

MANUFACTURES : INDIANA

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 Indiana 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 Indiana, 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 Evansville, Fort Wayne, Indianapolis, South Bend, and Terre Haute. It also gives the same items for all industries combined for every city and town 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, 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.—Indiana, with a gross area of 36,354 square miles, of which 309 represent water surface, ranks thirty-seventh in size among the states and territories of continental United States. Its population in 1910 was 2,700,876, as compared with 2,516,462 in 1900 and 2,192,404 in 1890. It ranked ninth among the 49 states and territories as regards population in 1910 and eighth in 1900. In density of population Indiana ranked eleventh in 1910, having 74.9 persons per square mile, the corresponding figure for 1900 being 70.1. The state had 25 cities having a population of over 10,000 in 1910. Five of these—Evansville, Fort Wayne, Indianapolis, South Bend, and Terre Haute—had over 50,000 inhabitants and the other 20 had from 10,000 to 25,000. A list of these cities with the population of each in 1910 and 1900 is given on page 10. The urban population is comparatively large. Forty-two and four-tenths per cent of the entire population of the state resided in cities and incorporated towns having a population of 2,500 inhabitants or over in 1910, as against 34.3 per cent in 1900.

The facilities of the state for water transportation are fairly good. Lake Michigan furnishes an outlet on the north and the Ohio and Wabash Rivers on the south and southwest. The railroad facilities are exceptionally well developed.

Importance and growth of manufactures.—In 1849 Indiana ranked fourteenth among the states of the Union in the value of its manufactures, the total value of products being \$18,725,000. Each decade since then has shown a large increase, the value of the manufactured products of the state reaching the \$100,000,000 mark in 1869, while in 1909 it amounted to \$579,075,000, and the state ranked ninth in this respect. The growth has been dependent largely upon the natural resources of the state, consisting of an abundant supply of timber, important agricultural products, and a large production of petroleum and natural gas. During the past decade the supply of timber, petroleum, and natural gas has fallen off greatly, and some of the industries depending upon these materials show a decrease in their output or less advance than in previous years. The manufacturing industries of the state as a whole, however, have continued to flourish, lumber having been secured from outside the state to supplement the local supply, while the increasing amount of coal mined in the state

has compensated largely for the smaller supply of natural gas and stimulated manufacturing in other lines.

During 1849 an average of 14,440 wage earners, representing 1.5 per cent of the total population, were employed in manufactures, while in 1909 an average of 186,984 wage earners, or 6.9 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 \$19 to \$214. The proportion which the manufactures of the state represented of the total value of products of manufacturing industries for the United States increased from 1.8 per cent in 1849 to 2.8 per cent in 1909.

The table on the following page 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 Indiana had 7,969 manufacturing establishments, which gave employment to an average of 218,263 persons during the year and paid out \$121,816,000 in salaries and wages. Of the persons employed, 186,984 were wage earners. These establishments turned out products to the value of \$579,075,000, in the manufacture of which materials costing \$334,375,000 were utilized. The value added by manufacture was thus \$244,700,000, 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 do not include the statistics for an establishment operated by the Federal Government, the general depot of the Quartermaster's Department, located at Jeffersonville. In 1909 this plant employed an average of 590 wage earners, and the products, which consisted principally of clothing, were valued at \$401,801.

In general, the table brings out the fact that the manufacturing industries of Indiana as a whole showed a greater development during the more recent five-year period, 1904–1909, than during the preceding five-year period, 1899–1904. During the later period the number of establishments increased 13.1 per cent and the average number of wage earners 21.3 per cent, while the amount paid in wages increased 32.5 per cent, the value of products 47 per cent, and the value added by manufacture 41.1 per cent. As pointed out in the Introduction, it would be improper to infer that manufactures increased in volume to the full extent

MANUFACTURES—INDIANA.

indicated by the figures representing values, since the increase shown is certainly due, in part, to the increase that has taken place in the prices of com-

