	25	68	425	.....	745	73	230	235	1,083	448
Gas, illuminating and heating.....	1909	4	2,251	.....	532	1,719	7,936	49,607	637	1,303	2,795	9,492	6,697
	1904	3	2,103	.....	412	1,691	.....	40,738	436	1,261	2,150	7,541	5,391
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glass.....	1909	6	580	3	37	540	220	541	48	275	157	624	467
	1904	7	981	4	42	935	.....	894	60	500	405	1,106	791
	1899	7	995	4	39	952	.....	714	40	415	268	898	600
Glass, cutting, staining, and orna- menting.	1909	36	995	42	51	812	240	607	70	502	443	1,301	858
	1904	28	691	43	29	619	.....	220	30	367	270	850	580
	1899	28	350	34	10	207	.....	195	15	153	189	483	294
Hair work.....	1909	6	77	8	2	67	.....	70	.....	20	40	101	52
	1904	4	38	4	.....	34	.....	38	.....	7	13	28	15
	1899	8	.....	.....	2	25	.....	20	1	8	11	36	25
Hats, fur-felt.....	1909	7	1,303	4	99	1,200	583	2,225	132	718	1,296	2,657	1,361
	1904	7	1,294	3	67	1,224	.....	2,067	83	786	961	2,657	1,696
	1899	4	1,289	4	40	1,236	.....	1,387	122	790	710	1,899	1,189
Hosiery and knit goods.....	1909	119	4,359	128	291	3,940	1,306	5,734	440	1,771	5,144	9,350	4,206
	1904	^a 68	3,081	70	57	2,954	.....	3,626	100	1,093	2,102	4,132	2,030
	1899	40	1,544	49	67	1,428	.....	1,634	92	501	1,088	2,126	1,038
House-furnishing goods, not elsewhere specified.	1909	9	140	10	12	118	80	220	12	50	206	350	144
	1904	6	184	5	18	161	.....	213	18	77	219	396	177
	1899	11	446	15	44	387	.....	378	27	146	303	610	307
Ice, manufactured.....	1909	12	239	3	31	205	5,060	1,350	96	160	213	660	453
	1904	8	118	1	18	99	.....	847	23	68	89	261	172
	1899	10	104	4	18	82	.....	659	17	55	82	280	168
Instruments, professional and scien- tific.	1909	19	368	24	66	278	355	528	79	162	153	522	309
	1904	18	331	22	32	277	.....	416	39	164	123	420	297
	1899	24	338	36	31	271	.....	325	26	163	84	365	281
Kaolin and ground earths.....	1909	4	53	1	8	44	229	77	11	22	96	155	59
	1904	4	134	5	13	116	.....	239	23	66	204	359	155
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leather goods.....	1909	52	495	57	48	390	70	650	50	167	464	954	490
	1904	^a 31	288	40	6	242	.....	210	6	96	179	376	197
	1899	34	.....	.....	0	218	.....	148	4	87	149	338	189
Leather, tanned, curried, and finished.	1909	11	306	12	28	356	737	682	34	170	764	1,125	361
	1904	12	520	13	39	468	.....	1,227	46	216	1,190	1,614	424
	1899	9	.....	.....	17	601	.....	1,203	23	279	1,882	2,560	678
Liquors, malt.....	1909	20	2,029	5	316	1,708	9,120	25,155	1,188	1,468	3,694	14,660	10,966
	1904	35	2,145	5	395	1,745	.....	19,338	1,067	1,386	3,346	12,541	9,195
	1899	35	1,829	9	323	1,497	.....	15,740	795	1,202	2,232	11,381	9,149
Looking-glass and picture frames.....	1909	21	299	24	26	249	299	361	27	133	271	604	333
	1904	11	80	11	1	68	.....	84	1	31	79	153	74
	1899	17	.....	.....	8	64	.....	81	5	32	70	151	81
Lumber and timber products.....	1909	85	4,191	76	351	3,794	9,445	8,812	471	2,260	6,801	10,953	4,152
	1904	69	4,156	82	257	3,817	.....	7,540	339	2,001	4,606	10,166	5,490
	1899	^a 68	2,857	77	163	2,857	.....	4,156	205	1,441	3,757	6,488	2,731
Marble and stone work.....	1909	74	1,135	72	96	967	1,953	1,930	151	877	1,129	2,786	1,657
	1904	61	1,008	67	71	870	.....	1,608	90	742	763	2,189	1,423
	1899	65	.....	.....	39	1,049	.....	1,787	55	772	1,018	2,477	1,459
Millinery and lace goods.....	1909	57	1,839	72	166	1,691	275	1,288	174	626	1,481	2,923	1,445
	1904	28	954	37	91	826	.....	491	61	270	431	1,009	578
	1899	21	643	24	19	600	.....	135	23	137	191	497	276
Mirrors.....	1909	6	179	5	21	153	196	214	27	87	184	362	178
	1904	4	123	4	14	105	.....	130	13	41	103	197	94
Paint and varnish.....	1909	93	2,440	40	704	1,936	5,027	11,861	1,193	999	10,430	15,749	5,313
	1904	65	2,240	46	417	1,786	.....	12,179	664	1,037	11,268	15,548	4,280
	1899	43	.....	.....	294	1,298	.....	9,476	624	706	6,832	9,393	3,061
Patent medicines and compounds and druggists' preparations.	1909	69	1,162	44	382	736	1,267	3,196	514	341	2,343	5,071	2,728
	1904	69	772	43	285	444	.....	2,824	389	237	926	2,876	1,950
	1899	63	1,631	50	311	1,270	.....	4,740	402	524	6,261	2,535	
Printing and publishing.....	1909	304	8,021	328	1,333	6,360	5,134	15,259	1,597	3,929	5,178	14,436	9,258
	1904	^a 225	6,457	230	772	4,446	.....	10,899	952	2,625	2,813	9,097	6,284
	1899	186	4,423	212	531	3,680	.....	6,133	573	1,778	1,882	6,650	4,168
Shipbuilding, including boat building.	1909	22	2,286	20	86	2,180	6,057	4,808	155	1,368	1,280	4,531	3,251
	1904	^a 30	834	38	49	747	.....	999	64	519	503	1,425	925
	1899	145	1,095	60	37	998	.....	1,681	45	667	671	1,760	1,039

¹ Excluding statistics for two establishments, to avoid disclosure of individual operations.
² Figures can not be shown without disclosing individual operations.
³ Excluding statistics for one establishment, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).							
			Expressed in thousands.										
NEW YORK CITY—Richmond Borough—All industries.	1909 1904 1899	180 169 185	7,494 6,435	157 159	901 681 384	6,436 5,595 5,192	19,738	\$33,983 15,991 10,430	\$1,549 912 571	\$3,734 3,073 2,277	\$18,367 9,787 6,445	\$20,701 16,867 13,017	\$11,334 7,080 6,572
Bread and other bakery products.....	1909 1904 1899	42 36 45	102 140	45 36	1 2 18	146 102 90	28	281 96 130	2 1 11	99 63 55	320 244 214	568 386 360	242 142 152
Liquors, malt.....	1909 1904 1899	3 5 5	202 276	2	53 52 50	200 222 203	550	2,685 2,430 1,802	133 145 144	177 193 149	445 482 388	1,822 1,427 1,014	1,377 945 1,226
Printing and publishing.....	1909 1904 1899	10 15 17	130 104	15 17	12 17 8	112 70 78	86	183 97 96	11 18 6	65 38 45	33 22 23	173 137 119	140 115 96
Tobacco manufactures.....	1909 1904 1899	12 18 17	27 30	12 18	15 18 12	5	36 24 31	8 9 5	13 16 12	40 40 32	27 40 20	9,548 5,854 6,078	
All other industries.....	1909 1904 1899	107 95 101	6,874 5,870	85 80	835 610 308	5,054 5,183 4,800	10,060	30,708 13,344 8,305	1,403 748 410	3,385 2,770 2,023	17,550 9,023 5,808	27,098 14,877 10,880	5,548 6,078
ROCHESTER—All industries.	1909 1904 1899	1,203 1,109 1,221	46,617 37,128	1,042 1,084	6,467 4,285 3,061	39,108 31,779 28,049	38,460	\$95,708 69,807 45,210	\$7,734 4,529 3,131	\$21,518 14,702 11,366	\$50,674 37,018 28,245	\$112,876 81,109 59,669	\$62,002 43,191 31,424
Baking powders and yeast.....	1909 1904 1899	5 5 4	14 10 10	6 7 4	5 2 4	3 1 2	7	12 7 10	5 1 3	1 (*) 1	11 8 6	28 16 15	17 8 9
Boots and shoes.....	1909 1904 1899	56 65 69	6,070 5,163 5,159	44 70 76	515 419 404	6,117 4,674 4,670	1,011	0,788 3,752 3,031	655 409 371	3,038 2,000 1,733	7,811 5,117 4,214	13,450 9,155 7,207	5,639 4,038 3,083
Boxes, cigar.....	1909 1904 1899	3 3 3	18 22	7 4	11 18	20	14	12	5	14	27	13	
Boxes, fancy and paper.....	1909 1904 1899	15 13 12	760 915 785	10 10 12	46 62 34	704 843 739	303	630 611 410	80 64 33	253 250 170	471 267 195	966 830 581	495 509 386
Brass and bronze products.....	1909 1904 1899	4 13 6	252 103 60	2 2 9	25 9 6	225 92 45	301	322 455 101	40 8 4	110 47 24	348 154 103	569 230 152	221 85 49
Bread and other bakery products.....	1909 1904 1899	110 79 98	626 424 429	120 90 112	89 39 44	417 295 273	255	843 493 305	59 39 18	297 173 128	1,359 712 503	2,109 1,145 875	750 433 372
Buttons.....	1909 1904 1899	4 3 4	1,039 475 402	216 70 2	1,423 369 373	1,064 475 292	253	1,964 475 292	253 65 18	538 140 103	520 123 69	1,821 627 354	1,292 404 285
Carriages and wagons and materials...	1909 1904 1899	17 16 13	609 718	19 25 54	68 54 440	522 630 440	1,007	1,787 1,568 1,248	122 70 75	380 377 270	504 560 263	1,177 1,230 700	673 670 497
Clothing, men's, including shirts.....	1909 1904 1899	106 230 307	8,559 9,902 5,203	241 300 377	580 441 244	7,732 6,161 4,672	1,007	10,868 7,891 6,046	1,162 743 336	3,800 2,545 1,858	8,082 6,082 5,522	18,870 14,040 11,138	10,197 7,967 5,616
Clothing, women's.....	1909 1904 1899	4 7 4	92 120 241	1 4 5	16 17 11	75 99 225	21	67 40 94	11 8 9	30 26 40	93 75 88	153 160 185	60 75 97
Coffee and spice, roasting and grinding.	1909 1904 1899	6 3 3	144 112 35	1 1 1	30 26 12	113 86 22	192	232 272 88	38 30 9	43 36 8	511 302 123	673 493 153	162 131 30
Confectionery.....	1909 1904 1899	16 8 9	697 619	13 2 64	78 44 482	606 573 482	441	880 820 378	102 75 93	228 187 141	1,016 658 570	1,927 1,513 1,156	911 855 586
Cooperage and wooden goods, not elsewhere specified.	1909 1904 1899	10 6 13	180 89	11 6	12 5 3	157 78 130	314	350 148 95	15 4 2	81 44 63	522 121 119	680 185 212	167 64 93
Cutlery and tools, not elsewhere specified.	1909 1904 1899	11 10 6	125 112 60	15 15 9	10 8 4	100 89 56	616	240 179 248	8 6 2	66 46 27	35 46 24	162 122 83	127 76 59
Electrical machinery, apparatus, and supplies.	1909 1904 1899	9 8 5	940 1,367	1	232 182	716 1,185	1,283	4,230 5,353	212 101	480 548	811 854	1,677 2,078	866 1,224
Electroplating.....	1909 1904 1899	7 6 6	35 35	3 4	4 4 3	28 25 57	59	24 18 10	3 4 2	21 14 17	4 14 5	37 44 36	33 30 31
Flour-mill and gristmill products....	1909 1904 1899	10 10 14	152 136 184	1 5 18	41 24 30	110 107 136	2,798	1,054 816 806	55 32 34	75 66 74	3,066 2,940 2,624	3,381 3,222 3,011	315 282 387

1 Excluding statistics for one establishment, to avoid disclosure of individual operations.
 2 Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.
 3 Less than \$500.
 4 Figures can not be shown without disclosing individual operations.
 5 Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
ROCHESTER—Continued.													
Food preparations.....	1909	6	44	4	13	27	42	\$75	\$9	\$13	\$68	\$116	\$48
	1904	9	4	1	2	0	.....	15	1	2	40	71	22
	1899	3	6	3	2	1	.....	13	1	(1)	9	17	8
Foundry and machine-shop products.	1909	89	2,784	60	359	2,365	4,336	6,093	436	1,019	1,067	5,744	3,777
	1904	70	1,970	45	188	1,737	.....	3,733	236	1,025	1,266	3,366	2,160
	1899	85	.....	.....	247	2,097	.....	4,642	290	1,127	1,447	4,411	2,064
Fur goods.....	1909	7	109	9	12	88	30	177	0	51	112	406	294
	1904	4	73	2	6	66	.....	60	5	35	44	133	89
	1899	5	87	6	12	69	.....	143	8	28	99	174	75
Furnishing goods, men's.....	1909	0	335	3	55	277	34	298	63	89	494	784	290
	1904	4	221	3	28	190	.....	240	22	60	284	504	220
	1899	5	299	7	34	258	.....	250	29	75	324	512	188
Furniture and refrigerators.....	1909	27	1,047	16	166	1,465	1,943	2,806	276	915	1,210	3,087	1,877
	1904	18	1,527	13	111	1,408	.....	1,804	163	742	849	2,365	1,516
	1899	25	1,678	20	134	1,518	.....	1,525	155	586	764	2,133	1,399
Gas and electric fixtures and lamps and reflectors.	1909	8	643	2	50	591	428	1,175	76	269	558	1,109	548
	1904	5	336	1	30	305	.....	425	51	121	271	679	498
	1899	3	346	1	26	319	.....	326	26	107	273	673	400
Glass, cutting, staining, and ornamenting.	1909	5	49	4	6	39	.....	42	6	27	50	104	54
	1904	3	25	4	3	18	.....	15	2	6	7	29	22
	1899	3	19	4	3	12	.....	24	1	7	4	23	10
Hand stamps and stencils and brands.	1909	4	21	5	2	14	4	20	1	7	15	36	21
	1904	3	11	4	.....	7	.....	15	.....	3	4	16	12
	1899	3	13	4	.....	9	.....	11	.....	5	8	20	12
Hats and caps, other than felt, straw, and wool.	1909	7	43	8	5	30	3	17	4	14	36	82	46
	1904	4	19	6	.....	13	.....	11	.....	7	10	34	18
	1899	6	17	6	1	10	.....	12	1	4	16	20	13
Ice, manufactured.....	1909	3	67	.....	14	53	580	259	10	40	28	137	109
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lasts.....	1909	4	149	2	14	124	255	212	23	83	94	273	179
	1904	5	79	3	9	67	.....	58	6	28	24	83	59
	1899	4	56	4	2	50	.....	43	2	20	18	70	52
Liquors, malt.....	1909	8	495	1	103	391	1,301	4,324	159	309	732	3,012	2,280
	1904	9	398	2	91	305	.....	4,069	137	225	604	2,174	1,570
	1899	13	523	5	114	404	.....	4,900	171	307	582	2,748	2,168
Looking-glass and picture frames.....	1909	9	211	7	26	178	107	328	31	106	65	281	186
	1904	11	307	8	28	271	.....	299	32	128	82	369	247
	1899	5	264	14	31	219	.....	258	43	100	81	288	207
Lumber and timber products.....	1909	22	1,098	10	107	981	2,935	2,302	130	511	1,485	2,455	670
	1904	28	949	18	70	861	.....	1,531	77	434	1,054	1,949	895
	1899	21	665	21	49	405	.....	717	44	236	527	961	434
Models and patterns, not including paper patterns.	1909	9	50	8	4	38	29	27	4	27	0	64	55
	1904	7	58	7	3	48	.....	139	3	30	14	71	47
	1899	10	51	10	2	39	.....	138	4	21	20	67	47
Musical instruments, pianos and organs and materials.	1909	4	118	2	12	104	168	241	13	63	120	234	114
	1904	3	133	3	27	103	.....	349	20	43	99	198	103
	1899	3	283	.....	15	208	.....	255	19	100	239	442	203
Patent medicines and compounds and druggists' preparations.	1909	32	245	20	109	116	83	619	127	48	324	831	507
	1904	31	321	25	126	170	.....	712	126	65	327	738	411
	1899	27	348	35	137	171	.....	760	104	51	204	943	649
Printing and publishing.....	1909	123	2,713	84	766	1,873	2,241	4,980	727	1,172	1,620	5,128	3,499
	1904	90	2,389	76	558	1,755	.....	3,825	410	984	1,128	3,734	2,606
	1899	84	2,011	84	329	1,598	.....	3,641	299	799	692	2,603	1,911
Slaughtering and meat packing.....	1909	15	50	20	5	25	129	105	4	14	112	158	46
	1904	10	38	16	.....	22	.....	80	.....	13	54	89	35
	1899	10	43	14	.....	29	.....	99	.....	15	124	193	69
Surgical appliances and artificial limbs.	1909	4	29	3	8	18	10	61	5	10	10	40	39
	1904	3	22	2	6	14	.....	18	5	8	8	34	26
	1899	3	.....	.....	8	12	.....	21	7	6	7	31	24
Tobacco manufactures.....	1909	04	325	102	14	209	15	385	18	103	189	512	323
	1904	100	833	111	61	661	.....	3,135	43	222	908	2,235	1,327
	1899	87	858	90	48	720	.....	598	98	220	881	3,040	2,159
Typewriters and supplies.....	1909	8	123	2	57	64	.....	550	70	42	202	591	389
	1904	8	128	2	67	59	.....	280	71	38	91	335	244
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wood, turned and carved.....	1909	11	41	11	1	29	.....	41	1	19	25	66	41
	1904	11	47	14	.....	33	.....	28	.....	20	10	50	40
	1899	9	40	10	1	29	.....	29	1	19	14	54	40
All other industries.....	1909	215	13,710	164	2,596	10,950	14,255	39,814	2,712	6,507	15,323	39,095	24,372
	1904	201	9,935	176	1,440	8,319	.....	26,088	1,460	3,859	11,741	25,040	14,268
	1899	228	.....	.....	922	7,364	.....	13,514	828	2,932	7,382	14,201	6,819

1 Less than \$500.

2 Excluding statistics for one establishment, to avoid disclosure of individual operations.

3 Excluding statistics for two establishments, to avoid disclosure of individual operations.

4 Figures can not be shown without disclosing individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employ-ees.	Wage earners (average number).							
			Expressed in thousands.										
SCHENECTADY—All industries.	1909	134	17,728	120	2,677	14,931	49,181	\$51,816	\$3,086	\$10,002	\$21,952	\$38,165	\$16,213
	1904	103	15,216	129	771	14,316	.....	22,051	915	9,382	16,497	33,084	16,587
	1899	83	.....	.....	303	8,494	.....	13,608	.....	4,066	9,025	17,605	7,680
Bread and other bakery products.....	1909	27	145	33	10	102	30	144	6	69	263	403	140
	1904	23	132	32	6	94	.....	67	3	54	160	314	154
	1899	17	.....	.....	20	47	.....	34	7	25	85	150	65
Lumber and timber products.....	1909	5	101	3	14	84	394	213	18	52	218	310	98
	1904	3	134	5	13	116	.....	327	13	68	375	559	184
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marble and stone work.....	1909	4	72	3	11	58	108	120	10	28	57	120	68
	1904	3	63	8	1	54	.....	95	1	35	33	87	54
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing.....	1909	18	339	8	112	219	209	503	77	145	173	550	377
	1904	13	133	11	42	80	.....	195	26	63	55	208	153
	1899	11	.....	.....	12	67	.....	81	6	36	20	94	74
Tobacco manufactures.....	1909	20	83	20	1	53	.....	43	1	26	41	101	60
	1904	22	106	30	4	72	.....	88	4	41	36	113	77
	1899	11	.....	.....	1	44	.....	35	1	21	32	82	50
All other industries.....	1909	60	16,888	44	2,529	14,415	48,341	50,784	2,974	9,682	21,209	36,675	15,475
	1904	39	14,648	43	705	13,000	.....	21,279	868	9,121	15,838	31,803	15,065
	1899	44	.....	.....	270	8,336	.....	13,456	283	4,883	9,788	17,279	7,401
SYRACUSE—All industries..	1909	738	21,710	655	2,997	18,148	20,796	\$51,726	\$3,313	\$10,422	\$21,778	\$49,435	\$27,659
	1904	637	16,926	650	1,722	14,554	.....	38,653	1,954	7,116	16,982	34,087	18,605
	1899	630	.....	.....	1,264	11,809	.....	28,928	1,316	5,303	12,548	26,546	13,998
Boxes, fancy and paper.....	1909	4	174	3	7	164	53	122	6	49	87	164	77
	1904	4	139	3	4	132	.....	99	3	34	54	121	67
	1899	3	97	6	2	80	.....	82	1	22	32	71	39
Brass and bronze products.....	1909	10	236	9	24	203	164	522	92	131	387	683	296
	1904	7	114	8	8	98	.....	205	10	48	149	253	164
	1899	5	72	9	.....	63	.....	104	.....	38	136	201	65
Bread and other bakery products.....	1909	83	554	88	65	401	267	858	63	240	1,072	1,832	760
	1904	53	401	54	49	298	.....	824	39	153	726	1,289	503
	1899	61	345	72	52	221	.....	431	38	103	414	730	316
Candles.....	1909	5	317	2	40	275	107	925	57	104	688	1,062	404
	1904	4	270	2	27	241	.....	801	42	89	645	894	249
	1899	5	225	4	28	193	.....	612	35	68	426	605	179
Carriages and wagons and materials...	1909	13	272	17	10	245	293	504	18	170	268	593	325
	1904	11	343	13	9	321	.....	520	15	187	294	638	344
	1899	18	.....	.....	17	351	.....	425	20	165	346	638	287
Clothing, men's, including shirts.....	1909	59	1,021	74	217	1,630	161	2,010	210	694	1,718	3,461	1,743
	1904	52	1,513	69	136	1,368	.....	2,030	181	512	1,608	3,082	1,479
	1899	100	.....	.....	93	1,100	.....	2,020	81	404	1,452	2,830	1,378
Clothing, women's.....	1909	8	311	6	20	285	50	102	15	110	222	416	194
	1904	7	435	12	14	409	.....	165	11	106	218	445	227
	1899	8	282	9	12	261	.....	147	9	65	228	383	155
Confectionery.....	1909	7	207	7	28	172	177	209	26	63	320	498	169
	1904	5	131	4	11	116	.....	145	12	43	241	350	100
	1899	4	.....	.....	4	51	.....	75	3	21	107	155	48
Cooperage and wooden goods, not elsewhere specified.	1909	7	44	9	.....	35	35	67	.....	21	51	95	44
	1904	7	44	12	1	31	.....	50	1	17	35	76	41
	1899	6	50	6	1	43	.....	43	1	22	33	70	37
Copper, tin, and sheet-iron products..	1909	9	380	5	36	339	298	925	55	293	681	1,091	410
	1904	10	125	11	8	106	.....	132	6	52	86	215	129
	1899	11	.....	.....	6	53	.....	64	2	20	66	124	58
Electroplating.....	1909	5	49	4	5	40	30	25	4	23	8	47	39
	1904	5	34	7	3	24	.....	12	1	12	6	31	25
	1899	4	.....	.....	19	19	.....	6	.....	8	4	18	14
Food preparations.....	1909	11	225	12	50	157	320	594	70	70	615	1,105	400
	1904	8	159	5	34	120	.....	436	28	48	367	657	290
	1899	4	133	2	38	93	.....	258	39	20	455	790	335
Foundry and machine-shop products..	1909	72	3,093	48	317	2,728	3,594	5,874	427	1,518	2,276	5,091	3,415
	1904	58	2,244	63	214	1,967	.....	3,780	234	986	1,324	3,510	2,195
	1899	48	.....	.....	178	1,897	.....	3,405	181	869	1,349	3,013	1,664
Furniture and refrigerators.....	1909	17	412	14	32	366	500	699	41	107	286	662	376
	1904	18	509	12	40	457	.....	652	42	241	337	778	441
	1899	8	354	9	28	322	.....	435	23	150	210	554	344
Gloves and mittens, leather.....	1909	4	50	5	3	42	7	44	3	14	38	67	29
	1904	4	47	5	2	40	36	2	15	61	90	29
	1899	5	40	6	8	31	19	1	9	33	56	23

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² Excluding statistics for one establishment, to avoid disclosure of individual operations.

³ Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
SYRACUSE—Continued.													
Hosiery and knit goods.....	1909	5	421	7	31	383	330	\$950	\$33	\$131	\$587	\$969	\$382
	1904	5	496	8	18	470	470	563	21	104	608	872	204
	1899	5	309	9	16	284	.....	346	18	76	326	526	200
Jewelry.....	1909	9	19	10	.....	9	4	10	.....	7	10	41	31
	1904	6	14	6	.....	8	.....	11	.....	4	10	23	13
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt.....	1909	8	343	5	67	271	1,783	3,940	133	253	680	2,460	1,780
	1904	8	325	3	69	253	.....	3,687	112	188	557	1,960	1,463
	1899	10	335	10	67	252	.....	2,994	123	108	405	1,814	1,409
Lumber and timber products.....	1909	18	359	12	31	316	1,059	687	36	183	640	1,003	354
	1904	2 10	241	9	3	229	.....	459	2	110	341	572	231
	1899	12	.....	.....	12	250	.....	455	8	104	375	580	205
Models and patterns, not including paper patterns.....	1909	6	40	5	7	28	38	31	4	20	8	45	37
	1904	4	15	4	.....	12	.....	21	.....	6	4	23	10
	1899	3	10	3	.....	7	.....	5	.....	5	3	10	16
Patent medicines and compounds and druggists' preparations.....	1909	24	308	14	154	140	239	573	123	64	230	850	611
	1904	2 14	36	16	7	13	.....	66	6	4	35	118	83
	1899	10	26	9	11	6	.....	31	9	2	20	46	26
Printing and publishing.....	1909	84	1,110	73	314	723	821	1,870	251	444	611	2,032	1,421
	1904	2 67	884	59	249	576	.....	1,315	212	336	368	1,479	1,111
	1899	2 40	822	42	107	673	.....	1,123	102	342	304	1,076	771
Salt.....	1909	7	107	4	13	90	274	375	8	42	13	80	76
	1904	9	133	6	14	113	.....	574	8	63	17	170	153
	1899	12	.....	.....	6	110	.....	766	7	57	20	150	133
Tobacco manufactures.....	1909	80	571	80	28	454	58	555	32	247	403	941	538
	1904	84	571	93	21	457	.....	539	26	222	264	784	520
	1899	2 72	499	75	29	395	.....	375	26	168	280	664	384
All other industries.....	1909	183	10,187	133	1,402	8,652	10,125	20,026	1,600	5,424	9,850	23,508	13,658
	1904	177	7,702	166	781	6,755	.....	21,441	940	3,530	7,732	16,248	8,516
	1899	107	.....	.....	559	5,045	.....	14,701	580	2,379	5,518	11,430	5,912
TROY—All industries.....													
	1909	368	22,149	352	1,777	20,020	18,887	\$39,309	\$2,196	\$9,497	\$15,626	\$37,980	\$22,354
	1904	311	20,833	310	1,409	19,114	.....	32,697	1,642	7,853	13,746	31,861	18,115
	1899	327	.....	.....	972	22,933	.....	25,274	1,268	8,876	11,462	28,739	17,277
Boxes, fancy and paper.....	1909	7	373	10	15	348	255	241	18	155	179	434	255
	1904	4	229	5	5	219	.....	137	14	81	81	235	154
	1899	4	.....	.....	6	233	.....	171	4	90	118	302	181
Bread and other bakery products.....	1909	36	238	33	34	171	82	326	25	116	479	724	245
	1904	37	228	41	16	171	.....	256	8	107	440	718	278
	1899	36	.....	.....	33	145	.....	164	15	83	277	518	241
Brick and tile.....	1909	4	88	4	4	80	315	143	4	41	12	90	78
	1904	5	72	5	3	64	.....	162	3	27	16	70	54
	1899	6	.....	.....	4	76	.....	100	2	31	13	67	54
Brushes.....	1909	18	922	13	45	564	380	655	69	274	345	950	614
	1904	15	729	19	19	691	.....	490	30	208	243	650	410
Carrriages and wagons and materials...	1909	6	41	5	3	33	35	70	3	26	22	63	41
	1904	2 8	62	4	7	51	.....	85	0	29	24	90	66
	1899	2 8	60	8	1	51	.....	75	2	29	28	83	55
Clothing, men's, including shirts.....	1909	11	3,741	16	250	3,475	1,136	6,064	294	1,432	3,337	6,970	3,639
	1904	9	2,742	17	137	2,588	.....	2,548	134	860	1,903	4,204	2,361
	1899	2 5	.....	.....	121	4,657	.....	3,007	173	1,060	1,751	4,740	2,989
Confectionery.....	1909	6	40	6	10	24	25	38	7	10	37	67	30
	1904	5	47	6	13	28	.....	19	5	11	60	97	37
	1899	3	.....	.....	9	27	.....	24	7	9	22	40	24
Copper, tin, and sheet-iron products..	1909	10	88	9	11	68	25	121	8	34	50	128	78
	1904	4	75	3	11	61	.....	140	10	29	42	108	66
	1899	4	.....	.....	3	36	.....	71	4	17	56	94	38
Foundry and machine-shop products..	1909	28	1,028	28	117	883	1,446	2,889	170	597	710	1,953	1,243
	1904	23	1,068	21	113	934	.....	2,476	156	554	677	1,863	1,126
	1899	29	.....	.....	110	1,069	.....	2,934	134	617	732	2,069	1,277
Furnishing goods, men's.....	1909	21	10,370	16	578	9,776	2,419	11,948	706	4,049	4,780	13,639	8,859
	1904	21	10,051	25	603	9,423	.....	11,211	550	3,307	4,249	11,272	7,023
	1899	23	.....	.....	353	11,905	.....	7,506	522	3,951	3,962	10,433	6,471
Leather goods.....	1909	6	96	6	12	48	13	121	7	18	59	112	53
	1904	3	37	6	4	27	.....	64	3	14	40	70	39
	1899	3	.....	.....	3	24	.....	10	1	11	15	37	22

1 Figures can not be shown without disclosing individual operations.

2 Excluding statistics for two establishments, to avoid disclosure of individual operations.

3 Excluding statistics for one establishment, to avoid disclosure of individual operations.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

Table with columns for Industry, Census (1909, 1904, 1899), Persons Engaged in Industry (Total, Proprietors, Salaried, Wage earners), Primary horse-power, Capital, Salaries, Wages, Cost of materials, Value of products, and Value added by manufacture. Sub-sections include TROY, UTICA, and YONKERS.

1 Figures can not be shown without disclosing individual operations.

2 Excluding statistics for one establishment, to avoid disclosure of individual operations.

3 Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 50,000 INHABITANTS OR MORE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY AND CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employ-ees.	Wage earners (average number).							
			Expressed in thousands.										
YONKERS—Continued.													
Patent medicines and compounds and druggists' preparations.	1909 1904 1899	4 4 4	137 129 121	4 6	52 49 35	81 80 80	66	\$1,932 1,961 174	\$120 172 115	\$36 31 31	\$100 234 222	\$833 653 745	\$643 719 523
Printing and publishing.....	1909 1904 1899	18 19 12	160 104 65	14 6 7	43 19 12	103 79 46	91	348 162 134	43 21 17	71 53 27	68 31 18	280 151 123	212 120 105
Tobacco manufactures.....	1909 1904 1899	17 16 17	32 37 29	10 16 17	..... ..... .....	13 21 12	..... ..... .....	21 21 16	..... ..... .....	7 10 8	12 10 15	33 31 39	21 21 24
All other industries.....	1909 1904 1899	61 42 42	11,534 8,851	51 41	557 286 192	10,976 8,524 6,710	13,123	51,906 28,990 10,793	882 406 252	5,536 3,808 2,774	41,400 21,505 8,320	54,588 29,401 14,691	13,098 8,096 6,371

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

Amsterdam.....	1909 1904 1899	67 89 98	10,776 8,504	103 95	389 416 188	10,284 7,993 6,201	11,745	\$18,162 14,554 9,461	\$545 404 218	\$4,823 3,179 2,457	\$13,195 8,853 5,990	\$22,449 15,067 10,643	\$9,254 6,154 4,653
Auburn.....	1909 1904 1899	140 111 120	7,434 7,275	130 120	857 495 311	6,497 6,660 8,895	15,455	23,743 18,178 12,427	701 455 322	3,157 2,897 2,452	8,937 8,244 5,212	15,061 13,421 9,575	7,024 5,177 4,363
Batavia.....	1909 1904 1899	59 51 54	2,346 2,033	51 45	288 385 189	2,007 1,603 1,573	3,204	5,697 4,670 3,300	349 297 167	960 753 650	1,781 1,784 1,248	4,401 3,589 2,573	2,620 1,895 1,327
Binghamton.....	1909 1904 1899	266 241 219	7,997 6,514	239 247	935 631 465	6,823 5,636 5,011	7,742	14,214 11,827 8,654	1,062 589 460	3,084 2,425 1,801	8,726 6,421 5,363	17,114 13,067 10,539	8,388 7,480 5,176
Cohoes.....	1909 1904 1899	103 98 112	8,596 7,276	84 93	303 273 201	8,209 6,910 8,273	14,291	13,117 10,063 11,136	439 304 251	3,387 2,707 2,071	8,176 6,284 5,908	14,831 10,290 11,031	6,655 4,636 5,123
Corning.....	1909 1904 1899	45 57 49	2,289 2,583	48 58	107 170 113	2,074 2,355 1,600	1,486	3,216 2,658 1,818	101 104 139	1,038 1,148 740	864 1,075 920	3,050 3,084 2,273	2,186 2,009 1,353
Cortland.....	1909 1904 1899	51 53 40	2,022 2,487	40 44	220 161 112	2,356 2,282 1,412	6,661	5,460 4,491 2,739	284 187 125	1,302 1,117 600	3,574 2,598 1,706	6,395 4,474 3,064	2,821 1,978 1,268
Dunkirk.....	1909 1904 1899	57 38 41	3,301 3,056	43 34	502 227 116	2,756 3,395 2,533	5,104	7,079 5,771 4,134	549 260 118	1,414 2,003 1,336	3,208 4,749 3,015	6,576 9,099 5,226	3,368 5,160 2,211
Elmira.....	1909 1904 1899	154 142 144	4,425 3,714	136 126	642 380 271	3,647 3,208 3,570	6,072	10,830 6,237 6,901	735 366 242	1,882 1,465 1,491	3,500 3,061 3,002	6,067 6,368 6,597	4,477 3,307 2,695
Fulton.....	1909 1904 1899	45	3,014	34	181	2,799	17,903	11,033	250	1,208	4,857	7,867	3,010
Geneva.....	1909 1904 1899	56 54 49	1,824 1,812	42 44	256 188 126	1,526 1,580 1,180	2,705	4,104 6,441 2,280	307 217 150	792 805 505	2,991 2,996 1,650	5,154 4,052 2,716	2,163 1,956 1,066
Glens Falls.....	1909 1904 1899	68 49 57	3,048 2,285	69 57	205 126 162	2,774 2,052 3,101	6,772	6,226 3,290 4,055	289 104 156	1,223 721 950	2,309 1,292 1,859	4,877 2,825 3,994	2,568 1,543 2,135
Gloversville.....	1909 1904 1899	187 130 133	6,604 5,003	221 248	642 307 241	5,741 5,048 7,813	6,163	11,960 8,027 5,507	692 290 239	2,791 2,031 2,395	8,062 5,252 5,254	14,171 9,341 9,071	6,109 4,089 3,817
Hornell.....	1909 1904 1899	45 45 48	2,459 2,385	40 44	236 141 110	2,183 2,200 1,549	3,349	2,866 2,116 1,767	239 136 93	1,048 974 590	1,878 1,464 1,308	3,648 3,143 2,431	1,770 1,609 1,123
Hudson.....	1909 1904 1899	45 48 45	1,451 1,681	37 49	112 108 74	1,392 1,524 1,132	1,515	2,774 4,073 2,190	127 143 90	576 699 452	2,063 2,078 1,354	3,507 4,116 2,604	1,444 2,038 1,270
Ithaca.....	1909 1904 1899	81 67 62	1,105 1,120	72 70	873 177 97	873 873 801	3,045	2,978 2,771 2,523	144 191 78	439 424 426	849 819 656	1,920 2,080 1,501	1,050 1,261 845
Jamestown.....	1909 1904 1899	156 149 108	7,753 5,978	142 170	822 571 378	6,789 5,237 4,528	11,079	16,075 10,200 8,304	995 693 470	3,395 2,245 1,718	7,384 4,251 3,793	14,729 10,450 7,731	7,336 6,699 3,938
Johnstown.....	1909 1904 1899	138 100 115	3,009 2,745	108 151	222 168 127	2,589 2,426 3,095	3,410	5,204 3,680 3,580	176 140 118	1,175 943 1,133	3,925 2,561 2,085	6,574 4,543 5,123	2,049 1,982 2,138

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.

² Figures not available.

³ Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

MANUFACTURES—NEW YORK.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED—Continued.

CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu. factory.
			Total.	Proprietors and firm members.	Salaried employ-ees.	Wage earners (average number).							
Expressed in thousands.													
Kingston.....	1909	99	3,845	93	471	3,281	4,648	\$5,924	\$411	\$1,366	\$2,582	\$5,986	\$3,404
	¹ 1904	96	2,981	94	251	2,636	.....	7,119	237	1,096	2,112	4,812	2,700
	1899	109	.....	.....	160	2,042	.....	3,211	148	925	1,063	3,952	2,049
Little Falls.....	1909	55	4,408	58	139	4,211	7,742	6,990	232	1,965	4,923	8,460	3,537
	1904	49	2,801	56	124	2,621	.....	4,514	144	1,034	2,535	4,471	1,936
	1899	52	.....	.....	106	2,980	.....	3,953	121	1,049	2,233	4,071	1,838
Lockport.....	1909	109	2,574	90	346	2,138	14,335	10,227	425	1,130	5,350	8,168	2,848
	1904	109	2,636	103	210	2,323	.....	6,123	255	1,110	3,316	5,808	2,492
	1899	124	.....	.....	224	2,359	.....	5,972	231	1,078	3,097	5,353	2,256
Middletown.....	1909	59	1,070	62	175	1,733	2,548	3,695	181	902	2,965	4,658	1,753
	1904	50	1,762	58	108	1,506	.....	2,298	104	740	1,955	3,356	1,401
	1899	51	.....	.....	88	1,306	.....	1,931	59	574	1,325	2,155	830
Mount Vernon.....	1909	90	1,492	76	209	1,207	1,500	3,202	200	802	1,286	3,376	2,090
	1904	54	904	51	163	670	.....	7,284	150	426	784	1,877	1,093
	1899	37	.....	.....	93	438	.....	4,657	78	224	328	910	582
New Rochelle.....	1909	42	882	39	108	735	620	1,377	113	482	814	1,069	855
	1904	28	595	23	55	517	.....	814	48	342	462	1,103	641
	1899	25	.....	.....	15	198	.....	302	12	110	278	508	230
Newburgh.....	1909	104	4,966	96	526	4,344	4,902	8,920	667	2,180	4,843	9,928	5,085
	¹ 1904	79	4,620	80	527	4,013	.....	6,608	479	1,789	3,276	7,036	3,760
	1899	93	.....	.....	281	3,074	.....	4,619	264	1,316	2,648	5,358	2,710
Niagara Falls.....	1909	156	7,214	117	1,008	6,089	95,792	37,239	1,441	3,588	14,271	28,652	14,381
	1904	85	5,132	54	504	4,574	.....	27,116	591	2,348	9,192	16,916	7,724
	1899	93	.....	.....	326	2,840	.....	14,344	384	1,318	4,888	8,540	3,652
North Tonawanda.....	1909	81	3,140	56	200	2,824	15,888	8,274	300	1,582	6,389	9,600	3,211
	1904	38	2,194	32	137	2,025	.....	4,825	170	994	4,534	6,499	1,965
	1899	34	.....	.....	125	1,666	.....	4,947	147	758	4,244	6,204	2,050
Ogdensburg.....	1909	75	1,463	61	143	1,259	3,404	2,617	148	517	3,508	4,948	1,440
	1904	55	1,064	46	89	929	.....	2,722	89	341	2,263	3,057	794
	1899	74	.....	.....	86	806	.....	1,664	68	366	1,501	2,261	760
Olean.....	1909	54	2,671	42	370	2,259	5,202	8,952	358	1,339	7,728	10,065	2,277
	1904	41	1,295	41	79	1,175	.....	4,972	116	624	3,297	4,677	1,380
	1899	47	.....	.....	115	1,793	.....	5,745	121	841	4,816	6,210	1,395
Ossining.....	1909	34	477	24	67	350	980	2,003	125	243	466	1,329	863
	² 1904 ² 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oswego.....	1909	81	4,247	58	372	3,817	9,753	11,240	453	1,813	5,703	10,413	4,710
	1904	77	4,076	50	289	3,746	.....	6,710	331	1,462	4,717	7,592	2,875
	1899	75	.....	.....	251	3,457	.....	7,002	339	1,378	4,312	7,487	3,175
Peekskill.....	1909	52	2,384	46	283	2,055	3,133	3,828	340	1,241	2,942	7,888	4,046
	1904	46	2,158	45	166	1,957	.....	3,895	218	1,025	2,282	7,252	4,070
	1899	37	.....	.....	86	1,283	.....	1,427	95	620	761	1,783	1,022
Plattsburg.....	1909	41	1,243	33	161	1,049	5,739	2,694	158	513	1,745	3,138	1,303
	1904	39	876	40	86	750	.....	2,066	75	328	610	1,057	547
	1899	39	.....	.....	58	621	.....	1,872	39	214	524	1,043	519
Port Chester.....	1909	34	2,334	30	182	2,122	3,175	5,417	237	1,040	4,554	6,243	1,689
	² 1904 ² 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poughkeepsie.....	1909	111	4,037	102	636	3,209	3,326	10,281	847	1,059	3,867	9,151	5,284
	1904	108	4,229	105	349	3,775	.....	6,657	357	1,041	3,533	7,207	3,674
	1899	118	.....	.....	185	2,810	.....	5,182	231	1,236	2,981	5,577	2,596
Rensselaer.....	1909	33	842	28	51	763	1,263	2,146	161	364	1,166	2,296	1,130
	² 1904 ² 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome.....	1909	119	3,995	112	250	3,638	8,844	8,003	355	1,851	10,293	14,423	4,229
	1904	89	3,479	83	187	3,269	.....	5,722	247	1,392	5,664	8,931	2,937
	1899	87	.....	.....	135	2,274	.....	3,509	147	899	3,462	5,549	2,087
Saratoga Springs.....	1909	39	1,965	30	202	833	1,718	4,350	251	464	883	2,937	1,454
	1904	35	668	28	50	590	.....	3,485	57	284	702	1,700	1,007
	1899	44	.....	.....	157	602	.....	1,400	120	211	678	1,334	656
Watertown.....	1909	107	3,834	87	456	3,291	13,543	18,662	592	1,798	3,821	8,527	4,706
	¹ 1904	85	3,365	74	271	3,020	.....	10,869	372	1,612	3,342	7,251	3,900
	1899	91	.....	.....	206	3,223	.....	7,938	267	1,589	3,708	6,888	3,180
Watervliet.....	1909	36	880	33	94	753	904	1,423	127	302	816	1,660	853
	¹ 1904	36	1,227	33	83	1,111	.....	1,353	115	470	839	1,738	800
	1899	41	.....	.....	62	1,000	.....	1,693	78	374	733	1,507	774
White Plains.....	1909	33	333	28	56	240	404	2,095	54	180	372	816	444
	² 1904 ² 1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the city.

² Figures not available.

MANUFACTURES—NEW YORK.

TABLE II.—DETAIL STATEMENT FOR THE

INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total	Proprietors and firm members.	Salaried officers, supts. and managers.	Clerks.		Average number.	Wage earners.		Total.	16 and over.		Under 16.				
					Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.			
															Number.		
1 Photographic apparatus and materials.	42	5,186	23	127	628	320	4,088	Jy	4,288	Fe	3,708	4,275	3,106	1,131	35	3	6,782
2 Photo-engraving.	66	1,809	42	102	221	49	1,395	De	1,450	Ja	1,316	1,457	1,415	223	19	.....	470
3 Pipes, tobacco.	30	1,871	40	33	95	40	1,603	Oc	1,736	Au	1,607	1,464	1,420	22	4	9	803
4 Pottery, terra-cotta, and fire-clay products.	39	2,028	19	102	101	39	2,367	De	2,547	Ja	2,105	2,613	2,133	425	51	4	4,039
5 Printing and publishing.	4,426	94,893	3,732	4,052	16,007	7,982	63,120	De	66,147	Jy	61,199	66,300	51,021	14,722	507	140	53,973
6 Pumps, not including steam pumps.	22	486	17	28	22	11	408	De	455	Mh	384	456	454	2	.....	.....	719
7 Rubber goods, not elsewhere specified.	53	2,518	43	111	211	87	2,066	De	2,222	My	1,856	2,319	1,710	504	5	10	6,898
8 Salt.	33	1,086	20	59	72	10	1,525	Au	1,677	Ja	1,274	1,507	1,350	151	.....	.....	9,023
9 Saws.	15	456	13	15	34	15	379	Mh	451	My	328	341	305	36	.....	.....	1,053
10 Scales and balances.	16	582	10	19	68	32	453	No	508	Ja	374	507	502	2	3	.....	585
11 Screws, machine.	5	120	4	5	3	3	105	De	129	Ja	81	129	126	2	1	.....	190
12 Sewing machines, cases, and attachments.	13	170	7	15	25	9	114	De	178	Mh	90	179	170	.....	.....	.....	120
13 Shipbuilding, including boat building.	255	6,230	262	119	183	22	5,644	My	6,437	Fe	4,868	5,878	5,808	4	6	.....	13,835
14 Shoddy.	14	255	7	18	5	2	223	De	255	Ja	189	255	213	42	1	.....	1,082
15 Show cases.	21	495	26	23	22	9	415	De	441	Fe	384	441	432	7	1	1	616
16 Signs and advertising novelties.	67	1,035	64	63	62	35	811	No	844	Ja	748	876	734	133	9	.....	389
17 Silk and silk goods, including throwsters.	170	14,136	140	274	587	232	12,903	Mh	13,616	Jy	11,726	13,231	4,641	8,255	78	257	11,110
18 Silverware and plated ware.	53	3,078	45	97	351	120	3,065	No	3,663	Jy	2,625	3,373	2,795	556	17	5	2,819
19 Slaughtering and meat packing.	238	7,583	262	155	846	210	6,110	De	6,313	Au	5,803	6,260	6,082	172	4	2	13,433
20 Smelting and refining, not from the ore.	15	407	21	14	76	12	284	De	295	Ja	260	293	293	.....	.....	.....	1,595
21 Soap.	67	3,924	50	157	482	259	2,976	No	3,083	Je	2,842	3,075	2,393	680	2	.....	5,873
22 Stationery goods, not elsewhere specified.	55	1,815	51	64	294	163	1,243	Ap	1,278	Ja	1,166	1,248	884	348	7	9	1,307
23 Steam packing.	36	1,295	21	49	282	42	901	De	1,050	Jy	811	1,051	948	100	3	.....	1,804
24 Stereotyping and electrotyping.	47	1,182	40	60	145	32	905	De	927	Au	884	927	915	3	6	.....	1,414
25 Stoves and furnaces, including gas and oil stoves.	58	4,957	22	169	407	112	4,247	Oc	4,480	Ja	2,930	4,413	4,306	10	7	.....	6,273
26 Surgical appliances and artificial limbs.	72	708	67	42	88	47	464	De	479	Ja	450	455	243	185	5	22	240
27 Tobacco manufactures.	3,371	36,197	3,099	568	1,518	303	30,019	De	31,850	Fe	28,882	32,730	15,881	16,564	147	138	2,057
28 Toys and games.	67	1,406	65	52	57	35	1,107	No	1,472	Ja	913	1,330	736	564	23	7	461
29 Type founding and printing materials.	27	281	23	21	25	10	202	Jy	223	Ja	176	209	183	26	.....	.....	231
30 Typewriters and supplies.	43	5,160	22	138	343	119	4,538	Ap	4,967	Au	3,111	4,751	4,082	662	7	.....	2,757
31 Umbrellas and canes.	142	2,353	179	51	145	59	1,919	No	2,116	Ja	1,749	2,051	1,118	925	8	.....	507
32 Vinegar and cider.	277	913	304	41	31	8	529	No	1,457	Mh	248	1,388	1,017	162	9	.....	5,719
33 Wall paper.	13	1,889	2	43	206	36	1,602	No	1,873	Au	915	1,910	1,652	245	7	6	1,596
34 Wall plaster.	31	1,550	9	67	110	27	1,337	My	1,436	Ja	1,193	1,365	1,347	18	.....	.....	7,356
35 Whips.	8	190	8	4	11	5	162	Mh	190	De	81	181	110	71	.....	.....	254
36 Window shades and fixtures.	75	1,172	74	42	106	39	911	My	948	Sc	858	986	789	197	.....	.....	1,555
37 Wire.	7	1,521	1	21	53	7	1,439	De	1,593	Ja	1,320	1,594	1,447	140	5	2	5,455
38 Wirework, including wire rope and cable.	106	1,988	94	89	115	41	1,649	No	1,753	Ja	1,511	1,744	1,564	166	14	.....	2,402
39 Wood distillation, not including turpentine and rosin.	29	668	10	40	17	8	593	Fe	651	Au	501	646	646	.....	.....	.....	599
40 Wood, turned and carved.	159	1,594	194	45	55	21	1,279	No	1,452	Au	1,197	1,389	1,257	129	3	.....	3,223
41 Woolen, worsted, and felt goods, and wool hats.	64	9,907	66	154	185	42	9,460	Je	9,950	Ja	8,771	9,596	5,333	4,068	85	110	22,374
42 All other industries ²	1,716	41,179	1,808	1,219	3,501	775	33,876	.....	.....	.....	.....	.....	.....	.....	.....	.....	89,615

¹ Same number reported for one or more other months.