modities. The only decrease shown in the table is one of 1.2 per cent in the number of establishments during the period 1899-1904.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE. ¹	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	7,969	7,044	7,128	13.1	-1.2
Persons engaged in manufactures.....	218,263	176,227	(²)	23.9	(²)
Proprietors and firm members.....	7,674	7,191	(²)	6.7	(²)
Salaried employees.....	23,605	14,862	10,447	58.8	42.3
Wage earners (average number).....	186,984	154,174	139,017	21.3	10.9
Primary horsepower.....	633,377	380,758	325,919	66.3	16.8
Capital.....	\$508,717,000	\$312,071,000	\$219,321,000	63.0	42.3
Expenses.....	525,061,000	354,277,000	295,221,000	48.2	20.0
Services.....	121,816,000	87,087,000	69,251,000	39.9	25.8
Salaries.....	26,305,000	15,029,000	9,971,000	75.0	50.7
Wages.....	95,511,000	72,058,000	59,280,000	32.5	21.6
Materials.....	334,375,000	220,507,000	195,163,000	51.6	13.0
Miscellaneous.....	68,870,000	46,683,000	30,807,000	47.5	51.5
Value of products.....	579,075,000	393,954,000	337,072,000	47.0	16.9
Value added by manufacture (value of products less cost of materials).....	244,700,000	173,447,000	141,909,000	41.1	22.2

¹ A minus sign (-) denotes decrease.

² Figures not available.

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

It should be borne in mind, in considering the 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 table shows 55 industries or industry groups which had in 1909 products in excess of \$500,000 in value. Of the industries listed in the table there were 8 whose products exceeded \$20,000,000 in value, 6 with products between \$10,000,000 and \$20,000,000 in value, and 10 with products between \$5,000,000 and \$10,000,000 in value, making an aggregate of 24 industries with products in excess of \$5,000,000 in value. Statistics are also presented for 23 other industries with products between \$1,000,000 and \$5,000,000 in value, and 8 having products valued at from \$500,000 to \$1,000,000. The most important industries listed in the table, in which they are arranged in the order of the value of products, call for brief consideration.

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. While from 1899 to 1904 the value of products decreased from \$43,890,000 to \$29,435,000, it had increased to \$47,289,000 by 1909, when the total value of products was \$3,399,000, or 7.7 per cent greater than in 1899. The decrease during the earlier period was due largely to the fact that some of the large establishments reported in 1899 had removed from the state in 1904. Although the increase in value of products from 1904 to 1909 was influenced greatly by the general rise in prices, the number of

establishments, the average number of wage earners, and the amount paid for wages all show large increases.

Flour-mill and gristmill products.—This industry, the outgrowth of the large crops of cereals grown in Indiana, has long been one of the leading industries of the state. The value of products increased from \$29,038,000 in 1899 to \$40,541,000 in 1909, an increase of \$11,503,000, or 39.6 per cent, in the decade. The state, however, dropped from sixth place among the states and territories in this respect in 1899 to eighth place in 1909. In 1909 the value of the products of this industry represented 7 per cent of the total for all manufacturing industries in the state. Those mills which do custom grinding only are not included in the general tables, or in the totals for manufacturing industries, but are shown in a separate statement on page 20.

Iron and steel, steel works and rolling mills.—In 1889 the value of the products of this industry was but \$4,743,000, while by 1899 it had increased to \$19,338,000, and in 1909 to \$38,652,000, over eight times the amount reported in 1889. On account of a general depression in the industry in 1904 the value of products reported for that year was 12.5 per cent less than that reported in 1899, but during the five years from 1904 to 1909 there was an increase of 128.4 per cent. This recent gain is in a large measure due to the establishment of large steel works and rolling mills at Gary, in the northern part of the state, on Lake Michigan. The importance of the iron and steel industry as a whole is much greater than is indicated by the figures for the steel works and rolling mills, since the statistics for blast furnaces and for the manufacture of tin plate and terneplate can not be shown without disclosing the operations of individual establishments.

Liquors, distilled.—In 1904 the state was second in importance in this industry, as measured by value of

products, but in 1909, notwithstanding a large increase in value of products, it dropped to third place. In 1909 internal-revenue taxes to the amount of \$25,111,967, representing the Federal tax on all taxable liquors manufactured by the distillers, including liquors placed in bond, were included in the value of products, whereas at the previous census this tax was

included only when it was actually paid and reported by the manufacturers. For this reason the importance of the industry in 1909, from a manufacturing standpoint, is greatly exaggerated. In 1909 employment was given to an average of only 428 wage earners, and judged on this basis the industry becomes of minor importance.