² All other industries embrace—

Artists' materials.	13	Charcoal.	4	Glue.	11
Awnings, tents, and sails.	132	China decorating.	.....	Graphite and graphite refining.	1
Axle grease.	11	Clothing, horse.	.....	Grease and tallow.	43
Baking powders and yeast.	28	Clothing, men's, buttonholes.	98	Haircloth.	2
Beet sugar.	1	Coke.	2	Hammocks.	2
Belting and hose, woven and rubber.	5	Drug grinding.	0	Hones and whetstones.	2
Billiard tables and materials.	18	Engraving and diesinking.	83	Horseshoes, not made in steel works or rolling mills.	2
Bone, carbon, and lamp black.	1	Engraving, wood.	28	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	10
Butter, reworking.	1	Explosives.	3	Iron and steel, doors and shutters.	11
Card cutting and designing.	22	Flavoring extracts.	107	Iron and steel forgings.	22
Carriages and sleds, children's.	16	Foundry supplies.	1	Iron and steel forgings.	.....
Cars, street-railroad, not including operations of railroad companies.	1	Fuel, manufactured.	5	Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills.	6
Cash registers and calculating machines.	8	Galvanizing.	9	.....	.....
.....	.....	Glucose and starch.	5	.....	.....

STATE, BY INDUSTRIES: 1909—Continued.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	\$15,410,350	\$10,921,600	\$345,959	\$749,890	\$2,435,327	\$113,172	\$4,853,532	\$35,347	\$12,511	\$2,772	\$2,343,150	\$18,763,929	\$13,707,225
2	1,034,557	2,616,232	240,945	185,137	1,350,063	50,023	504,043	90,326	1,876	18,252	174,067	2,008,409	2,353,443
3	2,207,358	2,002,579	49,758	127,375	757,485	22,934	1,409,348	32,127	342	1,020	202,190	4,212,262	1,779,080
4	5,342,721	2,946,384	219,819	139,390	1,295,514	271,101	603,571	22,997	32,653	5,722	355,617	3,403,406	2,528,824
5	158,366,653	188,269,238	11,505,535	21,745,628	43,559,305	1,936,855	54,557,405	4,122,786	517,924	16,060,882	33,353,918	216,046,482	160,452,222
6	1,089,209	679,007	50,174	26,057	227,945	11,260	284,251	3,207	4,206	2,040	68,967	817,000	521,579
7	7,329,673	8,044,837	403,807	316,540	1,058,398	115,414	5,543,106	40,421	21,271	15,448	530,282	8,783,693	3,125,083
8	14,552,287	2,467,250	143,440	85,214	765,132	416,178	779,013	-----	35,157	52,716	190,400	2,806,826	1,701,635
9	966,712	866,805	49,878	32,385	208,005	18,250	436,273	17,487	5,526	1,600	96,792	973,041	510,109
10	1,347,777	936,838	85,090	67,403	283,592	10,592	403,510	10,078	8,601	5,120	46,952	1,170,584	759,482
11	206,358	140,493	7,306	4,877	52,520	4,572	52,888	2,790	1,417	-----	13,973	176,765	110,305
12	552,440	210,955	24,317	15,395	50,407	3,351	54,530	9,488	170	271	23,026	237,480	179,599
13	14,084,162	9,733,787	304,759	238,171	3,779,531	166,035	3,758,631	138,697	71,868	89,907	1,186,188	11,417,180	7,402,523
14	965,363	800,326	27,010	5,346	106,293	17,178	606,808	3,240	3,506	-----	35,046	860,304	245,378
15	509,320	704,281	51,890	23,004	231,583	12,761	393,456	24,155	1,362	76	25,825	900,043	403,026
16	946,286	1,507,951	117,135	76,191	496,579	17,330	642,746	67,783	1,427	5,251	143,509	1,772,415	1,112,330
17	20,972,116	23,853,493	709,385	783,908	5,385,355	249,977	13,698,612	325,414	48,145	1,260,206	1,383,401	20,518,821	12,570,232
18	7,487,830	7,018,015	291,366	373,082	1,899,252	72,180	3,516,679	70,978	16,358	0,278	768,242	7,859,346	4,270,487
19	34,535,822	120,932,634	547,403	1,142,417	4,387,005	507,208	109,661,026	239,879	243,327	23,575	4,180,794	127,130,051	16,961,817
20	3,257,285	8,688,545	32,375	97,911	191,212	45,643	8,229,916	10,906	4,447	-----	70,105	9,017,639	751,080
21	16,798,332	20,156,635	205,507	533,777	1,435,571	260,146	15,322,236	116,323	62,814	6,825	2,093,436	23,582,977	7,070,595
22	2,762,337	3,409,348	152,116	337,585	635,580	21,851	1,687,987	56,049	8,408	52,306	557,466	3,344,380	1,734,642
23	3,774,644	3,542,465	180,852	308,811	463,733	53,064	1,016,582	17,264	11,273	104	589,912	3,783,236	1,812,690
24	1,209,210	2,038,390	148,855	163,789	851,946	74,202	551,040	96,803	1,436	8,342	141,017	2,227,687	1,601,845
25	11,479,464	8,387,593	430,540	474,350	2,746,399	215,999	3,326,402	86,627	56,445	11,245	1,039,496	8,673,730	5,431,320
26	969,101	1,248,002	90,660	97,636	276,472	15,087	492,105	52,163	1,508	4,407	217,004	1,460,235	983,043
27	41,862,854	65,789,577	1,220,156	1,988,426	13,660,141	189,919	31,151,487	942,327	9,025,649	19,683	7,582,789	76,661,552	45,320,146
28	1,310,500	1,637,005	74,303	63,007	457,428	18,732	827,964	64,144	2,455	10,783	117,590	1,849,225	1,002,520
29	576,657	607,500	54,516	31,112	139,818	10,560	373,179	31,611	1,661	986	54,057	822,752	430,013
30	12,486,596	7,105,884	404,749	397,175	3,020,484	77,493	1,803,042	35,886	32,050	1,000	1,334,005	10,268,038	8,417,503
31	2,239,978	5,723,503	103,757	144,591	907,206	37,630	4,093,574	149,167	1,540	14,575	271,457	6,426,667	2,295,457
32	5,035,742	1,945,284	55,325	24,947	234,192	39,856	1,446,256	13,148	12,746	585	124,229	2,246,322	766,210
33	5,220,889	4,622,083	146,999	209,976	806,369	65,314	2,418,094	50,276	21,793	31,344	824,027	5,276,870	2,802,562
34	5,790,570	4,002,204	205,249	146,678	774,924	169,578	2,255,351	13,460	27,370	31,376	377,706	4,493,963	2,060,034
35	246,363	320,069	5,800	8,200	69,485	3,003	156,747	5,520	1,000	-----	69,564	341,287	180,877
36	3,340,914	5,034,070	114,498	123,043	435,193	35,419	3,910,564	60,820	11,031	72	343,820	5,475,752	1,529,499
37	5,477,199	9,321,121	155,553	62,469	758,079	185,851	7,637,667	14,818	18,028	-----	488,657	10,065,431	2,241,913
38	3,750,420	5,346,652	209,771	129,071	843,251	76,198	3,710,246	70,814	11,651	14,298	282,352	5,875,153	2,089,709
39	3,298,055	3,143,341	65,340	14,162	262,095	604,464	1,914,057	75	14,362	-----	268,786	3,401,722	883,201
40	1,612,183	1,978,760	58,249	69,666	728,547	46,781	871,805	65,042	2,872	3,214	132,584	2,421,621	1,503,035
41	25,207,821	21,379,217	468,652	349,907	4,144,918	370,069	14,373,059	31,722	79,289	170,876	1,389,825	23,739,421	8,995,393
42	194,761,252	279,923,145	3,512,379	4,132,024	19,179,919	5,533,122	223,807,991	975,516	8,790,488	165,575	13,820,131	293,514,230	69,173,117

2 All other industries embrace—Continued.

Iron and steel pipe, wrought.....	1	Phonographs and graphophones.....	3	Tin foil.....	5
Labels and tags.....	25	Pulp goods.....	3	Upholstering materials.....	38
Liquors, distilled.....	13	Roofing materials.....	7	Vault lights and ventilators.....	14
Locomotives, not made by railroad companies.....	2	Rules, ivory and wood.....	3	Washing machines and clothes wringers.....	9
Matches.....	2	Safes and vaults.....	3	Waste.....	3
Mats and matting.....	4	Sand and emery paper and cloth.....	2	Whalebone cutting.....	1
Mineral and soda waters.....	594	Smelting and refining, copper.....	2	Wheelbarrows.....	6
Mucilage and paste.....	21	Soda-water apparatus.....	26	Wood carpet.....	6
Oakum.....	1	Sporting and athletic goods.....	43	Wood preserving.....	4
Oil, not elsewhere specified.....	31	Springs, steel, car and carriage.....	7	Wool pulling.....	4
Paving materials.....	8	Statuary and art goods.....	53	Wool scouring.....	1
Penicils, lead.....	2	Sugar, refining, not including beet sugar.....	5		
Pens, steel.....	1	Sulphuric, nitric, and mixed acids.....	4		
Petroleum, refining.....	7	Tin plate and ternoplate.....	2		

MANUFACTURES : NORTH CAROLINA

STATISTICS OF MANUFACTURES FOR THE STATE, CITIES, AND INDUSTRIES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

INTRODUCTION.

This advance bulletin gives the statistics of manufactures for the state of North Carolina for the calendar year 1909 as shown by the Thirteenth Census. It will be reprinted without change as a part of the Compendium of the Census for North Carolina, and in the final reports of the Thirteenth Census.

The text summarizes the general results of the census inquiry, presenting a series of special tables in which the main facts printed in the general tables are given in convenient form for the state as a whole and for important industries. It also presents tables in which the statistics for the industries of the state as a whole and for a few important industries are classified by character of ownership, size of establishments, number of wage earners, and prevailing hours of labor, information which could not be presented in general tables for each industry without disclosing the facts for individual establishments.

At the end of the bulletin are two general tables.

Table I gives for 1909, 1904, and 1899 the number of establishments and of persons engaged in the industries, primary power, capital, salaries and wages, cost of materials, value of products, and value added by manufacture reported for all industries combined and for certain important industries for the state as a whole. It also gives the same items for all industries combined for every city and town having in 1910 a population of over 10,000.

Table II gives statistics in detail for 1909 for the state and for a larger number of industries.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes, it is imperative that due attention should be given to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits. These limitations will be fully discussed in the general report on manufactures for the United States as a whole. It is impossible to reproduce such discussion in the bulletins relative to the individual states.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as distinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given they have been reduced

to a comparable basis by eliminating the latter classes of industries. The census does not include establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments, except those of the Federal Government.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—The term "establishment" comprises the factories, mills, or plants which are under a common ownership or control, and for which one set of books of account is kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the separate totals might be included in the statistics for each city or state. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. Table I, giving comparable figures for 1909, 1904, and 1899, therefore, does not embrace all the industries shown for 1909 in Table II.

Influence of increased prices.—In considering changes in cost of materials, value of products, and value added by manufacture, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures can not be taken as an exact measure of increase in the volume of business.

Persons engaged in industry.—At the censuses of 1909, 1904, and 1899, the following general classes of persons engaged in manufacturing industries have been distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5) wage earners. In the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the three classes of salaried officers of corporations, superintendents and

managers, and clerks. In the present census an entirely different grouping is employed: That into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers.

At this census the number of persons engaged in the industries, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for December 15, or the nearest representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where conditions were exceptional, and particularly in the case of certain seasonal industries, such as canning, the December date could not be accepted as typical and an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15, or other representative day, has been treated as equivalent to the average for the year, since the number of employees of this class does not vary much from month to month in a given industry. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

Wage earners.—In addition to the report by sex and age of the number of wage earners on December 15, or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported each month by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of any industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given for each separate industry, is not totaled for all industries combined, because in view of the variations of date such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners in the state as a whole, the following procedure has been adopted:

The percentage distribution by sex and age of the wage earners in each industry, for December 15, or the nearest representative day, has been calculated from the actual numbers reported for that date. This percentage has been applied to the average number of wage earners for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for the state as a whole.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years and over, and the total number under 16 years of age, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children (under 16) employed each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours per week. The inquiry called merely for the prevailing practice

followed in each establishment. Occasional variations in hours in an establishment from one period to another are disregarded, and no attention is given to the fact that a limited number of employees may have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct picture of the hours of labor in manufacturing industries.

Capital.—For reasons stated in prior census reports, the statistics of capital secured by the census canvass are so defective as to be without value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—Cost of materials refers to the materials used during the year, which may be more or less than the materials purchased during the year. The term materials includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Fuel includes all fuel used, whether for heat, light, or power, or for the process of manufacture.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, and allowances for depreciation.

Value of products.—The value of products for any industry includes the total value of all products manufactured in establishments whose products of chief value fall under the industry designation. The amounts given represent the selling value at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing process carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used, which have been produced by agriculture or mining or by other industrial establishments. For many purposes, therefore, the best measure of the importance of different classes of industry is the value created as the result of the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials consumed from the value of the product. The figure thus obtained is termed in the census reports "value added by manufacture."

There is a further statistical advantage which "value added" has over gross value of products. In combining the value of products for all industries the value of products produced by one establishment and used as materials in another is duplicated, and the total, therefore, gives a greatly exaggerated idea of the wealth created. No such duplication takes place in the total "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest and depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of profit on the investment could not properly be calculated, because of the very defective character of the returns regarding capital.

Primary power.—The figures given for this item show the total of the primary power used by the establishments. They do not cover the power developed by motors operated by such power, the inclusion of which would evidently result in duplication.

Location of establishments.—The Census Bureau has classified establishments by their location in cities or classes of cities. In interpreting these figures due consideration should be given to the fact that often establishments are located just outside the boundaries of cities, and are necessarily so classified, though locally they are looked upon as constituting a part of the manufacturing interests of the cities.

Laundries.—The census of 1909 was the first to include statistics

of laundries. The reports are confined to establishments using mechanical power. The data are presented separately and are not included in the general total for manufacturing industries, in order to avoid interference with comparisons with prior censuses.

Custom grist and saw mills.—In order to make the statistics for 1909 comparable with those for 1904 the data for these mills have been excluded from all the tables presenting general statistics, and are given in a separate table at the end of this report.

INDUSTRIES IN GENERAL.

General character of the state.—North Carolina has a gross area of 52,426 square miles, of which 3,686 represent water surface. Its population in 1910 was 2,206,287, as compared with 1,893,810 in 1900 and 1,617,949 in 1890. It ranked sixteenth among the 49 states and territories of continental United States as regards population in 1910 and fifteenth in 1900. The density of population for the state is 45.3 per square mile, the corresponding figure for 1900 being 38.9. The population of North Carolina is mostly rural, only 14.4 per cent of the entire population of the state residing in incorporated cities and towns having a population of 2,500 inhabitants or over, as against 9.9 per cent in 1900.

The state has seven cities having a population of over 10,000: Charlotte, Wilmington, Raleigh, Asheville, Durham, Winston, and Greensboro. These seven cities contain 6.8 per cent of the total population of the state and are credited with 28.2 per cent of the total value of its manufactures. The harbors, rivers, and railway systems of the state are important factors in furthering its manufacturing and commercial interests. The streams also furnish abundant water power, the use of which in the manufactures of the state has decidedly increased during recent years. The large local supply of fuel also adds greatly to the possibilities of the state for manufacturing.

Importance and growth of manufactures.—Its recent growth in manufactures has placed North Carolina among the leading manufacturing states of the South.

To a large extent, its manufacturing industries depend upon the products of its soil. Each succeeding census from 1849-50 to 1909 has shown a large increase in the value of the manufactured products of North Carolina. From a total of \$9,111,000 in 1849-50, it had increased in 1889-90 to \$40,375,000, while the increase during the last two decades has been even more rapid. The value reported for 1899 was \$85,274,000, exclusive of the hand trades and neighborhood industries; for 1904 it was \$142,521,000; and for 1909, \$216,656,000. During 1849-50 an average of 14,601 wage earners, representing 1.7 per cent of the total population, were employed in manufactures, while in 1909 an average of 121,473 wage earners, or 5.5 per cent of the total population, were so engaged. During this period the gross value of products per capita of the total population of the state increased from \$10 to \$98. From 1849-50 to 1909, however, the proportion which the manufactures of the state represent of the total value of products of manufacturing industries in the United States has increased but little. This proportion was nine-tenths of 1 per cent in 1849-50 and 1 per cent in 1909. In the former year the state was the twentieth in the Union in respect to value of manufactures, and in 1909, twenty-third.

The following table gives the most important figures relative to all classes of manufactures combined for the state as returned at the censuses of 1909, 1904, and 1899, together with the percentages of increase from census to census.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE. ¹	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	4,931	3,272	3,465	50.7	-5.6
Persons engaged in manufactures.....	133,453	93,142	(²)	43.3	(²)
Proprietors and firm members.....	5,451	3,731	(²)	46.1	(²)
Salaried employees.....	6,529	4,072	2,894	60.3	40.7
Wage earners (average number).....	121,473	85,339	72,322	42.3	18.0
Primary horsepower.....	378,656	216,622	154,467	74.8	40.2
Capital.....	\$217,186,000	\$141,001,000	\$68,283,000	54.0	106.5
Expenses.....	186,463,000	122,391,000	70,934,000	52.4	72.5
Services.....	41,259,000	25,170,000	16,447,000	63.9	53.0
Salaries.....	6,904,000	3,795,000	2,395,000	81.9	58.5
Wages.....	34,355,000	21,375,000	14,052,000	60.7	52.1
Materials.....	121,861,000	79,268,000	44,854,000	53.7	76.7
Miscellaneous.....	23,343,000	17,953,000	9,633,000	30.0	86.4
Value of products.....	216,656,000	142,521,000	85,274,000	52.0	67.1
Value added by manufacture (value of products less cost of materials).....	94,795,000	63,253,000	40,420,000	49.9	56.5

¹ A minus sign (-) denotes a decrease.

² Figures not available.

In 1909 the state of North Carolina had 4,931 manufacturing establishments, which gave employment to

an average of 133,453 persons during the year and paid \$41,259,000 in salaries and wages. Of the

MANUFACTURES—NORTH CAROLINA.

persons employed, 121,473 were wage earners. These establishments turned out products to the value of \$216,656,000, using materials costing \$121,861,000. The value added by manufacture was thus \$94,795,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table shows a marked development in the manufactures of the state during the ten-year period 1899-1909. During the five-year period 1899-1904 the number of establishments decreased 5.6 per cent, but the average number of wage earners increased 18 per cent, and the value of products 67.1 per cent. In the period 1904-1909 the percentages of increase were, as a whole, more uniform, the number of establishments showing an increase of 50.7 per cent, the average number of wage earners an increase of 42.3

per cent, and the value of products an increase of 52 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

It is a matter of interest to note that the percentage of increase shown for wages is larger than that shown for the average number of wage earners. It is also significant that the primary horsepower increased far more rapidly from 1904 to 1909 than from 1899 to 1904, the respective rates of increase being 74.8 and 40.2 per cent.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹			
		Average number.	Percent distribution.	Amount.	Percent distribution.	Amount.	Percent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	4,981	121,473	100.0	\$216,656,000	100.0	\$94,795,000	100.0	52.0	67.1	49.8	56.6
Cotton goods, including cotton small wares.....	281	47,231	38.9	72,080,000	33.5	23,092,000	25.3	53.8	66.5	68.6	20.5
Tobacco manufactures.....	43	8,203	6.8	35,987,000	16.6	22,171,000	23.4	28.1	102.8	23.6	88.1
Lumber and timber products.....	2,544	34,001	28.0	33,525,000	15.5	20,901,000	22.1	72.0	11.7	63.0	27.5
Oil, cottonseed, and cake.....	53	1,165	1.0	8,504,000	3.9	1,414,000	1.5	126.8	40.0	78.3	53.7
Flour-mill and gristmill products.....	249	496	0.4	8,501,000	3.9	1,214,000	1.3	23.8	45.9	38.3	2.4
Furniture and refrigerators.....	117	5,533	4.6	7,885,000	3.6	3,487,000	3.7	27.5	299.6	13.4	274.2
Fertilizers.....	34	933	0.8	0,310,000	2.0	2,133,000	2.2	103.8	106.9	142.1	94.1
Leather, tanned, curried, and finished.....	39	832	0.7	5,415,000	2.5	1,259,000	1.3	103.4	77.2	101.8	67.3
Hosiery and knit goods.....	62	5,151	4.2	5,152,000	2.4	2,140,000	2.3	107.4	142.8	96.5	100.8
Carriages and wagons and materials.....	138	1,029	1.3	3,283,000	1.5	1,389,000	1.5	42.5	118.4	29.2	101.3
Cars and general shop construction and repairs by steam-railroad companies.....	12	2,568	2.1	2,934,000	1.4	1,373,000	1.4	20.0	61.7	23.7	79.6
Foundry and machine-shop products.....	102	1,490	1.2	2,771,000	1.3	1,526,000	1.6	2.4	94.0	14.5	102.0
Printing and publishing.....	322	1,376	1.1	2,497,000	1.2	1,852,000	2.0	51.1	50.1	45.7	59.9
Clothing, men's, including shirts.....	21	852	0.7	1,653,000	0.8	613,000	0.6				
Brick and tile.....	159	1,460	1.2	1,174,000	0.5	806,000	0.8	68.7	8.6	52.4	7.1
Marble and stone work.....	56	807	0.7	881,000	0.4	655,000	0.7	120.8	99.5	100.0	92.7
Cordage and twine and jute and linen goods.....	7	401	0.4	324,000	0.4	205,000	0.3	-20.5		19.9	
Woolen, worsted, and felt goods, and wool hats.....	11	424	0.3	675,000	0.3	283,000	0.3	21.4	91.7	88.7	70.5
Turpentine and rosin.....	79	139	0.1	674,000	0.3	191,000	0.2	-0.3	-29.6	15.8	-30.7
Ice, manufactured.....	45	318	0.3	659,000	0.3	470,000	0.5	57.7	83.3	49.2	98.1
Bread and other bakery products.....	54	189	0.2	539,000	0.2	195,000	0.2	119.1	129.9	75.2	130.6
Patent medicines and compounds and druggists' preparations.....	26	60	(²)	474,000	0.2	258,000	0.3	78.2	195.6	103.1	135.2
Leather goods.....	33	135	0.1	427,000	0.2	170,000	0.2	39.5	102.0	47.8	79.7
Boots and shoes, including cut stock and findings.....	7	178	0.1	408,000	0.2	166,000	0.2	119.4	154.8	140.6	245.0
Copper, tin, and sheet-iron products.....	20	184	0.2	374,000	0.2	160,000	0.2	92.8	92.1	83.9	67.3
Gas, illuminating and heating.....	14	151	0.1	369,000	0.2	246,000	0.3	65.5	71.5	61.8	63.4
Coffins, burial cases, and undertakers' goods.....	9	220	0.2	352,000	0.2	195,000	0.2	29.9	127.7	-3.0	151.2
Confectionery.....	18	79	0.1	345,000	0.2	99,000	0.1	315.7		200.0	
Mattresses and spring beds.....	23	166	0.1	315,000	0.1	143,000	0.2	92.1	192.9	155.4	194.7
Agricultural implements.....	22	132	0.1	262,000	0.1	172,000	0.2	106.3	28.3	126.3	31.0
All other industries.....	325	4,844	4.0	10,801,000	5.0	4,755,000	5.0	73.5	91.1	66.9	77.3

¹ Per cent of increase is based on figures in Table I, and a minus sign (-) denotes a decrease. Where percentages are omitted, the figures are not comparable.

² Less than one-tenth of 1 per cent.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the product of one establishment in the industry as material for another establishment.

The most important industries listed in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Textiles.—The combined products of all textile manufactures, exclusive of four establishments engaged in the manufacture of silk and silk goods, statistics for which could not be shown without disclosing individual operations, amounted in 1909 to \$78,507,000 in value, or 36.2 per cent of the total value of all manufactured products of the state.

The establishments classified under the head of

"Cotton goods, including cotton small wares," in North Carolina comprise mills primarily engaged in the manufacture of cotton goods, no establishments being reported as mainly engaged in the manufacture of cotton small wares. The cotton-goods industry occupies first place among the individual industries of the state. The remarkable growth of this industry in the state indicates a tendency to locate the mill near the source of supply of cotton. In 1909 North Carolina stood second, in order of importance among the cotton-manufacturing states, in value of products, first in number of establishments, and third in number of producing spindles, while in 1889-90 it ranked but tenth in value of products, fourth in number of establishments, and tenth in number of spindles. It will be noted that the percentage of increase of this industry in value of products was much higher than that in value added by manufacture during the period 1899 to 1904, but that during the period 1904 to 1909 the rate of increase in value added by manufacture was the greater. This variation is probably due in part to the rise in the price of cotton during the former period, and the manufacture of a better grade of goods in the latter period.

The manufacture of hosiery and knit goods is closely allied to the cotton industry, the products of this industry being made almost entirely of cotton materials. Although the value of these products is small when compared with that reported for cotton goods, it amounted in 1909 to \$5,152,000, an increase of 107.4 per cent since 1904.

The establishments classified in the table under the head of "Woolen, worsted, and felt goods, and wool hats," consist entirely of establishments primarily engaged in the manufacture of woolen goods.

Tobacco manufactures.—With an actual increase in value of products from 1904 to 1909, amounting to \$7,898,670, this industry shows a lower percentage of increase for this five-year period than for the earlier five-year period. In number of establishments the industry shows an absolute decrease from 96 in 1899 to 55 in 1904 and to 43 in 1909. It is interesting to note that the cotton goods and tobacco manufacturing industries combined, two industries depending almost entirely upon agricultural products of the state for raw material, represent 50.2 per cent of the total value of all manufactured products reported for the state in 1909.

Lumber and timber products.—In respect to the number of establishments engaged in this industry, North Carolina occupied second place among the states in 1909. In addition to sawmills and logging camps, the establishments classified under this head include planing mills and establishments making wooden packing boxes. The rate of increase in value of products from 1904 to 1909, 72 per cent, is noteworthy for a long-established industry. It is due

partly to the more thorough canvass made in 1909 than in 1904 but mainly to the expansion of the industry under the stimulus of the general advance in lumber values. Of the totals reported for all industries this industry employed 28 per cent of the average number of wage earners, manufactured 15.5 per cent of the total value of products, and shows 22.1 per cent of the total value added by manufacture.

Oil, cottonseed, and cake.—The statistics presented include those for all establishments engaged primarily in extracting oil from cotton seed or in refining crude cottonseed oil. For the five-year period 1904-1909 this industry shows a greater percentage of increase in value of products than any other of the more important industries in the state. In 1909 it had become the fourth industry in importance, outranking the flour-mill and gristmill and the furniture industries, which occupied fourth and fifth places, respectively, in 1904. While this large increase was due in part to the rise in the value of crude cottonseed oil, the industry has shown a consistent and rapid growth from census to census.

Flour-mill and gristmill products.—This classification does not include mills engaged wholly in custom work, the statistics for which are presented separately at the end of the bulletin. In a predominantly agricultural state like North Carolina it is natural that the products of the flour and grist mills should be large; the percentages of increase shown by this industry, are, however, relatively small, as compared with those for other industries of the state. In 1909 employment was given to 496 wage earners, and products valued at \$8,501,000, representing 3.9 per cent of the total for the state, were reported.

Furniture and refrigerators.—This industry shows a remarkable development, having grown from only six establishments, with products valued at \$159,000, in 1889, to one of the most important industries of the state in 1909. For the latter year, reports were received from 117 establishments, which gave employment to 5,533 wage earners and reported products to the value of \$7,885,000. The greater part of this growth took place previous to 1904, though the five-year period 1904-1909 showed a gain of 27.5 per cent in value of products.

If the industries were arranged in order of the value added by manufacture, the three leading ones would still hold the relative positions which they have in the table, where they are arranged according to the value of products. The furniture industry, however, would stand in fourth place instead of sixth, while the cottonseed-oil industry would drop from fourth to ninth place, and the flour and grist mill industry from fifth to thirteenth place. Hosiery and knit goods and fertilizers would occupy fifth and sixth places, respectively. Because of the comparatively simple processes involved in flour and grist mills, in cottonseed-oil mills,

and in several other industries, and the extent to which these processes are carried on by machinery, the value added by manufacture is not commensurate with the gross value of products.

This table shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture. The fertilizer industry showed a greater rate of increase from 1904 to 1909 in value added by manufacture than any other of the specified industries which had products exceeding \$1,000,000 in value, namely 142.1 per cent, while during the same period the cottonseed-oil industry showed the greatest rate of increase in value of products, 126.8 per cent. The manufacture of leather, hosiery and knit goods, bakery products, and marble and stone work, are all industries which show remarkable increases, both in gross value of products and in value added by manufacture. Among the less important industries, the manufacture of confectionery showed the most pronounced increase in value of products, 315.7 per cent, and in value added by manufacture, 200 per cent.

The cordage and twine industry, with a decrease of 20.5 per cent, and the manufacture of turpentine and rosin, with a decrease of 9.3 per cent, are the only industries listed in the table which show a decrease in value of products from 1904 to 1909. The manufacture of coffins is the only industry which shows a decrease in value added by manufacture during the period named, while the turpentine and rosin industry was the only one showing a decrease in either item from 1899 to 1904.

In addition to the industries listed separately in the above table there are seven important industries each of which had a value of products in 1909 in excess of \$200,000. They are included under the head of "All other industries," because in some instances the operations of individual establishments would be disclosed if they were shown separately; while in others the returns do not properly present the true condition of the industry, for the reason that it is more or less interwoven with one or more industries of similar character. These industries are the manufacture of bags, other than paper, dyestuffs and extracts, mineral and soda waters, mirrors, silk and silk goods, paper and wood pulp, and the dyeing and finishing of textiles. The 1909 statistics for the manufacture of mirrors are presented in Table II.

Persons engaged in manufacturing industries.—The following table shows, for 1909, the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of

wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	133,453	105,175	28,278
Proprietors and officials.....	8,937	8,875	62
Proprietors and firm members.....	5,451	5,305	56
Salaries officers of corporations.....	1,460	1,456	4
Superintendents and managers.....	2,026	2,024	2
Clerks.....	3,043	2,513	530
Wage earners (average number).....	121,473	93,787	27,686
16 years of age and over.....	107,775	86,082	21,693
Under 16 years of age.....	13,698	7,705	5,993

The average number of persons engaged in manufactures during 1909 was 133,453 of which 121,473 were wage earners. Of the remainder, 8,937 were proprietors and officials, and 3,043, were clerks. Corresponding figures for individual industries will be found in Table II.

The following table shows, for 1909, the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and 10 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	133,453	6.7	2.3	91.0
Carriages and wagons and materials.....	1,022	12.2	3.0	84.8
Cotton goods, including cotton small wares.....	48,525	1.9	0.8	97.3
Fertilizers.....	1,117	7.2	0.3	83.5
Flour-mill and gristmill products.....	971	44.6	4.3	51.1
Furniture and refrigerators.....	6,023	4.9	3.3	91.9
Hosiery and knit goods.....	5,361	2.7	1.2	96.1
Leather, tanned, curried, and finished.....	938	7.7	3.0	88.7
Lumber and timber products.....	38,636	10.9	1.1	88.0
Oil, cottonseed, and cake.....	1,446	8.9	10.5	80.6
Tobacco manufactures.....	9,065	2.5	7.0	90.5
All other industries.....	19,449	11.3	4.9	83.8

Of the total number of persons engaged in all manufacturing industries, 6.7 per cent were proprietors and officials, 2.3 per cent clerks, and 91 per cent wage earners. In the flour-mill and gristmill industry a large number of the establishments are small and the work is to a large extent done by the proprietors or their immediate representatives, so that the proportion of the persons engaged in the industry falling in the class of proprietors and officials is very much higher than for most other industries or for all industries combined. Similar conditions prevail to some extent in the carriage and wagon industry and in lumber mills. The smallest proportion for this class, 1.9 per cent, is shown for the cotton industry, where it is due not only

to the large average number of wage earners to an individual establishment, but also to the fact that these establishments are mostly operated by corporations, for which no proprietors are reported.

The following table shows, for 1909, in percentages, for all industries combined, the distribution of the average number of wage earners by age periods, and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, a similar distribution of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries, the average total number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		Under 16 years of age.
		16 years of age and over.		
		Male.	Female.	
All industries.....	121,473	70.9	17.9	11.3
Carriages and wagons and materials.....	1,629	95.2	0.4	4.4
Cotton goods, including cotton small wares.....	47,231	51.1	30.0	18.9
Fertilizers.....	933	100.0		
Flour-mill and gristmill products.....	496	98.0	0.6	1.4
Furniture and refrigerators.....	5,533	92.4	(?)	7.6
Hosiery and knit goods.....	5,151	22.5	49.7	27.7
Leather, tanned, curried, and finished.....	832	99.5		0.5
Lumber and timber products.....	34,001	98.6	0.1	1.3
Oil, cottonseed, and cake.....	1,165	97.0	0.1	2.1
Tobacco manufactures.....	8,203	54.1	28.8	17.1
All other industries.....	16,299	78.4	15.7	5.9

¹ For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.
² Less than one-tenth of 1 per cent.

For all industries combined, 70.9 per cent of the average number of wage earners were males 16 years of age and over; 17.9 per cent females 16 years of age and over, and 11.3 per cent persons under the age of 16. The largest proportion of women were employed in hosiery and knitting mills, while the largest proportions of children were employed in hosiery and in cotton mills. The proportions for the mills producing cotton goods are of special significance, because of the magnitude of the industry in the state. Out of a total of 47,231 wage earners employed in these mills, only 51.1 per cent of the average number of wage earners were males 16 years of age and over, 30 per cent were females 16 years of age and over, and 18.9 per cent children under 16 years of age. In the hosiery and knitting mills, with a total of 5,151 workers employed, one-half were women and over one-fourth children, and in the tobacco factories, with a total of 8,203 wage earners, about one-fourth were women and one-sixth children. The men's clothing industry, which is not shown in the table, and which gave employment to a comparatively small number of wage earners, namely, 882, reported the largest per cent

of women, namely, 81.5 per cent. With these four industries omitted, the average number of females 16 years of age and over in all industries combined would represent only 1.6 per cent of the total number of wage earners, and the average number of persons under 16 years of age would represent the same proportion.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				Per cent of increase, 1904-1909.
	1909		1904		
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	133,463	100.0	93,142	100.0	43.3
Proprietors and firm members.....	5,451	4.1	3,731	4.0	46.1
Salaried employees.....	6,529	4.9	4,072	4.4	60.3
Wage earners (average number)....	121,473	91.0	85,339	91.6	42.3

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in the salaried employees than in the other two classes.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	121,473	100.0	85,339	100.0	72,322	100.0
16 years of age and over..	107,775	88.7	73,707	86.4	62,112	85.9
Male.....	86,082	70.9	55,406	64.9	47,028	65.0
Female.....	21,693	17.9	18,301	21.4	15,084	20.9
Under 16 years of age....	13,698	11.3	11,632	13.6	10,210	14.1

This table indicates that while for all industries combined there has been an increase during the 10 years in the number of children employed, this increase has not been in proportion to the increase in the total number of wage earners. So, too, with an increase in the actual number of women employed, there has been a decrease during the past five years in the percentage of women in the whole number of wage earners. In 1909, males 16 years of age and over formed 70.9 per cent of all wage earners, as compared with 64.9 per cent in 1904 and 65 per cent in 1899.

MANUFACTURES—NORTH CAROLINA.

Wage earners employed by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 20, is shown, for most of the industries in the state, the largest number and also the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month.

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	117,037	90.9	July.....	118,053	92.4
February.....	118,464	92.0	August.....	120,417	93.5
March.....	120,354	93.5	September.....	123,496	95.9
April.....	120,038	93.2	October.....	126,265	98.1
May.....	118,441	92.0	November.....	127,774	99.2
June.....	117,713	91.4	December.....	128,754	100.0

This table indicates a very considerable degree of steadiness of employment in the manufacturing industries of North Carolina, taken as a whole. The number employed in January, the month of least employment, was 90.9 per cent of the number for Decem-

ber, the month of greatest employment. The figures in Table II show that in the cotton-goods industry, the most important in the state, employment was very steady, the number employed for January, the lowest month, being 94.2 per cent of the number for December, the highest month. There are certain seasonal industries—brick and tile, canning and preserving, fertilizers, and cottonseed-oil—in which the number employed for the maximum month was considerably greater than the number for the minimum month, but the total number of wage earners in these industries is small. In the important lumber industry, which in some of the more northern states is decidedly seasonal in character, the climatic conditions in North Carolina permit a considerable degree of steadiness of employment; the minimum number for this industry in June was 84.9 per cent of the maximum number in December.

Prevailing hours of labor.—In the following table wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though a few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	121,473	1,648	1,447	3,741	14,016	47,974	49,834	2,672	141
Agricultural implements.....	132								
Boots and shoes, including cut stock and findings.....	178				54	76	2		
Bread and other bakery products.....	189	15		6		178			
Brick and tile.....	1,400	19	86	22	288	90	11	58	
Carriages and wagons and materials.....	1,029	19	8	32	252	992	43		10
Cars and general shop construction and repairs by steam-railroad companies.....	2,568		121	2,389					
Clothing, men's, including shirts.....	832	9		50	79	58			
Coffins, burial cases, and undertakers' goods.....	226				111	744			
Confectionery.....	79	3		6		115			
Copper, tin, and sheet-iron products.....	184		41	65	13	54	12	2	2
Cordage and twine, and jute and linen goods.....	491				119				
Cotton goods, including cotton small wares.....	47,231				52	100	272		
Fertilizers.....	933			2	70	7,409	39,630		
Flour-mill and gristmill products.....	496	14	4	7	18	686	36	139	
Foundry and machine-shop products.....	1,490	6	6	118	234	307	117	29	
Furniture and refrigerators.....	5,533	3	1	168	802	1,123	3		
Gas, illuminating and heating.....	151					54	12		
Hosiery and knit goods.....	5,151				689	59	52		40
Ice, manufactured.....	318			3		2,524	1,038		
Leather goods.....	135				4	71	3	154	87
Leather, tanned, curried, and finished.....	832		1	1	8		131		
Lumber and timber products.....	34,001	733	729	257	2,645	820	2		
Marble and stone work.....	807	118	319	220	74	22,338	6,540	259	
Mattresses and spring beds.....	166	4		8	32	76			
Oil, cottonseed, and cake.....	1,165					119	3		
Patent medicines and compounds and druggists' preparations.....	60	17		23	2	43	95	1,025	2
Printing and publishing.....	1,376	527	70	308	137	18	37		
Tobacco manufactures.....	8,203	66	59	4	7,628	297			
Turpentine and rosin.....	139	69	2			446			
Woolen, worsted, and felt goods, and wool hats.....	424					60	1	7	
All other industries.....	4,844	26		52	705	315	109		
						2,186	874	991	

It is evident from these figures that for most of the wage earners employed in the manufacturing industries of North Carolina the prevailing hours of labor

were 60 or more a week, or 10 hours or more a day. Out of a total average number of 47,231 wage earners employed in the cotton-goods industry, 39,630,

or 84 per cent, were in establishments where the prevailing hours of labor were over 60 per week. The reports indicate that the industry is mainly on a basis of 11 hours per day, or from 63 to 66 hours per week. This condition prevails to some extent in the hosiery and knitting mills, although less than two-fifths of the wage earners in these mills are required to work more than 10 hours a day, or more than 60 hours a week. In the lumber and other specified industries shown, with the exception of the tobacco factories and the car repair shops, the 10-hour day, or 60-hour week, predominates. In tobacco manufactures the prevailing hours are more than 54 but less than 60 a week, while the car repair shops are distinctly on a 9-hour-day basis.

Location of establishments.—The following table shows how largely manufacturing in the state is confined to rural districts and small towns. (See Introduction.) The statistics for 1904 are omitted from this table, because there was no Federal census of population for that year, and it was impossible to determine the cities that come within the group having over 10,000 inhabitants.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENTS.		PER CENT OF TOTAL.	
			In cities with population of 10,000 and over.	Outside districts.	In cities with population of 10,000 and over.	Outside districts.
Population.....	1910	2,206,287	149,045	2,057,242	6.8	93.2
	1900	1,893,810	87,447	1,806,363	4.6	95.4
Number of establishments.	1909	4,931	453	4,478	9.2	90.8
	1899	3,465	256	3,209	7.4	92.6
Average number of wage earners.	1909	121,473	18,797	102,676	15.5	84.5
	1899	72,322	9,264	63,058	12.8	87.2
Value of products.	1909	\$216,656,055	\$61,171,160	\$155,484,895	28.2	71.8
	1899	85,274,083	14,530,673	70,743,410	17.0	83.0
Value added by manufacture.	1909	94,794,525	31,354,345	63,440,180	33.1	66.9
	1899	40,410,859	7,130,280	33,280,620	17.7	82.3

In 1909, 28.2 per cent of the total value of products was reported from cities having a population of over 10,000 inhabitants, and 15.5 per cent of the average number of wage earners were employed in such cities. The figures indicate that, on the whole, the industries of the manufacturing cities gained considerably on those of the outside districts during the last 10 years. This increase was due largely to the inclusion in 1909 of the city of Durham, which, in 1899, had less than 10,000 inhabitants, and so was included in outside districts.

The population, for 1910 and 1900, of the seven cities which had 10,000 inhabitants or over in 1910 is given in the following statement.

CITY.	1910	1900
Charlotte.....	34,014	18,091
Wilmington.....	25,748	20,976
Raleigh.....	19,218	13,643
Asheville.....	18,762	14,694
Durham.....	18,241	16,079
Winston.....	17,167	10,008
Greensboro.....	15,895	10,035

¹ Population less than 10,000 in 1900; therefore, in the preceding table the statistics for 1899 are included with those for the districts outside of cities.

The relative importance in manufacturing industries of each of these seven cities is shown in the following table, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899. It should be noted that the figures represent only establishments within the city boundaries; in the case of some of the cities large establishments are located just outside.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Durham.....	3,718	(1)	(1)	\$23,271,525	(1)	(1)
Winston.....	6,708	4,850	2,894	16,778,072	\$11,353,290	\$4,887,649
Charlotte.....	4,199	2,234	2,787	10,469,684	4,549,630	4,185,644
Asheville.....	984	792	804	3,249,684	1,618,362	1,300,698
Wilmington ²	1,213	1,594	1,553	3,604,717	2,004,323	2,283,253
Raleigh.....	1,023	685	540	2,375,872	1,080,671	947,018.
Greensboro ²	952	1,098	677	2,031,606	1,743,837	925,411

¹ Figures not available.
² Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the cities.

In general, all of the cities, except Wilmington, have made rapid progress in manufacturing. Durham, which entered this group at the present census, shows the largest value of products, although surpassed in the average number of wage earners by Winston and Charlotte. The manufacturing importance of Durham and Winston centers in their tobacco factories. Durham has also large cotton and hosiery and knitting mills, besides a number of other industries which had products exceeding \$100,000 in value. In Winston, in addition to the tobacco manufactures, the boot and shoe industry, confectionery, flour and grist mills, furniture, hosiery and knitting mills, and the lumber industry each reported an output for the year exceeding \$100,000 in value.

Charlotte, the city third in importance in the value of its manufactures, has a number of industries. The manufacture of men's clothing, cotton goods, cottonseed oil, and lumber, foundry and machine shops, and printing and publishing were the most important. Asheville reported a diversity of small establishments in addition to its important cotton mills, flour and grist mills, leather manufacturing establishments, and lumber mills.

Wilmington is not primarily a manufacturing community. Although a variety of industries were reported, the lumber, cottonseed-oil, and flour and grist mill industries contributed the largest part of the output. The cotton and cottonseed-oil mills and printing and publishing of Raleigh and the foundries and machine shops and lumber mills of Greensboro may be mentioned as the most important industries in these two cities.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this and the table following.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	4,931	121,473	\$218,656,055	\$94,794,525
1904.....	3,272	85,339	142,520,776	63,252,772
Individual:				
1909.....	2,265	14,215	17,451,179	9,220,020
1904.....	1,425	10,184	14,318,319	7,150,172
Firm:				
1909.....	1,303	11,302	16,951,420	7,900,722
1904.....	956	9,187	14,629,571	6,740,318
Corporation:				
1909.....	1,339	95,885	182,140,604	77,554,374
1904.....	879	65,954	113,510,110	49,320,121
Other:				
1909.....	24	71	112,792	79,409
1904.....	12	14	62,776	27,161
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Individual:				
1909.....	45.9	11.7	8.1	9.7
1904.....	43.6	11.9	10.0	11.3
Firm:				
1909.....	26.4	9.3	7.8	8.3
1904.....	29.2	10.8	10.3	10.7
Corporation:				
1909.....	27.2	78.9	84.1	81.8
1904.....	26.9	77.3	79.6	78.0
Other:				
1909.....	0.5	0.1	0.1	0.1
1904.....	0.4	(¹)	(¹)	(¹)
Cotton goods, including cotton small wares, 1909.....	281	47,231	72,660,385	23,992,813
Individual.....	9	648	924,409	354,830
Firm.....	10	943	1,354,931	485,928
Corporation.....	262	45,640	70,401,045	23,152,055
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	3.2	1.4	1.3	1.5
Firm.....	3.6	2.0	1.9	2.0
Corporation.....	93.2	96.6	96.9	96.5
Flour-mill and gristmill products, 1909.....	249	496	8,501,219	1,214,331
Individual.....	100	146	2,219,058	332,007
Firm.....	101	181	2,700,534	429,810
Corporation.....	42	169	3,581,627	452,505
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	42.6	29.4	26.1	27.3
Firm.....	40.6	36.5	31.8	35.4
Corporation.....	16.9	34.1	42.1	37.3
Furniture and refrigerators, 1909.....	117	5,533	7,884,079	3,486,869
Individual.....	11	182	207,190	91,003
Firm.....	8	160	215,384	113,252
Corporation.....	98	5,191	7,462,105	3,282,554
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	9.4	3.3	2.6	2.6
Firm.....	6.8	2.9	2.7	3.2
Corporation.....	83.8	93.8	94.6	94.1

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Leather, tanned, curried, and finished, 1909.....	39	832	5,415,495	1,259,344
Individual.....	18	34	102,093	24,023
Firm.....	11	145	1,667,374	358,907
Corporation.....	10	653	3,646,028	875,514
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	46.2	4.1	1.9	2.0
Firm.....	28.2	17.4	30.8	28.5
Corporation.....	25.6	78.5	67.3	69.5
Lumber and timber products, 1909.....	2,544	34,001	33,524,653	20,991,056
Individual.....	1,429	9,773	8,122,842	5,344,551
Firm.....	800	6,361	5,751,876	3,794,223
Corporation ²	315	17,867	19,649,935	11,852,279
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	56.2	28.7	24.2	25.5
Firm.....	31.4	18.7	17.2	18.1
Corporation.....	12.4	52.5	58.6	56.5
Tobacco manufactures, 1909.....	43	8,203	35,986,639	22,170,571
Individual.....	18	299	610,737	424,450
Firm.....	11	621	1,174,671	738,507
Corporation.....	14	7,283	34,192,231	21,007,584
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	41.9	3.6	1.7	1.9
Firm.....	25.0	7.6	3.3	3.3
Corporation.....	32.6	88.8	95.0	94.8

¹ Less than one-tenth of 1 per cent.