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	7,989	186,984	100.0	\$579,075,000	100.0	\$244,700,000	100.0	47.0	16.9	41.1	22.2
Slaughtering and meat packing.....	61	4,423	2.4	47,280,000	8.2	5,303,000	2.2	60.7	-32.0	66.4	-39.4
Flour-mill and gristmill products.....	503	2,298	1.2	40,541,000	7.0	5,539,000	2.3	11.2	25.6	7.9	21.2
Foundry and machine-shop products.....	415	15,809	8.5	39,884,000	6.9	21,265,000	8.7	55.8	20.1	52.6	35.0
Iron and steel, steel works and rolling mills.....	17	12,255	6.6	38,652,000	6.7	12,553,000	5.1	128.4	-12.5	108.7	-12.8
Liquors, distilled.....	14	428	0.2	31,010,000	5.5	26,898,000	11.0	54.0	21.0	53.5	16.6
Automobiles, including bodies and parts.....	67	6,797	3.6	23,704,000	4.1	8,769,000	3.6	1,349.0	.....	976.0	.....
Lumber and timber products.....	1,277	10,317	5.5	23,135,000	4.0	10,753,000	4.4	7.7	-10.3	10.6	-23.8
Carriages and wagons and materials.....	221	8,867	4.7	21,655,000	3.7	9,197,000	3.8	12.4	21.8	9.6	15.6
Furniture and refrigerators.....	201	11,284	6.0	18,450,000	3.2	9,090,000	4.1	32.2	59.2	21.3	74.0
Cars and general shop construction and repairs by steam-railroad companies.....	34	12,884	0.0	17,128,000	3.0	9,252,000	3.8	18.0	41.7	23.2	56.9
Printing and publishing.....	802	6,750	3.6	14,350,000	2.5	10,331,000	4.2	25.1	28.0	24.5	26.9
Agricultural implements.....	30	4,740	2.5	13,670,000	2.4	8,806,000	3.6	69.6	25.7	73.1	34.0
Glass.....	44	9,544	5.1	11,693,000	2.0	6,865,000	2.8	-21.2	-0.3	-25.0	-10.1
Bread and other bakery products.....	754	2,505	1.3	10,209,000	1.8	3,983,000	1.6	47.2	66.5	42.0	53.5
Cars, steam-railroad, not including operations of railroad companies.....	7	4,684	2.2	9,498,000	1.6	3,189,000	1.3	-5.4	11.4	-0.1	17.4
Canning and preserving.....	134	3,406	1.8	8,758,000	1.5	2,813,000	1.2	48.6	87.4	21.2	89.5
Liquors, malt.....	37	1,694	0.9	8,319,000	1.4	6,324,000	2.6	34.2	7.3	42.0	-4.6
Clothing, men's, including shirts.....	42	4,073	2.2	8,020,000	1.4	3,377,000	1.4	48.1	27.0	56.5	20.8
Electrical machinery, apparatus, and supplies.....	42	3,073	1.6	7,718,000	1.3	4,025,000	1.6	170.1	80.1	124.9	123.2
Cement.....	11	2,818	1.2	7,022,000	1.2	2,863,000	1.2	447.3	.....	232.5	.....
Copper, tin, and sheet-iron products.....	146	2,121	1.1	5,768,000	1.0	2,332,000	1.0	96.8	.....	68.1	.....
Marble and stone work.....	200	3,283	1.8	5,756,000	1.0	3,990,000	1.6	69.3	106.5	79.8	110.4
Glucose and starch.....	4	860	0.5	5,760,000	1.0	1,068,000	0.4	180.8	106.9	94.5	24.8
Paper and wood pulp.....	27	1,501	0.8	5,202,000	0.9	1,705,000	0.7	32.8	-6.1	21.8	-17.6
Brick and tile.....	311	3,788	2.0	4,710,000	0.8	3,414,000	1.4	23.6	30.3	20.4	19.2
Patent medicines and compounds and druggists' preparations.....	113	801	0.4	4,344,000	0.8	2,884,000	1.2	-1.5	33.5	-2.4	73.7
Tobacco manufactures.....	470	2,794	1.5	4,155,000	0.7	2,565,000	1.0	6.4	50.5	10.4	39.9
Butter, cheese, and condensed milk.....	132	488	0.3	3,959,000	0.7	763,000	0.3	.....	.....	.....	.....
Musical instruments, pianos and organs and materials.....	15	1,667	0.9	3,086,000	0.6	1,083,000	0.8	.....	.....	.....	.....
Leather goods.....	118	1,240	0.7	3,406,000	0.6	1,404,000	0.6	70.5	30.8	56.0	50.0
Wirework, including wire rope and cable.....	31	689	0.4	3,161,000	0.5	819,000	0.3	86.4	54.2	46.2	1.3
Gas, illuminating and heating.....	53	928	0.5	3,147,000	0.5	2,045,000	0.8	71.1	77.0	61.3	63.0
Pottery, terra-cotta, and fire-clay products.....	31	2,186	1.2	2,066,000	0.5	2,107,000	0.9	12.2	104.7	5.5	104.0
Stoves and furnaces, including gas and oil stoves.....	24	1,302	0.7	2,751,000	0.5	1,730,000	0.7	35.5	.....	41.5	.....
Confectionery.....	64	885	0.5	2,558,000	0.4	1,035,000	0.4	67.2	22.5	48.1	25.3