² Includes the group "Other," to avoid disclosure of individual operations.

The most important distinction shown is that between corporate and all other forms of ownership. Although only 27.2 per cent of the total number of establishments were under corporate ownership, such establishments reported 84.1 per cent of the total value of products and 78.9 per cent of the total average number of wage earners. The percentages indicate that for all industries combined there was a slight increase from 1904 to 1909 in corporate control, when measured by value of products and value added by manufacture, with a corresponding decrease in individual and firm ownership. In the cotton-goods and furniture industries, as measured by number of establishments, the corporate form of ownership predominates, while in the flour-mill, leather, lumber, and tobacco industries, individual ownership is most prominent. In all the industries shown in the table, however, establishments under corporate ownership report the largest proportion of the total value of products, this proportion exceeding 90 per cent in the case of the cotton-goods, furniture, and tobacco manufacturing industries.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are

MANUFACTURES—NORTH CAROLINA.

shown for the last two censuses, while for certain important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	4,931	121,473	\$216,656,055	\$94,704,525
1904.....	3,272	85,339	142,520,776	63,532,772
Less than \$5,000:				
1909.....	2,322	6,970	5,151,065	3,432,538
1904.....	1,276	2,946	3,118,017	2,004,947
\$5,000 and less than \$20,000:				
1909.....	1,358	11,902	13,090,273	7,709,055
1904.....	1,076	8,573	10,894,177	6,232,879
\$20,000 and less than \$100,000:				
1909.....	820	24,074	37,172,248	16,594,882
1904.....	602	17,930	11,818,938	5,818,938
\$100,000 and less than \$1,000,000:				
1909.....	409	57,932	101,973,523	37,902,430
1904.....	309	47,351	70,985,231	25,823,306
\$1,000,000 and over:				
1909.....	22	20,595	58,068,316	29,065,620
1904.....	9	8,539	30,411,050	17,512,082
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Less than \$5,000:				
1909.....	47.1	5.7	2.4	3.6
1904.....	39.0	3.5	2.2	3.3
\$5,000 and less than \$20,000:				
1909.....	27.5	9.8	6.3	8.2
1904.....	32.0	10.0	7.6	9.9
\$20,000 and less than \$100,000:				
1909.....	16.6	19.8	17.2	17.5
1904.....	18.4	21.0	10.0	18.7
\$100,000 and less than \$1,000,000:				
1909.....	8.3	47.7	47.1	40.0
1904.....	9.4	55.5	40.8	40.8
\$1,000,000 and over:				
1909.....	0.4	17.0	27.1	30.7
1904.....	0.3	10.0	21.3	27.4
Average per establishment:				
1909.....		25	\$43,938	\$19,224
1904.....		26	43,558	19,332
Cotton goods, including cotton small wares, 1909.....	281	47,231	\$72,080,385	\$23,902,813
Less than \$5,000.....	10	124	114,193	30,283
\$5,000 and less than \$20,000.....	78	3,761	5,237,425	1,476,857
\$20,000 and less than \$100,000.....	184	34,808	51,858,858	17,399,276
\$100,000 and less than \$1,000,000.....	9	8,478	15,469,900	5,086,307
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	3.6	0.3	0.2	0.1
\$5,000 and less than \$20,000.....	27.8	8.0	7.2	6.2
\$20,000 and less than \$100,000.....	65.5	73.8	71.4	72.5
\$100,000 and less than \$1,000,000.....	3.2	18.0	21.3	21.2
Average per establishment.....		168	\$258,049	\$85,384
Flour-mill and gristmill products, 1909.....	249	406	\$3,501,219	\$1,214,331
Less than \$5,000.....	27	15	83,042	16,081
\$5,000 and less than \$20,000.....	106	129	1,316,078	241,204
\$20,000 and less than \$100,000.....	103	239	4,290,144	628,559
\$100,000 and less than \$1,000,000.....	13	113	2,835,455	327,887
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	10.8	3.0	1.0	1.4
\$5,000 and less than \$20,000.....	42.6	26.0	15.5	10.0
\$20,000 and less than \$100,000.....	41.4	48.2	60.2	51.8
\$100,000 and less than \$1,000,000.....	5.2	22.8	33.4	27.0
Average per establishment.....		2	\$34,141	\$4,877
Furniture and refrigerators, 1909.....	117	5,533	\$7,884,079	\$3,486,869
Less than \$5,000.....	11	32	26,029	16,502
\$5,000 and less than \$20,000.....	10	183	170,572	89,203
\$20,000 and less than \$100,000.....	61	2,417	3,230,470	1,508,616
\$100,000 and less than \$1,000,000.....	29	2,901	4,448,608	1,872,548
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	9.4	0.6	0.3	0.5
\$5,000 and less than \$20,000.....	13.7	3.3	2.3	2.6
\$20,000 and less than \$100,000.....	52.1	43.7	41.0	43.3
\$100,000 and less than \$1,000,000.....	24.8	52.4	56.4	53.7
Average per establishment.....		47	\$67,390	\$29,802
Leather, tanned, curried, and finished, 1909.....	39	832	\$5,415,495	\$1,259,344
Less than \$5,000.....	22	18	30,426	13,731
\$5,000 and less than \$20,000.....	6	22	50,939	17,008
\$20,000 and less than \$100,000.....	3	40	174,152	30,946
\$100,000 and less than \$1,000,000.....	8	752	5,159,978	1,197,599
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	56.4	2.2	0.6	1.1
\$5,000 and less than \$20,000.....	15.4	2.6	0.9	1.4
\$20,000 and less than \$100,000.....	7.7	4.8	3.2	2.5
\$100,000 and less than \$1,000,000.....	20.5	90.4	95.3	95.1
Average per establishment.....		21	\$138,859	\$32,201

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Lumber and timber products, 1909.....	2,544	34,001	\$33,524,653	\$20,991,056
Less than \$5,000.....	1,525	5,499	3,271,530	2,204,528
\$5,000 and less than \$20,000.....	685	7,586	6,427,028	4,278,951
\$20,000 and less than \$100,000.....	284	10,939	11,843,680	6,021,166
\$100,000 and less than \$1,000,000.....	50	10,817	11,982,435	7,496,411
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	59.9	16.2	9.8	10.9
\$5,000 and less than \$20,000.....	26.9	22.3	19.2	20.4
\$20,000 and less than \$100,000.....	11.2	20.7	35.3	33.0
\$100,000 and less than \$1,000,000.....	2.0	31.8	35.7	35.7
Average per establishment.....		13	\$13,178	\$8,251
Tobacco manufactures, 1909.....	43	8,203	\$35,986,639	\$22,170,571
Less than \$5,000.....	13	19	27,837	15,683
\$5,000 and less than \$20,000.....	8	93	95,237	60,280
\$20,000 and less than \$100,000.....	7	196	301,083	171,937
\$100,000 and less than \$1,000,000.....	15	7,895	35,562,482	21,922,671
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	30.2	0.2	0.1	0.1
\$5,000 and less than \$20,000.....	18.6	1.1	0.3	0.3
\$20,000 and less than \$100,000.....	16.3	2.4	0.8	0.8
\$100,000 and less than \$1,000,000.....	34.9	96.2	98.8	98.9
Average per establishment.....		191	\$836,800	\$515,595

¹ Includes the group "Less than \$5,000."

² Includes establishments with products valued at \$1,000,000 and over.

This table shows that in 1909 of the 4,931 establishments only 22, or four-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 20,595 wage earners, or 17 per cent of the total number in all establishments, and reported 27.1 per cent of the total value of the products and 30.7 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than \$5,000—constituted a considerable proportion (47.1 per cent) of the total number of establishments, but the value of their products amounted to only 2.4 per cent of the total. In 1909, 74.2 per cent of the total value of products was reported by the 431 establishments having products in excess of \$100,000 in value, although these establishments represented but 8.7 per cent of the total number.

It will be seen from the above table that the group of establishments whose products exceed \$1,000,000 in value contributed a considerably greater proportion to the total value of products in 1909 than it did in 1904, while all the other groups, with the exception of that comprising the smallest establishments, show a decrease in their proportion of the total. Owing to the large increase in the number of small establishments, however, the average value of products per establishment shows only a slight increase, while the average number of wage earners per establishment and the average value added by manufacture both show a slight decrease. When the size of establishments is measured by the average value of products, the establishments in the flour and grist mill and the lumber industries are much smaller as a whole than are those

manufacturing cotton goods, furniture, leather, and tobacco manufactures.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification

according to the number of wage earners employed. The next table shows, for 1909, such a classification for all industries combined and for 10 important industries individually, and gives not only the number of establishments falling in each group but also the average number of wage earners employed.

INDUSTRY.	ESTABLISHMENTS EMPLOYING--									
	Total.	No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
NUMBER OF ESTABLISHMENTS.										
All industries.....	4,931	171	2,495	1,357	415	239	168	04	16	6
Carriages and wagons and materials.....	138	7	70	38	17	5	1			
Cotton goods, including cotton small wares.....	281		11	12	46	71	97	41	10	3
Fertilizers.....	34		11	11	4	7	1			
Flour-mill and gristmill products.....	249	22	214	13						
Furniture and refrigerators.....	117	2	13	17	42	34	8	1		
Hosiery and knit goods.....	62		6	12	9	20	11	3	1	
Leather, tanned, curried, and finished.....	39	3	25	3	1	5	2			
Lumber and timber products.....	2,544	30	1,332	889	181	61	20	10	2	1
Oil, cottonseed, and cake.....	53		3	28	20	2				
Tobacco manufactures.....	43	1	14	8	5	2	6	5	1	1
All other industries.....	1,371	97	806	326	90	32	13	4	2	1
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	121,473		6,244	14,784	13,325	16,963	25,241	21,771	10,695	12,450
Carriages and wagons and materials.....	1,020		150	412	557	408	102			
Cotton goods, including cotton small wares.....	47,231		4	166	1,650	5,231	14,818	14,560	6,385	4,421
Fertilizers.....	933		30	127	144	494	138			
Flour-mill and gristmill products.....	496		369	127						
Furniture and refrigerators.....	5,533		41	220	1,437	2,545	1,039	251		
Hosiery and knit goods.....	5,151		23	176	316	1,377	1,512	840	907	
Leather, tanned, curried, and finished.....	832		38	41	42	381	330			
Lumber and timber products.....	34,001		3,644	9,516	5,633	4,113	4,353	3,127	1,198	2,417
Oil, cottonseed, and cake.....	1,165		11	400	622	132				
Tobacco manufactures.....	8,201		27	93	183	107	1,034	1,750	629	4,380
All other industries.....	16,299		1,907	3,516	2,741	2,175	1,915	1,237	1,576	1,232
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		5.1	12.2	11.0	14.0	20.8	17.9	8.8	10.2
Carriages and wagons and materials.....	100.0		9.2	25.3	34.2	25.0	6.3			
Cotton goods, including cotton small wares.....	100.0		(¹)	0.3	3.5	11.1	31.4	30.8	13.5	9.4
Fertilizers.....	100.0		3.2	13.6	15.4	52.0	14.8			
Flour-mill and gristmill products.....	100.0		74.4	25.6						
Furniture and refrigerators.....	100.0		0.7	4.0	26.0	46.0	18.8	4.5		
Hosiery and knit goods.....	100.0		0.4	3.4	6.1	26.7	29.4	16.3	17.6	
Leather, tanned, curried, and finished.....	100.0		4.6	4.9	5.0	45.8	39.7			
Lumber and timber products.....	100.0		10.7	28.0	16.6	12.1	12.8	9.2	3.5	7.1
Oil, cottonseed, and cake.....	100.0		0.9	34.3	53.4	11.3				
Tobacco manufactures.....	100.0		0.3	1.1	2.2	1.3	12.6	21.3	7.7	53.4
All other industries.....	100.0		11.7	21.6	16.8	13.3	11.7	7.6	9.7	7.0

¹ Less than one-tenth of 1 per cent.

The per cent distribution of the number of establishments is not shown in this table; of the 4,931 establishments reported for all industries, 81.6 per cent employed no wage earners at all or under 21 wage earners each. The most numerous single group consists of the 2,495 establishments employing from 1 to 5 wage earners, which comprised 50.6 per cent of the total, and the next of the 1,357 establishments employing from 6 to 20 wage earners, which formed 27.5 per cent of the total. The lumber industry furnished over one-half the number in these two groups. There were 171 establishments employing no wage earners; such establishments were most numerous in the flour and gristmill and the lumber industries. Eighty-six establishments, of which 54 were cotton mills, employed over 250 wage earners each, while only 6 employed over 1,000, 3 of these being cotton mills. The smallest establishments were reported for the flour and grist mill industry, 85.9 per cent of the establishments

in this industry employing from 1 to 5 wage earners, none having as many as 21.

Of the total number of wage earners, 25,241, or 20.8 per cent, were in establishments employing from 101 to 250 persons, while the next largest group consisted of the 21,771 wage earners in establishments employing from 251 to 500 persons, who represented 17.9 per cent of the total. In the cotton-goods industry, less than 1 per cent of the total number worked in mills employing under 21 persons, while 31.4 per cent were in mills employing from 101 to 250, and very nearly as many, 30.8 per cent, in those employing from 251 to 500. In the lumber industry the largest group, representing 28 per cent of the total, was made up of those employed in establishments having from 6 to 20 workers, while in tobacco manufactures a single establishment employed 4,380 wage earners, or 53.4 per cent of the total for the industry.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The following table shows, for 1909, in percentages, the distribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	3.7	18.4	65.4	12.5
Carriages and wagons and materials.....	5.3	21.3	66.9	6.5
Cotton goods, including cotton small wares.....	2.5	18.5	74.1	4.9
Fertilizers.....	4.5	7.3	77.6	10.6
Flour-mill and gristmill products.....	0.8	2.3	94.9	1.9
Furniture and refrigerators.....	5.7	23.0	63.8	7.4
Hosiery and knit goods.....	4.1	24.0	67.0	4.0
Leather, tanned, curried, and finished.....	2.2	6.1	87.6	4.1
Lumber and timber products.....	4.7	36.1	46.7	12.5
Oil, cottonseed, and cake.....	3.3	4.1	80.2	3.4
Tobacco manufactures.....	3.3	6.0	47.4	42.7
All other industries.....	6.7	24.8	59.7	8.8

This table shows that for all industries combined 65.4 per cent of the total expenses was incurred for materials, 22.1 per cent for services—that is, salaries and wages—and 12.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The large proportion shown for miscellaneous expenses for tobacco manufactures is due to the inclusion of expenditures for internal revenue under this heading.

Engines and power.—The following table shows, for all industries combined, the number of engines or other motors, according to their character, employed in generating power (including electric motors operated by purchased current) and their total horsepower at the censuses of 1909, 1904, and 1899. It also shows separately the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

The table shows a considerable increase in almost every class of power used, the most interesting, perhaps, being that in rented electric power from 2,423 horsepower in 1904 to 60,044 horsepower in 1909. The proportion of the total primary power represented by this form of power advanced from 1.1 per cent in 1904 to 15.9 per cent in 1909. Steam engines, which in 1904 generated nearly six-sevenths of all the primary power reported, show an increase in horsepower for the five-year period, 1904-1909, of 88,778, or 48.5 per cent. This gain represents more than one-half of the aggregate increase for all forms of primary

power. The increase in water power was also large, 47.7 per cent, a slightly lower rate than for steam power. Of the total primary power in 1909, 71.8 per cent was steam, 11.1 per cent water, and 15.9 per cent electric, leaving 1.2 per cent for all other kinds. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly becoming more common, the horsepower of such motors increasing from 1,839 in 1899 to 3,130 in 1904 and 25,958 in 1909.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 ¹	1909	1904	1899 ¹	1909	1904	1899
Primary power, total.....	7,373	3,504	3,261	378,556	216,622	154,467	100.0	100.0	100.0
Owned.....	5,388	3,504	3,261	317,261	213,697	152,957	83.8	98.0	99.0
Steam.....	4,500	2,061	2,605	271,944	183,166	122,778	71.8	84.0	79.5
Gas.....	316	104	67	2,350	2,102	388	0.6	1.0	0.3
Water wheels.....	561	441	589	41,619	28,353	29,241	11.0	13.1	18.0
Water motors.....	0	8	(²)	307	29	(²)	0.1	(²)	(²)
Other.....				1,035	47	550	0.3	(²)	0.4
Rented.....	1,987	(²)	(²)	61,295	2,925	1,510	16.2	1.4	1.0
Electric.....	1,987	(²)	(²)	60,044	2,423	894	15.9	1.1	0.6
Other.....				1,251	502	616	0.3	0.2	0.4
Electric motors.....	2,708	196	70	86,062	5,553	2,733	100.0	100.0	100.0
Run by current generated by establishment.....	721	106	70	25,958	3,130	1,839	30.2	56.4	67.3
Run by rented power.....	1,987	(²)	(²)	60,044	2,423	894	69.8	43.6	32.7

¹ Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
² Not reported.
³ Less than one-tenth of 1 per cent.

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power, or otherwise as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909, by totals, for all industries and for certain selected industries.

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries ¹	12,321	892,484	58,174	268,769	17,865	9,861
Briek and tile.....	418	33,794	200	105,192	22	.....
Carriages and wagons and materials.....	722	3,985	75	2,458	334	.....
Cars and general shop construction and repairs by steam-railroad companies.....		21,156	350			.....
Cotton goods, including cotton small wares.....	6,075	420,455	9,759	66,640	320	5,500
Fertilizers.....		10,220		1,270	74	.....
Flour-mill and gristmill products.....	109	7,417	30	19,394	203	.....
Furniture and refrigerators.....		14,708	350	3,792	22	.....
Gas, illuminating and heating.....	35	16,460	41,124		13,123	203
Hosiery and knit goods.....		24,596		4,065	280	.....
Ice, manufactured.....	34	29,306		12,858	15	.....
Leather, tanned, curried, and finished.....		14,472		1,110	27	.....
Lumber and timber products.....	2,606	24,247	762	9,916	1,091	.....
Oil, cottonseed, and cake.....		40,785		17,642	6	.....
Tobacco manufactures.....	1,107	32,080		4,538		220
All other industries.....	1,125	189,803	5,434	23,835	2,282	3,808

¹ In addition, there were 14,314 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries and custom saw and grist mills.)

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products and the number and classes of machinery which do not appear on the general schedule. Certain data of this character for six important industries in North Carolina are here presented.

Textiles.—The progress of the textile industries is indicated by the increase in the number of spindles, looms, knitting machines, and other equipment. The following table shows the number of the more important machines used in these industries for 1909, 1904, and 1899:

MACHINE.	Cen- sus.	Total.	Cotton goods, including cotton small wares.	Hosiery and knit goods.	Woolen, worsted, and felt goods, and wool hats.	Silk and silkgoods, including throw- sters.
Producing spin- dles.	1909	2,972,261	2,908,383	24,944	13,434	25,500
	1904	1,914,259	1,880,950	13,264	8,770	11,266
	1899	1,151,052	1,133,432	2,860	5,080	9,680
Looms.....	1909	51,467	50,840	.....	266	361
	1904	43,554	43,219	.....	235	300
	1899	25,755	25,400	.....	161	125
Knitting machines	1909	6,395	.....	6,395	.....	.....
	1904	3,043	.....	3,043	.....	.....
	1899	1,354	.....	1,354	.....	.....

The total number of producing spindles for the textile industry as a whole shows an increase from 1904 to 1909 of 1,058,002, or 55.3 per cent; of looms, an increase of 7,913, or 18.2 per cent; and of knitting machines, an increase of 3,352, or 110.2 per cent. In addition to the number of spindles given for the four industries shown in the table, there were 22,908 reported as used in the cordage and twine industry and 68 in the jute and jute goods industry.

For the same five-year period the increase in the number of producing spindles in the cotton-goods industry was very marked, amounting to 1,027,433, or 54.6 per cent, while the number of looms increased 7,621, or 17.6 per cent. In the hosiery and knit-goods industry the increase in spindles was 11,680, or 88.1 per cent, and in knitting machines, 3,352, or 110.2 per cent. Separate data regarding materials and products are given for the two principal textile industries.

Cotton goods, including cotton small wares.—This industry is largely responsible for the remarkable progress which the state has made in manufactures. The proximity of the factories to the raw cotton and the consequent low cost of transportation of this material, are conditions which have been particularly favorable for the development of the industry.

The following is a statement of the quantity and cost of the various materials used in the manufacture of cotton goods, and the quantity and value of the different classes of products, as reported at the last three censuses.

MATERIAL OR PRODUCT.	1909	1904	1899
Material used, total cost.....	\$48,687,572	\$33,025,940	\$17,386,624
Cotton:			
Domestic—			
Pounds.....	348,979,258	240,937,988	190,138,759
Cost.....	\$40,005,341	\$27,502,963	\$13,627,720
Foreign—			
Pounds.....	1,231,356	1,422,750	.....
Cost.....	\$231,543	\$229,700	.....
Cotton waste, purchased:			
Pounds.....	6,041,351	1,399,977	777,101
Cost.....	\$335,595	\$52,433	\$46,410
Cotton yarns, purchased:			
Pounds.....	9,738,724	10,056,597	10,284,488
Cost.....	\$1,789,555	\$1,920,368	\$1,268,058
Starch.....	\$214,975	\$152,474	\$91,283
Chemicals and dyestuffs.....	\$713,030	\$543,394	\$478,268
Fuel and rent of power and heat.....	\$2,170,315	\$1,332,821	\$718,434
All other materials.....	\$2,627,218	\$1,201,097	\$1,167,461
Product, total value.....	\$72,080,385	\$47,254,054	\$28,372,798
Plain cloths for printing or converting:			
Square yards.....	104,805,423	93,273,990	51,244,944
Value.....	\$4,908,095	\$4,125,563	\$1,943,568
Brown or bleached sheetings or shirtings:			
Square yards.....	104,707,838	105,598,908	88,085,411
Value.....	\$5,286,984	\$4,790,873	\$3,471,329
Twills and satens:			
Square yards.....	12,473,668	15,785,124	114,166
Value.....	\$814,767	\$815,868	\$5,780
Fancy woven fabrics:			
Square yards.....	38,513,689	22,434,783	7,770,704
Value.....	\$1,638,370	\$1,615,245	\$502,123
Ginghams:			
Square yards.....	111,994,426	79,056,081	79,531,131
Value.....	\$7,103,532	\$4,747,674	\$3,709,187
Drills:			
Square yards.....	18,940,774	5,270,874	2,821,238
Value.....	\$1,110,822	\$364,316	\$133,110
Ticks, denims, and stripes:			
Square yards.....	97,007,821	70,499,429	23,228,007
Value.....	\$9,801,356	\$5,835,804	\$2,621,849
Napped fabrics:			
Square yards.....	64,627,668	62,053,042	30,175,177
Value.....	\$5,389,105	\$3,749,475	\$1,555,920
Yarns for sale:			
Pounds.....	142,213,450	95,481,949	86,970,599
Value.....	\$28,312,873	\$18,566,247	\$12,708,630
Cotton waste for sale:			
Pounds.....	34,861,543	22,235,597	22,000,030
Value.....	\$836,652	\$657,968	\$335,571
All other products.....	\$2,378,130	\$1,985,021	\$1,305,716

The principal material used is domestic cotton, of which 348,979,258 pounds were consumed in 1909. A large part of this material came directly from the plantations of the state. The figures for 1909 show a decrease in the quantity of foreign cotton consumed and in the quantity of cotton yarn bought for consumption.

The largest single product continues to be cotton yarn, of which 142,213,450 pounds were produced for sale in 1909, 95,481,949 pounds in 1904, and 86,970,599 pounds in 1899—an increase for the 10 years of 63.5 per cent. It is interesting to note, however, that the proportion which the value of cotton yarn manufactured for sale represents of the total value of products shows a decrease at each census as the result of the more general practice of confining all of the processes of the manufacture of cotton goods to one establishment. The partly manufactured articles shown in the table represent a certain amount of duplication, because, although they are the products of one set of mills, to some extent they become the materials of other establishments within the industry. Ticks, denims, and stripes constitute the most important product of the looms, with a value of \$9,801,356 in 1909 and an increase in quantity amounting to 321.9 per cent for the 10-year period.

Hosiery and knit goods.—This industry is largely an outgrowth of the general increase in the manufacture of cotton goods in the state. From 1899 to 1904 it showed an increase in value of products of 142.8 per cent and from 1904 to 1909 an increase of 107.4 per cent. The principal products are cotton hose and cotton half hose. Four establishments reported hosiery and knit goods as by-products to the value of \$287,061, which amount is not included in the totals shown for this industry.

The following statement shows the quantity and cost of the various materials used in the industry and the quantity and value of the different kinds of products, as reported for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Material used, total cost	\$3,012,295	\$1,894,811	\$504,027
Cotton:			
Pounds.....	3,531,937	2,112,160	1,300,378
Cost.....	\$398,635	\$236,118	\$92,754
Cotton yarn, purchased:			
Pounds.....	0,527,471	5,115,699	2,130,604
Cost.....	\$1,858,760	\$916,779	\$333,958
Chemicals and dyestuffs.....	\$151,320	\$73,104	\$33,210
Fuel and rent of power.....	\$92,812	\$47,351	\$19,762
All other materials.....	\$510,759	\$121,459	\$31,234
Product, total value	\$5,151,692	\$2,483,527	\$1,023,150
Cotton hose:			
Dozen pairs.....	3,870,392	1,950,578	726,094
Value.....	\$2,877,922	\$1,408,060	\$446,262
Cotton half hose:			
Dozen pairs.....	1,926,748	977,454	343,337
Value.....	\$1,222,767	\$610,368	\$331,043
Cotton shirts and drawers:			
Dozens.....	409,635	174,549	112,875
Value.....	\$805,643	\$414,583	\$196,220
All other products.....	\$245,360	\$50,816	\$49,625

Oil, cottonseed, and cake.—Closely allied to the cotton industry is the manufacture of cottonseed oil and cake. North Carolina holds seventh place among the states in the value of its cottonseed-oil products. The increase shown in the total value of products indicates a rapid growth of this industry in the state.

The following table shows the quantity of cotton seed used for oil extraction and the quantities of the principal products for the census years 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed crushed..... tons..	214,582	148,097	107,660
Crude products manufactured:			
Oil..... gallons..	9,611,394	6,269,062	4,388,277
Meal and cake..... tons..	92,000	59,787	36,088
Hulls..... tons..	68,459	53,184	52,130
Linters..... pounds..	8,442,520	4,472,965	2,140,996

The statistics in this table cover the products of all establishments which crushed seed during the year, regardless of the extent to which they were engaged in other industries. Furthermore, the crude products reported represent the total production derived from crushing cotton seed, whether sold as such or used as

intermediate products in further processes of manufacture, such as refining of oil and the mixing of fertilizer and feed.

The average crush per mill has fallen off during the last decade from 5,383 tons in 1899 to 4,049 tons in 1909, although it has increased since 1904, when it was only 3,366 tons. The total quantity crushed increased from 107,660 tons in 1899 to 214,582 tons in 1909, or 99.3 per cent. Of the 53 cottonseed-oil mills reported in 1909 as crushing seed, 6 crushed less than 1,000 tons each during the census year; 9 crushed 1,000 but less than 2,000 tons; 26 crushed 2,000 but less than 5,000 tons; 9 crushed 5,000 but less than 10,000 tons; and 3 crushed 10,000 tons and over.

In 1909 the ratios which the several products bore to the total weight of the seed when received at the mill were: Crude oil, 16.8 per cent; meal and cake, 43.3 per cent; hulls, 31.9 per cent; and linters, 2 per cent. It will be observed that there has been an increase in the actual weights of all products, but that hulls now represent a much smaller proportion of the total than formerly.

Fertilizers.—This industry has grown more rapidly than most industries in the state; the percentage of increase in value of products from 1904 to 1909 was 103.9, and for the previous five years, 106.9. This growth is largely a result of the development of the cottonseed-oil mills of the state.

The following table shows in detail the quantity and value of the different kinds of products for the years 1909 and 1904:

PRODUCT.	1909	1904	1899
Total value	\$6,316,485	\$3,098,561	\$1,497,625
Superphosphates from minerals, bones, etc.:			
Tons.....	00,180	51,475	48,820
Value.....	\$1,140,700	\$517,600	\$397,397
Ammoniated fertilizers:			
Tons.....	32,870	81,353	3,400
Value.....	\$776,562	\$1,367,927	\$51,000
Complete fertilizers:			
Tons.....	142,592	42,292	53,528
Value.....	\$3,031,108	\$889,611	\$841,632
Other fertilizers:			
Tons.....	57,911	6,150	14,345
Value.....	\$997,436	\$89,163	\$197,304
All other products, value.....	\$370,499	\$234,260	\$10,292

The total quantity of all kinds of fertilizers shows large increases from 1904 to 1909. Complete fertilizers constituted the chief product, both as to quantity and value in 1909, while the quantity and value of ammoniated fertilizers were the largest in 1904.

Considerable quantities of fertilizers were produced as by-products of establishments engaged in the manufacture of cottonseed oil. Twenty of such establishments reported these by-products, which were valued at \$856,716, representing 40,769 tons of fertilizer; these amounts are not included in the totals presented in the above table.

Lumber and timber products.—The following is a statement of the quantity of products by classes for the sawmill branch of the lumber industry for 1909 and 1899:

PRODUCT.		QUANTITY.	
		1909	1899
Lumber.....	M feet, b. m.	2,177,715	1,286,638
Lath.....	thousands.	70,724	48,782
Shingles.....	thousands.	230,942	212,467

Rough lumber shows an increase in quantity for the 10-year period amounting to 69.3 per cent, lath an increase of 45 per cent, and shingles an increase of 32.2 per cent. Over 80 per cent of the total cut in 1909 was softwood. Of the softwood, 1,575,186 M feet board measure, or about nine-tenths, was yellow pine; of the hardwood, 209,405 M feet, or about one-half, was oak.

Flour-mill and gristmill products.—A better idea of the flour and grist mill industry in North Carolina may be obtained from a comparison of the quantities of the different products in 1909 and in 1904 than from a comparison of the values, either for the single products or for the whole industry. The following tabular statement gives the quantity and value of the different kinds of products in 1909 and 1904:

PRODUCT.	1909	1904
Total value.....	\$8,501,219	\$6,803,770
Wheat flour:		
White—		
Barrels.....	758,876	713,379
Value.....	\$4,702,881	\$3,816,342
Graham—		
Barrels.....	196	21
Value.....	\$1,075	\$100
Corn meal and corn flour:		
Barrels.....	500,872	648,481
Value.....	\$2,204,852	\$1,738,154
Rye flour:		
Barrels.....	1,155	1,072
Value.....	\$0,470	\$0,140
Buckwheat flour:		
Pounds.....	73,500	132,448
Value.....	\$2,310	\$3,072
Hominy and grits:		
Pounds.....	8,056,030	8,076,400
Value.....	\$143,658	\$134,718
Feeds:		
Tons.....	11,814	16,561
Value.....	\$352,582	\$400,520
Offal:		
Tons.....	36,135	32,242
Value.....	\$918,443	\$726,106
All other products.....	\$18,948	\$35,600

White flour, the most important product, showed a substantial increase both in quantity and in value. There was a considerable decrease in the number of barrels of corn meal and corn flour produced, although a large increase in the total value was shown. Hominy

and grits show a decrease in quantity but a slight increase in value, and offal shows substantial increases in both respects.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 43 such establishments in North Carolina in 1909, 16 of which were in cities of over 10,000 population. The following tabular statement summarizes the statistics of the industry for the state:

Number of establishments.....	43
Persons engaged in the industry.....	921
Proprietors and firm members.....	41
Salaried employees.....	65
Wage earners (average number).....	832
Primary horsepower.....	1,009
Capital.....	\$124,622
Expenses.....	435,991
Services.....	265,038
Materials.....	107,866
Miscellaneous.....	63,087
Amount received for work done.....	559,949

Eighteen establishments were under individual ownership, 12 under firm ownership, and 13 under corporate ownership. Eleven establishments had receipts for the year's business of less than \$5,000; 21, \$5,000 but less than \$20,000; and 11, \$20,000 but less than \$100,000.

The number of wage earners employed each month and the per cent which this number represented of the greatest number employed in any month were as follows:

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	745	84.4	July.....	877	100.0
February.....	754	85.4	August.....	883	100.0
March.....	756	85.6	September.....	871	99.2
April.....	785	88.9	October.....	822	93.2
May.....	815	92.3	November.....	786	89.0
June.....	852	96.5	December.....	798	91.4

The different kinds of primary power, the number of engines, and the amount of horsepower used in 1909 are shown in the following tabular statement:

KIND	Number of engines or motors.	Horse power.
Primary power, total.....		1,662
Owned—Steam.....	40	822
Rented—Electric.....	15	840

MANUFACTURES—NORTH CAROLINA.

The kind and amount of fuel used are shown in the following statement:

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	8,872
Wood.....	Cords.....	2,497
Oil.....	Barrels.....	101
Gas.....	1,000 feet.....	1,488
Other.....	Tons.....	967

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries, but are presented in the following summary:

	Custom sawmills.	Custom gristmills.
Number of establishments.....	191	861
Persons engaged in industry.....	811	1,647
Proprietors and firm members.....	300	1,207
Salaried employees.....	5	7
Wage earners (average number).....	506	333
Primary horsepower.....	3,641	18,444
Capital.....	\$214,304	\$1,535,027
Expenses.....	101,312	3,375,538
Services.....	83,272	97,068
Materials.....	5,821	13,245,191
Miscellaneous.....	12,219	33,270
Value of products.....	209,065	13,935,922

¹ Includes estimate of all grain ground. A similar estimate for value of lumber sawed by custom sawmills is impracticable.

MANUFACTURES—NORTH CAROLINA.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899.
THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES.

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Pri- mary horse- power.	Capital.	Sala- ries.	Wages.	Cost of mate- rials.	Value of prod- ucts.	Value added by manu- fac- ture.						
			Total.	Pro- pri- etors and firm mem- bers.	Sala- ried em- ploy- ees.	Wage earn- ers (aver- age num- ber).								Expressed in thousands.					
STATE—All industries	1909	4,981	133,453	5,451	6,529	121,473	378,556	\$217,186	\$8,904	\$34,355	\$121,801	\$216,656	\$84,795						
	1904	3,272	93,142	3,731	4,072	85,339	216,932	141,001	3,795	21,375	79,269	142,521	63,253						
	1899	3,465			2,894	72,322	154,467	68,283	2,395	14,052	44,854	85,274	40,420						
Agricultural implements	1909	22	169	22	15	132	356	306	21	50	90	262	172						
	1904	13	128	13	8	107	206	117	9	31	51	127	76						
	1899	9	112	14	7	91	178	78	4	20	41	99	58						
Boots and shoes, including cut stock and findings	1909	7	211	6	27	178	242	413	17	46	242	408	166						
	1904	7	109	11	9	89	70	86	6	25	117	186	99						
	1899	3	44	1	3	40	53	38	2	14	53	73	20						
Bread and other bakery products	1909	54	272	63	20	189	148	170	8	80	341	539	198						
	1904	34	165	40	10	115	42	77	6	36	133	246	113						
	1899	22	87	28	14	45		33	2	13	58	107	49						
Brick and tile	1909	159	1,762	197	105	1,460	6,759	1,455	83	370	368	1,174	806						
	1904	111	1,271	146	46	1,079	3,222	651	25	247	167	606	520						
	1899	157	1,660	216	36	1,408	2,493	445	11	269	147	641	494						
Carriages and wagons and materials	1909	138	1,922	160	133	1,629	9,110	3,168	150	603	1,894	3,283	1,389						
	1904	125	1,597	160	64	1,373	1,310	2,010	60	482	1,229	2,304	1,075						
	1899	157			29	800		861	19	236	521	1,055	534						
Cars and general shop construction and repairs by steam-railroad companies	1909	12	2,640		72	2,568	1,458	974	67	1,296	1,561	2,934	1,373						
	1904	11	2,069		96	1,973	988	858	79	1,023	1,334	2,444	1,110						
	1899	12	1,188		47	1,141	792	540	38	551	893	1,611	618						
Clothing, men's, including shirts	1909	21	977	11	84	882	213	999	90	200	1,040	1,653	613						
	1904	16	933	9	45	879	170	944	45	194	905	1,401	466						
	1899	17	999	12	91	896		502	73	154	650	1,059	469						
Coffins, burial cases, and undertakers' goods	1909	9	273	3	44	226	431	372	43	71	157	352	195						
	1904	9	206	6	17	183	394	186	14	52	70	271	201						
	1899	7	137	5	11	121		177	7	30	39	119	80						
Confectionery	1909	18	139	23	37	79	66	186	18	27	246	345	99						
	1904	8	55	10	4	41	9	45	3	10	50	83	33						
	1899	(²)																	
Copper, tin, and sheet-iron products	1909	26	234	35	15	184	5	198	11	76	214	374	160						
	1904	13	117	20	4	93	10	98	2	40	107	194	87						
	1899	16				62		107		25	49	101	52						
Cordage and twine, and jute and linen goods	1909	7	542	2	49	491	1,755	1,260	50	104	559	824	265						
	1904	6	565	2	20	543	1,007	886	21	101	815	1,036	221						
	1899	(²)																	
Cotton goods including cotton small wares	1909	281	48,525	42	1,252	47,231	164,609	96,903	1,010	12,131	48,688	72,680	23,992						
	1904	212	37,292	33	903	36,356	92,215	57,413	973	7,504	33,025	47,254	14,229						
	1899	177	30,973	41	659	30,273	56,986	33,012	587	5,127	17,387	28,373	10,986						
Fertilizers	1909	34	1,117	22	162	933	3,132	7,680	242	303	4,183	6,316	2,133						
	1904	27	1,019	33	78	908	2,653	3,698	75	282	2,218	3,099	881						
	1899	18	494	16	51	427	1,202	2,819	66	109	1,044	1,498	454						
Flour-mill and gristmill products	1909	249	971	384	91	496	11,578	2,643	65	180	7,287	8,501	1,214						
	1904	234	967	376	72	519	10,359	1,990	47	166	5,986	6,864	878						
	1899	217			56	481	9,140	1,519	30	130	3,846	4,703	857						
Foundry and machine-shop products	1909	102	1,816	87	239	1,490	2,700	3,247	231	718	1,245	2,771	1,526						
	1904	70	1,439	77	146	1,216	1,782	2,406	152	550	1,374	2,707	1,333						
	1899	61	930	70	63	797	1,037	1,018	56	273	738	1,395	657						
Furniture and refrigerators	1909	117	6,023	38	452	5,533	11,379	7,606	395	1,585	4,398	7,885	3,487						
	1904	105	5,493	43	286	5,164	9,113	4,622	236	1,311	3,106	6,182	3,076						
	1899	44	1,909	32	118	1,759	2,691	1,023	65	334	725	1,547	822						
Gas, illuminating and heating	1909	14	201		50	151	308	1,772	39	62	123	369	246						
	1904	12	145	1	40	104	309	515	20	38	71	223	152						
	1899	10	66		19	47	68	683	15	14	37	130	93						
Hosiery and knit goods	1909	62	5,361	34	176	5,151	4,024	5,164	185	1,080	3,012	5,152	2,140						
	1904	40	3,084	38	102	2,944	2,148	2,081	125	617	1,395	2,484	1,089						
	1899	24	1,574	15	64	1,495	1,736	675	46	255	504	1,023	519						
Ice, manufactured	1909	45	426	16	92	318	5,386	1,514	80	127	180	659	479						
	1904	32	317	13	69	235	2,991	860	58	83	97	418	321						
	1899	23	211	13	37	161	2,275	523	32	53	66	228	162						
Leather goods	1909	33	197	41	21	135	99	284	12	52	257	427	170						
	1904	13	202	20	11	171	158	209	10	52	191	300	115						
	1899	10			6	73		102	1	18	87	151	64						
Leather, tanned, curried, and finished	1909	39	638	49	57	332	2,672	6,753	107	290	4,156	5,415	1,259						
	1904	34	616	45	37	534	1,521	2,569	61	149	2,038	2,662	624						
	1899	75	488	94	28	366	989	1,300	29	105	1,129	1,562	373						

¹ Excluding statistics for two establishments, to avoid disclosure of individual operations.

² Figures can not be shown without disclosing individual operations.

³ Excluding statistics for one establishment, to avoid disclosure of individual operations.

MANUFACTURES—NORTH CAROLINA.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY AND CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employees.	Wage earners (average number).							
Expressed in thousands.													
STATE—Continued.													
Lumber and timber products.....	1909	2,544	38,636	3,349	1,286	34,001	115,542	\$29,675	\$1,204	\$9,707	\$12,534	\$33,525	\$20,091
	1904	1,364	10,560	1,836	741	16,983	65,026	12,008	621	5,119	6,612	19,489	12,877
	1899	1,416	.....	.....	607	10,972	59,181	10,000	413	4,245	7,341	17,442	10,101
Marble and stone work.....	1909	56	948	74	67	807	1,863	957	62	384	226	881	655
	1904	22	443	24	23	396	382	358	18	156	81	399	318
	1899	20	.....	.....	16	403	.....	110	6	103	35	200	165
Mattresses and spring beds.....	1909	23	214	28	20	166	134	200	14	65	172	315	143
	1904	9	81	9	3	69	76	58	2	16	108	164	58
	1899	8	.....	.....	2	32	.....	24	1	8	37	56	19
Oil, cottonseed, and cake.....	1909	53	1,446	3	278	1,165	9,641	4,432	265	326	7,090	8,504	1,414
	1904	43	1,027	3	157	807	7,935	3,118	123	233	2,956	3,749	793
	1899	21	651	.....	87	504	2,908	1,842	68	133	2,101	2,677	516
Patent medicines and compounds and druggists' preparations.	1909	26	140	17	63	60	28	325	61	18	216	474	258
	1904	26	118	17	46	55	6	116	18	11	139	266	127
	1899	0	.....	.....	14	30	.....	49	10	8	36	90	54
Printing and publishing.....	1909	322	2,659	307	376	1,376	1,110	2,180	306	661	645	2,497	1,852
	1904	258	1,475	267	237	971	582	1,274	164	404	382	1,053	1,271
	1899	203	1,195	219	157	819	.....	703	96	286	244	1,039	795
Tobacco manufactures.....	1909	43	9,065	44	818	8,203	3,712	23,162	963	1,918	13,816	35,987	22,171
	1904	55	7,899	72	534	7,293	2,017	36,077	585	1,457	10,149	28,088	17,939
	1899	96	7,187	113	491	6,583	2,071	7,045	594	907	4,312	13,851	9,539
Turpentine and rosin.....	1909	79	249	103	7	139	19	159	4	28	483	674	191
	1904	87	262	110	4	148	4	110	3	39	578	743	165
	1899	174	630	205	25	400	29	217	5	71	818	1,056	238
Woolen, worsted, and felt goods, and wool hats.	1909	11	461	12	25	424	968	1,159	37	116	362	675	283
	1904	12	381	15	23	343	849	419	21	71	406	556	150
	1899	16	234	11	17	206	608	348	9	39	205	290	85
All other industries.....	1909	325	5,519	270	390	4,844	19,100	11,780	404	1,591	6,046	10,891	4,755
	1904	264	4,107	282	237	3,588	9,062	5,136	213	882	3,378	6,227	2,840
	1899	443	.....	.....	139	2,830	.....	2,340	110	522	1,651	3,258	1,667

CITIES OF 10,000 OR MORE INHABITANTS—ALL INDUSTRIES COMBINED.

Asheville.....	1909	52	1,148	43	121	954	2,095	\$2,827	\$140	\$369	\$2,295	\$3,250	\$955
	1904	45	910	51	67	792	.....	1,522	60	229	1,247	1,918	671
	1899	37	.....	.....	46	804	.....	1,174	35	225	821	1,391	480
Charlotte.....	1909	108	4,705	54	452	4,199	12,384	9,451	522	1,557	6,532	10,460	3,928
	1904	73	2,537	51	252	2,234	.....	4,850	239	693	2,869	4,850	1,981
	1899	57	.....	.....	175	2,787	.....	3,803	167	621	2,604	4,187	1,583
Durham.....	1909	61	4,030	45	267	3,718	5,257	15,389	302	1,087	9,810	23,272	13,462
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greensboro.....	1909	61	1,132	45	135	952	1,545	1,096	131	338	1,106	2,032	926
	1904	63	1,261	60	103	1,098	.....	1,548	71	317	978	1,744	766
	1899	43	.....	.....	64	677	.....	885	47	152	508	925	417
Raleigh.....	1909	55	1,249	43	183	1,023	2,970	2,027	174	384	1,276	2,376	1,100
	1904	42	719	30	104	585	.....	804	78	226	512	1,087	575
	1899	39	.....	.....	104	549	.....	728	68	226	433	947	514
Wilmington.....	1909	64	1,386	44	129	1,213	4,580	2,022	123	470	1,003	3,005	1,102
	1904	53	1,704	44	156	1,594	.....	1,837	130	605	1,715	2,904	1,189
	1899	50	.....	.....	92	1,553	.....	1,758	74	476	1,392	2,283	891
Winston.....	1909	52	7,408	25	675	6,708	3,933	12,856	763	1,589	6,896	16,778	9,882
	1904	47	5,289	41	398	4,850	.....	9,212	433	986	3,843	11,353	7,510
	1899	30	.....	.....	238	2,894	.....	3,960	282	369	1,033	4,888	3,255

¹ Population less than 10,000 in 1900.

² Figures do not agree with those published in 1904, because it was necessary to revise the totals in order to include data only for those establishments located within the corporate limits of the cities.

MANUFACTURES—NORTH CAROLINA.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			10 and over.		Under 10.					
					Male.	Female.	Average number.	Number.		Male.	Female.	Male.	Female.				
								Maximum month.	Minimum month.								
Total.	Male.	Female.	Maximum month.	Minimum month.	Total.	Male.	Female.	Male.	Female.								
All industries.....	4,931	133,453	5,451	3,486	2,513	530	121,473	Do 128,754	Ja 117,007	(1)	(1)	(1)	(1)	(1)	378,556		
1 Agricultural implements.....	22	189	22	11	4		132	Mo 159	Jy 108	137	135		2		350		
2 Boots and shoes, including cut stock and findings.	7	211	6	6	17	4	178	Do 209	Ap 137	209	146	38	20	5	242		
4 Boxes, fancy and paper.....	4	86		5	1		80	My 86	Do 75	75	25	39	3	8	40		
5 Bread and other bakery products.....	54	272	63	6	7	7	180	Do 199	Ja 182	193	163	8	25		148		
6 Brick and tile.....	159	1,702	197	92	12	1	1,460	Au 2,281	Ja 906	2,448	2,265		183		6,759		
7 Canning and preserving.....	21	212	18	6			188	Au 394	Ap 75	519	160	249	58	46	230		
8 Carriages and wagons and materials.	138	1,923	160	75	44	14	1,629	Do 1,750	Ja 1,536	1,756	1,671	8	74	3	9,110		
9 Cars and general shop construction and repairs by steam-railroad companies.	12	2,640		9	61	2	2,568	Do 2,745	Ja 2,392	2,745	2,734	6	5		1,458		
10 Cars and general shop construction and repairs by street-railroad companies.	3	25		2			23	My 37	Do 15	15	15						
11 Clothing, men's, including shirts.....	21	977	11	31	50	3	882	Do 957	Ja 820	994	152	810	8	24	213		
12 Coffins, burial cases, and undertakers' goods.	9	273	3	17	22	5	226	Oc 240	Ma 210	233	216	13	4		431		
13 Confectionery.....	18	180	23	5	23	6	79	No 112	Ja 60	102	58	38	5	1	66		
14 Cooperage and wooden goods, not elsewhere specified.	15	158	15	10	1		132	Se 153	Ap 110	166	157		9		348		
15 Copper, tin, and sheet-iron products.	26	234	35	11	2	2	184	Se 204	Ja 164	184	178		3		5		
16 Cordage and twine, and jute and linen goods.	7	542	2	17	30	2	491	My 506	Ja 475	523	224	178	75	40	1,755		
17 Cotton goods, including cotton small wares.	281	48,525	42	865	324	63	47,231	Do 49,034	Ja 40,184	49,171	25,137	14,731	4,982	1,321	164,609		
18 Electrical machinery, apparatus, and supplies.	3	134	2	6	3	3	120	Do 157	Ja 92	157	53	104			38		
19 Fertilizers.....	34	1,117	22	58	97	7	933	Ap 1,094	Jy 494	896	896				3,132		
20 Flour-mill and gristmill products.....	249	971	384	49	34	8	496	Do 533	My 463	554	543	3	8		11,578		
21 Foundry and machine-shop products.	102	1,816	87	125	85	29	1,490	No 1,581	Fe 1,408	1,601	1,588	5	13		2,700		
22 Furniture and refrigerators.....	117	6,023	38	255	153	44	5,633	Do 5,907	Jy 5,144	6,204	5,733	1	466	4	11,379		
23 Gas, illuminating and heating.....	14	201		25	18	7	151	Jy 172	So 138	150	150				308		
24 Hosiery and knit goods.....	62	5,301	34	111	60	15	5,151	Do 5,292	Ja 4,980	5,411	1,210	2,691	562	930	4,024		
25 Ice, manufactured.....	45	426	16	61	29	2	313	Jy 474	Ja 188	346	340		6		5,386		
26 Kaolin and ground earths.....	7	82	7	6	2	1	66	Mo 71	Fe 64	77	76		1		693		
27 Leather goods.....	33	197	41	11	8	2	135	Oc 141	Fe 122	147	132		15		99		
28 Leather, tanned, curried, and finished.	39	933	49	23	27	7	832	Do 913	Mh 722	918	914		4		2,672		
29 Lime.....	7	71	11	3			57	Ap 73	Ja 41	64	63		1		163		
30 Lumber and timber products.....	2,544	38,636	3,349	858	355	73	34,001	Do 37,667	Je 31,992	41,763	41,159	55	530	39	115,542		
31 Marble and stone work.....	56	948	74	42	21	4	807	No 1,058	Jc 582	999	991		8		1,863		
32 Mattresses and spring beds.....	23	214	23	5	8	4	166	Do 170	Fe 149	170	127		31	20	134		
33 Mirrors.....	4	286	1	6	8	2	260	No 287	Ja 250	283	283				252		
34 Oil, cottonseed, and cake.....	53	1,446	3	126	140	12	1,105	No 1,797	Jy 332	1,723	1,087		1	35	9,641		
35 Patent medicines and compounds and druggists' preparations.	26	140	17	17	37	9	90	Je 83	Mh 58	64	20	34	1		28		
36 Printing and publishing.....	322	2,059	307	152	138	86	1,376	No 1,433	Je 1,336	1,422	1,423	173	121	5	1,119		
37 Shipbuilding, including boat building.	19	66	12	1			63	Mh 63	Do 44	47	47				60		
38 Show cases.....	5	39	3	4			30	Mh 34	Au 28	31	31				53		
39 Tobacco manufactures.....	43	9,005	44	186	585	74	8,223	Do 8,853	Se 7,018	9,117	4,929	2,926	908	654	3,712		
40 Turpentine and rosin.....	79	249	103	5	2		139	Ja 162	Ja 102	168	167		1		19		
41 Wall plaster.....	4	31	3	5	2		21	Ap 22	Ja 17	22	22				153		
42 Wood distillation, not including turpentine and rosin.	5	67		10	5	1	61	Do 58	Jy 44	57	57				75		
43 Woolen, worsted, and felt goods, and wool hats.	11	461	12	17	7	1	424	Au 401	Ap 392	481	253	193	13	22	908		
44 All other industries.....	237	4,262	207	148	128	25	3,754								16,089		

¹ No figures given, for reasons explained in the Introduction, page 2. See also discussion of wage earners on page 7.
² Same number reported for one or more other months.
³ All other industries embraced.

Artificial stone.....	6	Dyeing and finishing textiles.....	4	Paper and wood pulp.....	3
Artists' materials.....	1	Dyestuffs and extracts.....	4	Peanuts, grading, roasting, cleaning, and shelling.	2
Awnings, tents, and sails.....	1	Flags, banners, regalia, society badges, and emblems.	1	Pottery, terra-cotta, and fire-clay products.....	17
Bags, other than paper.....	5	Furnishing goods, men's.....	2	Pumps, not including steam pumps.....	1
Belting and hose, leather.....	1	Hand stamps and sterels and brands.....	2	Rice, cleaning and polishing.....	1
Bicycles, motorcycles, and parts.....	2	House-furnishing goods, not elsewhere specified.....	1	Roofing materials.....	1
Blacking and cleansing and polishing preparations.	2	Liquors, vinous.....	4	Shoddy.....	4
Brass and bronze products.....	1	Looking-glass and picture frames.....	1	Silk and silk goods, including throwsters.....	2
Brooms.....	3	Millinery and lace goods.....	2	Slaughtering and meat packing.....	1
Cars, street-railroad, not including operations of railroad companies.....	1	Mineral and soda waters.....	113	Stem packing.....	2
Clothing, women's.....	2	Mucilage and paste.....	1	Upholstering materials.....	2
Cordials and sirups.....	1	Musical instruments, pianos and organs, and materials.....	1	Vinegar and elder.....	1
Cutlery and tools, not elsewhere specified.....	1	Optical goods.....	2	Window shades and fixtures.....	1
Dairymen's, poultryers', and apiarists' supplies.....	2	Paint and varnish.....	4	Wood, turned and carved.....	27

MANUFACTURES—NORTH CAROLINA.

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.									Value of products.	Value added by manufacture.	
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.			Other.
1	\$217,185,588	\$186,463,491	\$4,547,407	\$2,956,080	\$34,354,625	\$4,269,088	\$117,592,442	\$954,295	\$6,037,837	\$1,793,937	\$15,157,720	\$210,656,055	\$94,704,525
2	300,437	182,096	18,167	3,000	49,693	4,568	85,401	620	1,094	-----	19,553	261,819	171,850
3	413,492	340,125	5,942	11,177	46,455	1,641	239,940	372	2,386	-----	32,212	408,079	166,498
4	53,056	80,015	4,182	120	23,127	1,273	45,416	1,156	363	123	4,255	86,747	40,058
5	109,808	455,205	3,860	4,212	80,440	11,000	330,328	15,272	1,491	208	8,388	538,055	197,621
6	1,454,748	897,041	74,478	8,380	369,681	327,673	40,017	1,209	7,020	2,882	65,701	1,173,751	809,061
7	93,474	120,409	3,980	-----	24,610	2,872	72,098	740	2,057	5,600	8,452	143,691	68,721
8	3,108,231	2,830,604	100,358	49,358	602,527	27,384	1,866,122	10,521	22,090	4,298	147,046	3,282,634	1,380,128
9	974,045	2,933,820	11,216	50,025	1,200,172	51,602	1,509,525	350	6,813	1,414	703	2,933,776	1,372,649
10	9,200	31,817	2,100	-----	9,802	275	18,050	-----	40	-----	1,550	31,817	13,492
11	998,058	1,405,986	43,040	46,816	200,141	7,320	1,032,043	0,136	6,984	-----	62,000	1,653,076	612,813
12	371,713	302,120	18,702	24,286	71,483	5,893	161,581	33	2,697	-----	27,445	352,240	194,766
13	186,270	330,376	6,600	11,847	26,685	2,190	243,989	6,813	1,329	-----	30,917	344,848	98,663
14	72,638	115,364	5,190	7,570	32,603	1,431	70,800	544	573	-----	3,473	131,036	50,405
15	197,673	314,657	9,216	1,463	75,871	1,108	212,955	3,809	1,331	-----	8,904	373,635	159,572
16	1,259,585	748,888	24,859	24,948	103,778	8,201	551,228	4,485	2,146	-----	20,243	823,864	264,435
17	96,993,125	65,676,383	1,333,803	270,025	12,180,608	2,170,315	46,517,257	20,192	438,471	423,084	2,366,028	72,680,385	23,962,813
18	77,163	148,886	12,600	3,600	31,000	1,025	95,533	1,200	338	-----	3,590	140,591	53,033
19	7,679,857	5,389,466	117,534	124,799	302,752	69,658	4,113,545	6,802	69,953	7,307	487,110	6,310,485	2,133,282
20	2,642,835	7,080,149	38,000	26,569	179,983	93,931	7,192,957	2,426	17,283	175	128,885	8,501,219	1,214,331
21	3,246,716	2,359,578	150,290	81,141	718,299	57,823	1,187,579	13,681	19,180	233	131,442	2,771,287	1,525,885
22	7,606,147	6,889,014	278,470	116,614	1,585,235	54,988	4,342,822	3,053	39,485	3,926	464,421	7,884,679	3,486,869
23	1,771,505	273,200	24,188	15,181	62,324	99,055	24,430	-----	6,808	-----	38,208	369,375	245,884
24	5,164,117	4,496,511	136,849	47,874	1,060,410	92,812	2,919,483	4,915	21,625	3,117	189,426	5,151,692	2,139,397
25	1,514,394	482,496	60,445	19,704	127,046	121,572	58,246	12,925	10,906	-----	65,652	659,377	479,559
26	141,800	62,696	3,780	1,916	27,955	8,095	14,410	-----	505	150	4,925	47,600	24,195
27	284,434	344,040	5,585	6,837	51,840	2,766	253,707	8,376	2,141	-----	13,598	426,630	170,007
28	6,763,436	4,746,258	72,220	34,385	289,502	44,428	4,111,723	60	24,185	-----	169,755	5,415,495	1,259,344
29	36,031	35,836	2,100	-----	17,922	7,636	4,046	1,200	420	490	1,422	44,148	31,806
30	29,674,900	26,856,858	907,829	295,982	9,707,194	121,697	12,411,900	38,260	170,016	967,848	2,170,132	33,524,653	20,991,056
31	956,731	719,682	44,195	18,292	384,277	20,901	205,252	4,357	4,544	1,408	36,456	881,343	655,190
32	200,420	268,030	7,800	5,840	65,469	2,497	169,118	1,828	983	-----	14,495	315,154	143,530
33	274,790	795,850	9,000	8,020	95,181	6,838	668,444	600	934	-----	5,933	785,351	110,069
34	4,432,010	7,952,231	153,993	111,106	325,880	184,247	6,905,683	2,564	26,274	60	242,424	8,504,477	1,414,547
35	324,674	395,224	17,993	42,837	17,621	1,041	215,137	2,630	2,542	-----	95,423	473,926	257,748
36	2,179,530	1,950,059	169,625	136,478	661,015	43,652	601,077	41,018	10,720	77,785	202,689	2,497,493	1,852,704
37	73,693	79,659	624	-----	25,058	100	47,186	548	329	4,200	1,614	100,254	52,968
38	25,417	57,479	2,610	320	16,104	680	34,723	414	198	500	1,930	62,054	26,651
39	23,161,830	29,163,923	343,638	619,558	1,018,933	122,953	13,693,115	109,809	5,020,412	3,509	7,332,896	35,986,639	22,170,571
40	158,716	534,127	2,350	1,380	28,242	4,018	478,918	25	767	-----	18,427	673,654	101,018
41	73,409	70,460	6,540	1,650	7,069	2,799	55,219	-----	259	-----	2,924	82,548	24,530
42	204,837	87,553	14,140	4,710	15,598	7,256	26,651	-----	513	-----	18,685	104,241	70,334
43	1,159,005	593,465	31,110	5,700	116,331	14,431	377,538	50	6,265	-----	42,040	675,265	283,296
44	10,644,088	7,258,295	207,366	107,240	1,263,690	456,531	4,305,654	25,362	60,807	285,020	456,076	9,030,172	4,177,987

MANUFACTURES : NORTH DAKOTA

STATISTICS OF MANUFACTURES FOR THE STATE, CITIES, AND INDUSTRIES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

INTRODUCTION.

This advance bulletin gives the statistics of manufactures for the state of North Dakota for the calendar year 1909 as shown by the Thirteenth Census. It will be reprinted without change as a part of the state Compendium of the Census for North Dakota, and in the final reports of the Thirteenth Census.

The text summarizes the general results of the census inquiry, presenting a series of special tables in which the main facts printed in the general tables are given in convenient form for the state as a whole and for important industries. It also presents tables in which the statistics for the industries of the state as a whole and for a few important industries are classified by character of ownership, size of establishments, number of wage earners, and prevailing hours of labor, information which could not be presented in general tables for each industry without disclosing the facts for individual establishments.

At the end of the bulletin are two general tables.

Table I gives for 1909, 1904, and 1899 the number of establishments and of persons engaged in the industries, primary power, capital, salaries and wages, cost of materials, value of products, and value added by manufacture reported for all industries combined and for certain important industries for the state as a whole. It also gives the same items for all industries combined for every city having in 1910 a population of over 10,000 but less than 50,000.

Table II gives statistics in detail for 1909 for the state and for a larger number of industries.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes it is imperative that due attention should be given to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits. These limitations will be fully discussed in the general report on manufactures for the United States as a whole. It is impossible to reproduce such discussion in the bulletins relative to the individual states.

The census of 1909, like that of 1904, was confined to manufacturing establishments conducted under the factory system, as distinguished from the neighborhood, hand, and building industries. Where statistics for 1899 are given they have been reduced

to a comparable basis by eliminating the latter classes of industries. The census does not include establishments which were idle during the entire year, or had a value of products of less than \$500, or the manufacturing done in educational, eleemosynary, and penal institutions, or in governmental establishments, except those of the Federal Government.

Period covered.—The returns cover the calendar year 1909, or the business year which corresponds most nearly to that calendar year. The statistics cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—The term "establishment" comprises the factories, mills, or plants which are under a common ownership or control, and for which one set of books of account is kept.

If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the separate totals might be included in the statistics for each city or state. In some instances separate reports were secured for different industries carried on in the same establishment.

Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation, and, on the other hand, may not include the total product covered by this designation, because some part of this product may be made in establishments in which it is not the product of chief value.

Selected industries.—The general tables at the end of this bulletin give the principal facts separately for the industries of the state. A selection has been made of the leading industries of the state for more detailed consideration. Sometimes an industry of greater importance than some of those selected is omitted because it comprises so few establishments that these detailed presentations would reveal the operations of individual concerns.

Comparisons with previous censuses.—Owing to the changes in industrial conditions it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses. Table I, giving comparable figures for 1909, 1904, and 1899, therefore, does not embrace all the industries shown for 1909 in Table II.

Influence of increased prices.—In considering changes in cost of materials, value of products, and value added by manufacture, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures can not be taken as an exact measure of increase in the volume of business.

Persons engaged in industry.—At the censuses of 1909, 1904, and 1899, the following general classes of persons engaged in manufacturing industries have been distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5) wage earners. In the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the

three classes of salaried officers of corporations, superintendents and managers, and clerks. In the present census an entirely different grouping is employed: that into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers.

At this census the number of persons engaged in the industries, segregated by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for December 15, or the nearest representative day. The 15th of December was selected as representing for most industries normal conditions of employment, but where conditions were exceptional, and particularly in the case of certain seasonal industries, such as canning, the December date could not be accepted as typical, and an earlier date had to be chosen.

In the case of employees other than wage earners the number thus reported on December 15 or other representative day has been treated as equivalent to the average for the year, since the number of employees of this class does not vary much from month to month in a given industry. In the case of wage earners the average is obtained in the manner explained in the next paragraph.

Wage earners.—In addition to the report by sex and age of the number of wage earners on December 15 or other representative day, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported each month by 12. The average thus obtained represents the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of any industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

The number of wage earners reported for the representative day, though given for each separate industry, is not totaled for all industries combined, because, in view of the variations of date, such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners in the state as a whole, the following procedure has been adopted:

The percentage distribution by sex and age of the wage earners in each industry, for December 15 or the nearest representative day, has been calculated from the actual numbers reported for that date. This percentage has been applied to the average number of wage earners for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for the state as a whole.

In 1899 and 1904 the schedule called for the average number of wage earners of each sex 16 years and over, and the total number under 16 years of age, for each month, and these monthly statements were combined in an annual average. Comparatively few manufacturing concerns, however, keep their books in such way as to show readily the number of men, women, and children (under 16) employed each month. These monthly returns by sex and age were, in fact, largely estimates. It was believed that a more accurate and reliable sex and age distribution could be secured by taking as a basis of estimate the actual numbers employed on a single day.

Prevailing hours of labor.—The census made no attempt to ascertain the number of employees working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one period to another are disregarded, and no attention is given to the fact that a limited number of employees may have hours differing from those of the majority. In the tables all the wage earners of each establishment are counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the employees work the same number of hours, so that these figures give a substantially correct picture of the hours of labor in manufacturing industries.

Capital.—For reasons stated in prior census reports, the statistics of capital secured by the census canvass are so defective as to be without value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—Cost of materials refers to the materials used during the year, which may be more or less than the materials purchased during the year. The term materials includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Fuel includes all fuel used, whether for heat, light, or power, or for the process of manufacture.

Expenses.—Under "Expenses" are included all items of expense incident to the year's business, except interest, whether on bonds or other forms of indebtedness, dividends on stock, and allowances for depreciation.

Value of products.—The value of products for any industry includes the total value of all products manufactured in establishments whose products of chief value fall under the industry designation. The amounts given represent the selling value at the factory of all products manufactured during the year, which may differ from the value of the products sold. Amounts received for work on materials furnished by others are included.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing process carried on in the industry itself. Another part of it, and often by far the larger part, represents the value of the materials used, which have been produced by agriculture or mining or by other industrial establishments. For many purposes, therefore, the best measure of the importance of different classes of industry is the value created as the result of the manufacturing operations carried on within the industry. This value is obtained by deducting the cost of the materials consumed from the value of the product. The figure thus obtained is termed in the census reports "value added by manufacture."

There is a further statistical advantage which "value added" has over gross value of products. In combining the value of products for all industries the value of products produced by one establishment and used as materials in another is duplicated, and the total, therefore, gives a greatly exaggerated idea of the wealth created. No such duplication takes place in the total "value added by manufacture."

Cost of manufacture and profits.—Census data do not show the entire cost of manufacture, and consequently can not be used to show profits. No account has been taken of interest and depreciation. Even if the amount of profit could be determined by deducting the expenses from the value of the products, the rate of profit on the investment could not properly be calculated, because of the very defective character of the returns regarding capital.

Primary power.—The figures given for this item show the total of the primary power used by the establishments. They do not cover the power developed by motors operated by such power, the inclusion of which would evidently result in duplication.

Location of establishments.—The Census Bureau has classified establishments by their location in cities or classes of cities. In interpreting these figures due consideration should be given to the fact that often establishments are located just outside the boundaries of cities, and are necessarily so classified, though locally they are looked upon as constituting a part of the manufacturing interests of the cities.

Laundries.—The census of 1909 was the first to include statistics of laundries. The reports are confined to establishments using mechanical power. The data are presented separately and are not included in the general total for manufacturing industries, in order to avoid interference with comparisons with prior censuses.

Custom gristmills.—In order to make the statistics for 1909 comparable with those for 1904 the data for these mills have been excluded from all the tables presenting general statistics, and are given in a separate table at the end of this report.

INDUSTRIES IN GENERAL.

General character of the state.—North Dakota, with a gross area of 70,837 square miles, of which 654 represent water surface, ranks sixteenth in size among the states and territories of continental United States. Its population in 1910 was 577,056, as compared with 319,146 in 1900, and 190,983 in 1890. It ranked thirty-seventh among the 49 states and territories as regards population in 1910 and fortieth in 1900.

In 1910 only 11 per cent of the total population of the state resided in incorporated cities having a population of 2,500 or over, as compared with 7.3 per cent in 1900. Only two cities, Fargo and Grand Forks, have a population of more than 10,000.

The density of population in 1910 was 8.2 persons per square mile, as compared with 4.5 in 1900.

Several important railway systems traverse the state from east to west, and these lines, together with the connecting railways, provide excellent transportation facilities.

Importance and growth of manufactures.—Although North Dakota is primarily an agricultural community, the total value of manufactured products of the state has increased steadily at each census since 1899. Prior to that year manufacturing in the state was limited almost entirely to the so-called neighborhood, hand, and building industries; and, with the exception of the flour-mill and gristmill industry, practically the entire product was made for local consumption. The latter statement continued to be true to a great extent in 1909. In that year North Dakota ranked forty-fifth among the states of the Union in value of manufactures. The gross value of products per capita of the total population of the state increased from \$20 in 1899 to \$33 in 1909.

The following table gives the most important figures relative to all classes of manufactures combined for the state as returned at the censuses of 1909, 1904, and 1899, together with the percentages of increase from census to census:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1900	1904	1899	1904-1909	1899-1904
Number of establishments.....	752	507	337	48.3	50.4
Persons engaged in manufactures.....	4,148	2,545	(1)	63.0	(1)
Proprietors and firm members.....	723	494	(1)	46.4	(1)
Salaried employees.....	636	296	152	114.9	94.7
Wage earners (average number).....	2,789	1,755	1,358	58.9	29.2
Primary horsepower.....	13,196	9,873	7,351	33.7	34.3
Capital.....	\$11,585,000	\$5,704,000	\$3,512,000	103.1	62.4
Expenses.....	17,290,000	8,895,000	5,155,000	94.4	72.6
Services.....	2,416,000	1,289,000	801,000	87.4	60.9
Salaries.....	629,000	258,000	130,000	143.8	98.5
Wages.....	1,787,000	1,031,000	671,000	73.3	53.7
Materials.....	13,674,000	7,096,000	4,151,000	92.7	70.9
Miscellaneous.....	1,200,000	510,000	203,000	135.3	151.2
Value of products.....	19,138,000	10,218,000	6,260,000	87.3	63.2
Value added by manufacture (value of products less cost of materials).....	5,464,000	3,122,000	2,109,000	75.0	48.0

¹ Figures not available.

In 1909 the state of North Dakota had 752 manufacturing establishments operating under the factory system, which gave employment to an average of 4,148 persons during the year and paid out \$2,416,000 in salaries and wages. Of the persons employed, 2,789 were wage earners. These establishments turned out products to the value of \$19,138,000, to produce which materials costing \$13,674,000 were consumed. The

value added by manufacture was thus \$5,464,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

In general, this table brings out the fact that the marked development in the manufacturing industries of North Dakota which took place from 1899 to 1904 continued even to a greater degree in the following five

STATISTICS OF MANUFACTURES—NORTH DAKOTA.

years. From 1899 to 1904 the value of products increased 63.2 per cent, and from 1904 to 1909, 87.3 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent indicated by these figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

It is a matter of interest to note that the percentages of increase shown for salaries and wages show a greater proportionate increase than those for numbers of salaried employees and wage earners.

The relative importance and growth of the leading manufacturing industries of the state are shown in the following table:

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	752	2,789	100.0	\$19,138,000	100.0	\$5,464,000	100.0	87.3	63.2	75.0	48.0
Flour-mill and gristmill products.....	84	435	15.6	11,685,000	61.1	1,630,000	29.8	80.8	67.9	63.0	33.7
Printing and publishing.....	330	788	28.3	1,910,000	10.0	1,470,000	26.9	72.1	54.2	68.4	58.7
Butter, cheese, and condensed milk.....	68	62	2.2	1,029,000	5.4	138,000	2.5	83.1	360.7	64.3	223.1
Leather goods.....	19	93	3.5	683,000	3.6	221,000	4.0				
Cars and general shop construction and repairs by steam-railroad companies.....	5	463	16.6	680,000	3.6	380,000	7.0	236.6	43.3	214.0	59.2
Bread and other bakery products.....	67	146	5.2	601,000	3.1	255,000	4.7	93.2	284.0	100.8	188.6
Brick and tile.....	13	188	6.7	287,000	1.5	214,000	3.9	68.8	24.8	57.4	33.3
Gas, illuminating and heating.....	6	28	1.0	199,000	1.0	121,000	2.2	95.1		77.9	
Tobacco manufactures.....	28	34	1.2	98,000	0.5	61,000	1.1	28.0	10.1	29.8	9.3
All other industries.....	132	547	19.6	1,966,000	10.3	974,000	17.8				

¹ Per cent of increase is based on figures in Table I.

It should be borne in mind, in considering this table, that the value of products in some of the industries involves a certain amount of duplication due to the use of the product of one establishment in the industry as material for another establishment.

The most important industries presented in this table, in which they are arranged in the order of the value of products, call for brief consideration.

Flour-mill and gristmill products.—North Dakota is one of the leading wheat-growing states; and, measured by the value of products, milling is the state's most important manufacturing industry. The value of products for this industry in 1909 formed 61.1 per cent of the total value of all manufactured products for the state. From 1904 to 1909 the value of products in the industry increased 80.8 per cent, while the value added by manufacture increased 63 per cent.

Printing and publishing.—In 1909 over one-fourth, 28.3 per cent, of the total average number of wage earners of all manufacturing industries in the state were employed in this industry. The establishments were principally small newspaper and job printing offices.

Butter, cheese, and condensed milk.—Butter was reported almost exclusively as the product of this industry at the last two censuses. Reports were received from four cheese factories in 1904 and from only one in 1909. No condensed milk establishment was reported at either census. The growth of the butter and cheese industry from 1904 to 1909 was marked; the value of products increased 83.1 per cent and the value added by manufacture 64.3 per cent; the growth was more pronounced from 1899 to 1904, when the value of products increased 360.7 per cent and the value added by manufacture 223.1 per cent.

Leather goods.—This industry, which was represented by 19 establishments, embraces the manufacture of saddlery, harness, trunks, and valises. There were five establishments in the industry in 1904, but the statistics for these can not be presented separately without disclosing the operations of individual establishments.

Measured by value added by manufacture, the industries in the preceding table show considerable change in their order from that when measured by value of products. The butter and cheese industry, which is third in value of products, is seventh in value added by manufacture; the leather-goods industry, which is fourth in value of products, is fifth in value added by manufacture; while the industries, cars and general shop construction and repairs by steam-railroad companies and bread and other bakery products, which are fifth and sixth, respectively, in value of products, are third and fourth, respectively, in value added by manufacture. This table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture where the statistics are comparable. The railroad repair shop industry showed a greater rate of increase from 1904 to 1909 in value of products and value added by manufacture than any of the other specified industries, namely, 236.6 per cent and 214 per cent, respectively.

In the rate of increases, both in value of products and value added by manufacture, from 1899 to 1904, as compared with those for 1904 to 1909, some striking differences may be noted, especially in the case of the creameries, the bakeries, and the steam-railroad repair shops.

In addition to the nine industries presented separately, there are six industries which had a value of products in 1909 in excess of \$100,000. One of these, the mineral and soda water industry, is not shown, because the returns do not properly present the true condition of the industry, for the reason that bottling is also largely done in connection with other industries. The artificial stone, confectionery, copper, tin, and sheet-iron, foundry and machine-shop, and lumber and timber industries are not shown separately, because in some cases the operations of individual establishments would thus be disclosed; in others, because the data for prior censuses are not available, and in still others because there has been a change in classification. The 1909 statistics, however, for four of these industries are presented in Table II.

Persons engaged in manufacturing industries.—The following table shows for 1909 the distribution of the number of persons engaged in manufactures, the average number of wage earners being distributed by sex and age. It should be borne in mind, however, that the sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the Introduction.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	4,148	3,777	371
Proprietors and officials.....	965	930	20
Proprietors and firm members.....	728	697	20
Salaried officers of corporations.....	64	64	0
Superintendents and managers.....	178	175	3
Clerks.....	394	303	91
Wage earners (average number).....	2,789	2,538	251
16 years of age and over.....	2,732	2,489	243
Under 16 years of age.....	57	49	8

The average number of persons engaged in manufactures during 1909 was 4,148, of whom 2,789 were wage earners. Of the remainder, 965 were proprietors and officials and 394 were clerks. Corresponding figures for individual industries will be found in Table II.

The table following shows for 1909 the percentage of proprietors and officials, clerks, and wage earners, respectively, among the total number of persons employed in manufactures. It covers all industries combined and seven important industries individually.

Of the total number of persons engaged in all manufacturing industries, 23.3 per cent were proprietors and officials, 9.5 per cent clerks, and 67.2 per cent wage earners. In the bakery, butter, and printing and publishing industries the majority of the establishments are small and to a large extent the work is done by the proprietors or their immediate representatives, so that the proportion of persons falling in the class of proprietors and officials is higher than for such an industry as railroad repair shops,

which are operated by corporations, for which no proprietors are reported, and whose general officials are not, as a rule, assigned to the supervision of this particular branch of the work.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	4,148	23.3	9.5	67.2
Bread and other bakery products.....	242	31.8	7.9	60.3
Brick and tile.....	214	11.2	0.9	87.8
Butter, cheese, and condensed milk.....	106	39.6	1.9	58.5
Cars and general shop construction and repairs by steam-railroad companies.....	494	3.0	3.2	93.7
Flour-mill and gristmill products.....	710	21.7	17.0	61.3
Leather goods.....	157	20.4	17.2	62.4
Printing and publishing.....	1,294	39.3	8.8	69.0
All other industries.....	931	24.6	10.0	65.4

The following table shows in percentages for all industries combined the distribution of the average number of wage earners, by age periods and for those 16 years of age and over by sex, calculated in the manner described in the Introduction. It also shows for some of the important industries separately a similar distribution of wage earners as reported for December 15, 1909, or the nearest representative day. As a means of judging the importance of the several industries the average total number employed for the year is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries.....	2,789	89.3	8.7	2.0
Bread and other bakery products.....	140	77.4	19.9	2.7
Brick and tile.....	188	97.3	.....	2.7
Butter, cheese, and condensed milk.....	62	98.4	.....	1.6
Cars and general shop construction and repairs by steam-railroad companies.....	463	100.0	.....	.....
Flour-mill and gristmill products.....	435	99.8	0.2	.....
Leather goods.....	98	69.0	.....	1.0
Printing and publishing.....	788	77.4	17.3	5.3
All other industries.....	609	87.0	12.5	0.5

¹ For method of estimating the distribution, by sex and age periods, of the average number in all industries combined, see Introduction.

For all industries combined, 89.3 per cent of the average number of wage earners were males 16 years of age and over; 8.7 per cent females 16 years of age and over; and 2 per cent persons under the age of 16.

The larger part of the total number of female wage earners is made up of those employed in the printing and publishing industry. Among the industries not shown in the table, the confectionery industry also employed a large number of women. These two industries combined reported four-fifths of all female employees 16 years of age and over. The printing and publishing industry also includes the larger part of the

small total number of wage earners under 16 years of age.

In order to compare the distribution of persons engaged in manufactures in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See Introduction.) The following table makes this comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904-1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total	4,148	100.0	2,545	100.0	63.0
Proprietors and firm members.....	729	17.4	494	19.4	46.4
Salaried employees.....	636	15.3	296	11.6	114.9
Wage earners (average number).....	2,789	67.2	1,755	69.0	58.9

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in the salaried employees than in the other two classes.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over, according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual number reported for a single representative day. (See Introduction.)

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total	2,789	100.0	1,755	100.0	1,358	100.0
16 years of age and over.....	2,732	98.0	1,720	98.0	1,324	97.5
Male.....	2,489	89.2	1,521	86.7	1,232	90.7
Female.....	243	8.7	199	11.3	92	6.8
Under 16 years of age.....	57	2.0	35	2.0	34	2.5

The present proportion of children is slightly less than it was 10 years ago; and while in 1909 the proportion of women employed was greater than in 1899, it was less than in 1904. In 1909 males 16 years of age and over formed 89.2 per cent of all wage earners, as compared with 86.7 per cent in 1904, and 90.7 per cent in 1899.

Wage earners employed by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909 for all industries combined, for the brick and tile industry, and for all other industries combined; it also gives the percentage which the number reported for each month is of the greatest number reported for any

month. In Table II, page 14, is shown, for practically all of the important industries in the state, the largest number and also the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day of the month.

MONTH.	NUMBER OF WAGE EARNERS.					
	All industries.		Brick and tile.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	2,356	77.2	40	10.4	2,316	80.3
February.....	2,386	78.2	40	12.7	2,337	81.1
March.....	2,443	80.0	62	21.3	2,361	81.9
April.....	2,580	84.5	134	34.8	2,446	84.8
May.....	2,816	92.3	256	66.5	2,560	88.8
June.....	3,041	96.6	385	100.0	2,656	92.1
July.....	3,004	98.4	385	100.0	2,619	90.8
August.....	2,880	94.4	248	64.4	2,632	91.3
September.....	2,927	95.9	196	50.9	2,731	94.7
October.....	3,033	99.4	194	50.4	2,830	98.5
November.....	3,052	100.0	169	43.0	2,883	100.0
December.....	2,950	96.7	117	30.4	2,833	98.3

For all industries combined the number of wage earners employed was lowest in January and highest in November. Considerable irregularity in employment is shown, however, for the several months, which is due somewhat to the fluctuation in the number of wage earners employed in the brick and tile industry. During the first six months of the year there was a steady increase in the number of wage earners in this industry, from 40 in January to 385 in June and July. From this time the number fell continuously until in December it was 117. Outside of this industry the number of wage earners employed underwent no great change, the number increasing steadily from January to November, with the exception of July and August, when slightly smaller numbers were employed than in June.

In the table following wage earners have been classified according to the hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

Almost one-half of the total number of wage earners employed in the manufacturing industries of North Dakota were in establishments where the prevailing hours of labor were 60 per week or 10 per day; 3.9 per cent were reported in establishments where more than 60 hours per week prevail and 49.4 per cent in those where less than 60 hours per week prevail.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	2,789	428	186	542	227	1,803	59	30	19
Bread and other bakery products.....	146	1		2	33	108	2		
Brick and tile.....	188			4		184			
Butter, cheese, and condensed milk.....	62	7		3		50		2	
Cars and general shop construction and repairs by steam-railroad companies.....	463		124	216		123			
Flour-mill and gristmill products.....	435	3	1		3	348	52	28	
Leather goods.....	98			2	67	20			
Printing and publishing.....	788	377	46	268	58	30			
All other industries.....	609	35	15	47	66	422	5		10

Location of establishments.—Fargo with 14,331 and Grand Forks with 12,478 inhabitants are the only cities which had a population of over 10,000 in 1910. Prior to this census there were no cities in the state having over 10,000 inhabitants. The 1909 totals given in Table I (p. 13) show that the two cities combined, although having slightly less than one-twentieth of the population of the state, reported nearly one-third of the total number of wage earners and almost one-fourth of the value of the manufactured products. In the former city the manufacture of saddlery and harness and the printing and publishing industry predominate. In Grand Forks the flour-mill and gristmill and printing and publishing industries are among the most important. Comparable data for earlier censuses are available for the city of Fargo only. The total value of manufactured products in this city, which showed a decrease from 1899 to 1904, increased 113.4 per cent from 1904 to 1909.

Character of ownership.—The table that follows has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries individually. In order to avoid disclosing the operations of individual concerns, it is necessary to omit several important industries from this and the table following:

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	752	2,789	\$19,137,506	\$5,463,918
1904.....	507	1,755	10,217,914	3,121,928
Individual:				
1909.....	472	775	3,555,937	1,561,752
1904.....	295	565	2,546,425	1,045,045
Firm:				
1909.....	112	233	1,570,604	483,322
1904.....	91	331	2,264,145	625,611
Corporation:				
1909.....	133	1,752	13,586,008	3,856,970
1904.....	81	820	5,146,817	1,407,935
Other:				
1909.....	35	20	424,357	61,872
1904.....	40	33	200,527	42,437

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES—Continued.				
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Individual:				
1909.....	62.8	27.8	18.6	28.6
1904.....	58.2	32.2	24.9	33.5
Firm:				
1909.....	14.9	8.4	8.2	8.8
1904.....	17.9	18.9	22.2	20.0
Corporation:				
1909.....	17.7	62.8	71.0	61.4
1904.....	16.0	47.1	50.4	45.1
Other:				
1909.....	4.7	1.0	2.2	1.1
1904.....	7.9	1.9	2.5	1.4
Bread and other bakery products, 1909.....	67	146	\$600,621	\$254,706
Individual.....	55	96	435,369	179,338
Firm.....	9	10	52,185	23,931
Corporation.....	3	40	113,067	51,447
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	82.1	65.8	72.5	70.4
Firm.....	13.4	6.8	8.7	9.4
Corporation.....	4.5	27.4	18.8	20.2
Butter, cheese, and condensed milk, 1909.....	68	62	\$1,029,135	\$137,806
Individual.....	14	10	217,563	31,369
Firm.....	9	7	132,198	19,644
Corporation.....	16	18	257,249	33,300
Other.....	29	27	412,125	53,493
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	20.6	16.1	21.1	22.8
Firm.....	13.2	11.3	12.8	14.3
Corporation.....	23.5	29.0	26.0	24.2
Other.....	42.6	43.5	40.0	38.8
Flour-mill and gristmill products, 1909.....	84	435	\$11,685,110	\$1,630,202
Individual.....	32	52	1,248,595	233,200
Firm.....	17	41	\$35,135	120,443
Corporation.....	35	342	9,581,386	1,276,559
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	38.1	12.0	10.9	14.3
Firm.....	20.2	9.4	7.1	7.4
Corporation.....	41.7	78.6	82.0	78.3
Leather goods, 1909.....	19	98	\$583,273	\$221,326
Individual.....	11	14	106,442	39,897
Firm.....	5	8	30,510	16,134
Corporation.....	3	76	546,321	165,295
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	57.9	14.3	15.6	18.0
Firm.....	26.3	8.2	4.5	7.3
Corporation.....	15.8	77.6	80.0	74.7
Printing and publishing, 1909.....	330	788	\$1,909,514	\$1,489,733
Individual.....	267	389	897,080	713,023
Firm.....	37	71	176,783	138,609
Corporation.....	31	327	829,231	611,850
Other.....	5	1	6,420	6,251
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	77.9	49.4	47.0	48.5
Firm.....	11.2	9.0	9.3	9.4
Corporation.....	9.4	41.5	43.4	41.6
Other.....	1.5	0.1	0.3	0.4

From 1904 to 1909 the proportionate number of establishments under the different kinds of ownership shows no pronounced change, although in this respect

there were small increases in the proportion of establishments under individual and corporate ownership and slight decreases in the proportion of those under other forms. In the average number of wage earners employed, however, in the value of products and in the value added by manufacture, establishments operated by corporations reported a much larger proportion of the total in 1909 than in 1904. In 1909 of the total value of products of the bakeries, 72.5 per cent was reported by establishments under individual ownership. In the manufacture of butter and cheese, "other" forms of ownership showed the largest value of products, because of the large number of cooperative organizations which are peculiar to this industry. In the flour-mill and gristmill and in the leather industries four-fifths of the value of products were reported by corporations.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the table which follows groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

This table shows that in 1909, of the 752 establishments only 33, or 4.4 per cent, had a value of products exceeding \$100,000. These establishments, however, had an average number of wage earners of 859, or 30.8 per cent, of the total number in all establishments, and reported 58 per cent of the total value of products, and 36.6 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products of less than \$5,000—represented more than one-half, 50.8 per cent, of the total number of establishments, but the average number of wage earners employed in them represented only 12.6 per cent, the value of their products only 4.8 per cent, and the value added by manufacture only 12.1 per cent of the corresponding totals for the state:

The increase from \$20,154 to \$25,449 in the average value of products per establishment, and from \$6,158 to \$7,266 in average value added by manufacture per establishment, is due to the greater proportion of the totals shown for these items in the establishments having products valued at over \$100,000. The average number of wage earners per establishment remained practically the same.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	752	2,789	\$19,137,506	\$5,463,916
1904.....	507	1,755	10,217,914	3,121,928
Less than \$5,000:				
1909.....	382	351	915,400	668,537
1904.....	285	290	669,773	469,202
\$5,000 and less than \$20,000:				
1909.....	238	628	2,350,795	1,103,610
1904.....	132	430	1,282,776	641,385
\$20,000 and less than \$100,000:				
1909.....	90	951	4,767,125	1,703,216
1904.....	66	591	2,798,317	1,024,540
\$100,000 and less than \$1,000,000:				
1909 ¹	33	850	11,104,380	1,008,563
1904.....	24	435	5,487,048	860,801
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Less than \$5,000:				
1909.....	50.8	12.6	4.8	12.1
1904.....	56.2	16.5	6.6	15.0
\$5,000 and less than \$20,000:				
1909.....	31.6	22.5	12.3	20.2
1904.....	26.0	25.0	12.4	20.5
\$20,000 and less than \$100,000:				
1909.....	13.2	34.1	24.0	31.2
1904.....	13.0	33.7	27.4	32.8
\$100,000 and less than \$1,000,000:				
1909.....	4.4	30.8	58.0	36.6
1904.....	4.7	24.8	53.7	31.6
Average per establishment:				
1909.....		4	\$25,449	\$7,266
1904.....		3	20,154	6,158
Bread and other bakery products, 1909	67	140	\$600,621	\$254,706
Less than \$5,000.....	31	14	82,071	38,881
\$5,000 and less than \$20,000.....	30	68	290,483	124,103
\$20,000 and less than \$100,000.....	6	64	228,067	91,832
Per cent of total:				
Less than \$5,000.....	46.3	9.6	13.7	15.3
\$5,000 and less than \$20,000.....	44.8	46.6	48.4	48.8
\$20,000 and less than \$100,000.....	9.0	43.8	38.0	36.0
Average per establishment:		2	\$8,964	\$3,802
Butter, cheese, and condensed milk, 1909	68	62	\$1,020,135	\$197,806
Less than \$5,000.....	10	7	30,705	7,031
\$5,000 and less than \$20,000.....	41	32	409,737	67,005
\$20,000 and less than \$100,000.....	17	23	528,693	63,710
Per cent of total:				
Less than \$5,000.....	14.7	11.3	3.0	5.1
\$5,000 and less than \$20,000.....	60.3	51.6	45.6	48.7
\$20,000 and less than \$100,000.....	25.0	37.1	51.4	46.2
Average per establishment:		1	\$15,134	\$2,927
Flour-mill and gristmill products, 1909	84	435	\$11,685,116	\$1,630,202
Less than \$5,000.....	3	2	11,123	1,869
\$5,000 and less than \$20,000.....	22	14	282,066	46,980
\$20,000 and less than \$100,000.....	35	105	2,020,101	362,469
\$100,000 and less than \$1,000,000.....	24	314	9,362,736	1,218,884
Per cent of total:				
Less than \$5,000.....	3.6	0.5	0.1	0.1
\$5,000 and less than \$20,000.....	26.2	3.2	2.4	2.9
\$20,000 and less than \$100,000.....	41.7	24.1	17.4	22.2
\$100,000 and less than \$1,000,000.....	28.6	72.2	80.1	74.8
Average per establishment:		5	\$139,100	\$19,407
Leather goods, 1909	19	98	\$683,273	\$221,826
Less than \$5,000.....	5	5	18,162	10,779
\$5,000 and less than \$20,000.....	11	24	112,075	45,931
\$20,000 and less than \$100,000.....	3	69	552,136	164,616
Per cent of total:				
Less than \$5,000.....	26.3	5.1	2.7	4.9
\$5,000 and less than \$20,000.....	57.9	24.5	16.5	20.8
\$20,000 and less than \$100,000.....	15.8	70.4	80.8	74.4
Average per establishment:		5	\$35,962	\$11,649
Printing and publishing, 1909	330	788	\$1,909,514	\$1,469,733
Less than \$5,000.....	248	254	599,352	459,455
\$5,000 and less than \$20,000.....	60	246	559,883	439,454
\$20,000 and less than \$100,000.....	13	288	750,279	540,824
Per cent of total:				
Less than \$5,000.....	75.2	32.2	31.4	33.3
\$5,000 and less than \$20,000.....	20.9	31.2	29.3	29.9
\$20,000 and less than \$100,000.....	3.9	36.5	39.3	36.8
Average per establishment:		2	\$5,786	\$4,454

¹ Includes the group of "\$1,000,000 and over."

² Includes the group "\$100,000 and less than \$1,000,000."

STATISTICS OF MANUFACTURES—NORTH DAKOTA.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed.

The following table shows for 1909 such a classification for all industries combined, and for seven important industries individually, and gives not only the number of establishments falling in each group but also the average number of wage earners employed:

INDUSTRY.	Total.	ESTABLISHMENTS EMPLOYING—								
		No wage earners.	1 to 5 wage earners.	6 to 20 wage earners.	21 to 50 wage earners.	51 to 100 wage earners.	101 to 250 wage earners.	251 to 500 wage earners.	501 to 1,000 wage earners.	Over 1,000 wage earners.
NUMBER OF ESTABLISHMENTS.										
All industries	752	125	537	64	21	3	2			
Bread and other bakery products.....	97	17	40	3	1	3	2			
Brick and tile.....	13		5	6	2					
Butter, cheese, and condensed milk.....	68	8	60							
Cars and general shop construction and repairs by steam-railroad companies.....	5				1	2	2			
Flour-mill and gristmill products.....	84	12	51	15	5	1				
Leather goods.....	19		16	1	2					
Printing and publishing.....	330	00	248	17	5					
All other industries.....	166	28	111	22	5					
AVERAGE NUMBER OF WAGE EARNERS.										
All industries	2,789		956	654	706	226	247			
Bread and other bakery products.....	146		92	23	31					
Brick and tile.....	188		13	90	85					
Butter, cheese, and condensed milk.....	62		62							
Cars and general shop construction and repairs by steam-railroad companies.....	463				42	174	247			
Flour-mill and gristmill products.....	435		116	140	127	52				
Leather goods.....	98		22	9	67					
Printing and publishing.....	788		431	152	205					
All other industries.....	609		220	240	140					
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries	100.0		34.3	23.4	25.3	8.1	8.9			
Bread and other bakery products.....	100.0		63.0	15.8	21.2					
Brick and tile.....	100.0		6.9	47.9	45.2					
Butter, cheese, and condensed milk.....	100.0		100.0							
Cars and general shop construction and repairs by steam-railroad companies.....	100.0				9.1	37.6	53.3			
Flour-mill and gristmill products.....	100.0		26.7	32.2	29.2	12.0				
Leather goods.....	100.0		22.4	9.2	68.4					
Printing and publishing.....	100.0		54.7	19.3	26.0					
All other industries.....	100.0		36.1	39.4	24.5					

The per cent distribution of the number of establishments is not shown in this table; of the 752 establishments reported for all industries, 16.6 per cent employed no wage earners; 71.4 per cent, 1 to 5; 8.5 per cent, 6 to 20; and 2.8 per cent, 21 to 50. The most numerous single group consists of the 537 establishments employing 1 to 5 wage earners, and the next of the 125 establishments employing no wage earners.

Of the total number of wage earners, 34.3 per cent were in establishments employing from 1 to 5 wage earners; 23.4 per cent were in establishments employing from 6 to 20 wage earners; 25.3 per cent were in establishments employing from 21 to 50 wage earners; while 17 per cent were in the 5 establishments employing over 50 wage earners each.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total.

The following table shows in percentages the dis-

tribution of expenses among the classes indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	3.6	10.3	79.1	6.9
Bread and other bakery products.....	3.4	16.9	69.2	10.4
Brick and tile.....	10.6	36.9	30.6	22.0
Butter, cheese, and condensed milk.....	0.8	4.7	91.5	2.9
Cars and general shop construction and repairs by steam-railroad companies.....	4.9	50.1	44.1	1.0
Flour-mill and gristmill products.....	1.8	2.6	91.3	4.4
Leather goods.....	7.2	8.6	75.3	8.9
Printing and publishing.....	11.1	38.5	31.7	18.6
All other industries.....	7.8	19.1	68.8	14.2

This table shows that, for all industries combined, 79.1 per cent of the total expenses was incurred for materials, 13.9 per cent for services—that is, salaries and wages—and but 6.9 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.