Cotton goods, including cotton small wares.....	7	1,582	0.8	2,502,000	0.4	832,000	0.3	68.0	11.2	141.9	-45.7
Copperage and wooden goods, not elsewhere specified.....	57	891	0.5	2,398,000	0.4	399,000	0.4	-13.0	.....	-0.5	.....
Hosiery and knit goods.....	5	1,033	1.0	2,381,000	0.4	1,466,000	0.6	13.1	-13.2	40.0	-18.3
Leather, tanned, curried, and finished.....	10	398	0.2	2,311,000	0.4	598,000	0.2	119.9	-33.9	108.4	-28.8
Clothing, women's.....	18	1,201	0.7	2,058,000	0.4	1,001,000	0.4	-2.4	67.8	-10.7	84.7
Paper goods, not elsewhere specified.....	8	719	0.4	1,887,000	0.3	663,000	0.3	142.2	101.8	183.3	30.0
Woolen, worsted, and felt goods, and wool hats.....	11	776	0.4	1,670,000	0.3	514,000	0.2	.....	.....	.....	.....
Coffins, burial cases, and undertakers' goods.....	10	669	0.4	1,448,000	0.2	747,000	0.3	30.8	38.5	17.6	49.1
Brass and bronze products.....	21	468	0.3	1,379,000	0.2	605,000	0.2	.....	.....	.....	.....
Ice, manufactured.....	85	563	0.3	1,311,000	0.2	985,000	0.4	75.3	37.5	67.8	38.8
Mattresses and spring beds.....	27	553	0.3	1,287,000	0.2	598,000	0.2	50.7	66.8	42.9	86.2
Paint and varnish.....	18	200	0.1	1,108,000	0.2	425,000	0.2	48.1	85.6	36.7	110.1
Boots and shoes, including cut stock and findings.....	8	436	0.2	978,000	0.2	314,000	0.1	112.6	-50.9	95.2	-38.2
Cutlery and tools, not elsewhere specified.....	24	572	0.3	933,000	0.2	530,000	0.2	10.7	-43.6	12.3	-50.5
Scales and balances.....	8	206	0.1	877,000	0.2	321.6	0.3	.....	60.0	300.6	70.4
Artificial stone.....	219	408	0.2	851,000	0.1	551,000	0.2	295.8	.....	274.8	.....
Boxes, fancy and paper.....	13	550	0.3	782,000	0.1	360,000	0.1	92.1	74.7	87.5	36.1
Gas and electric fixtures and lamps and reflectors.....	12	342	0.2	620,000	0.1	335,000	0.2	.....	.....	.....	.....
Musical instruments and materials, not specified.....	9	390	0.2	610,000	0.1	502,000	0.2	73.3	70.9	90.2	58.1
Millinery and lace goods.....	7	166	0.1	538,000	0.1	207,000	0.1	96.4	163.5	52.2	126.7
All other industries.....	772	21,688	11.6	88,643,000	15.3	29,950,000	12.2	.....	.....	.....	.....

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

Automobiles, including bodies and parts.—This industry, for which but 1 establishment was reported in 1899, had increased in 1904 to 11 establishments, with products valued at \$1,639,000. In 1909 there were 67 establishments, the value of whose products amounted

to \$23,764,000, or more than fourteen times that reported for 1904. The manufacture of automobile bodies and parts has become so interwoven with other industries that it is not possible to state how fully the statistics show the magnitude of the industry.

A number of the foundries and machine shops and establishments engaged in the manufacture of electrical apparatus and supplies incidentally manufacture automobile accessories and parts, while a number of the establishments in Indiana classified under the heading "Rubber goods, not elsewhere specified" manufacture automobile tires.

Carriages and wagons and materials.—This classification includes those establishments which made five or more vehicles during the year or which were engaged in the manufacture of carriage or wagon bodies, tops, or other parts and accessories. It does not include blacksmith or wheelwright shops or establishments engaged primarily in the manufacture of children's carriages and sleds. This industry is more or less interwoven with other industries, such as the manufacture of foundry and machine-shop products and of rubber goods. The value of products increased from \$15,811,000 in 1899 to \$21,655,000 in 1909, a gain in the 10 years of \$5,844,000, or 37 per cent.

Furniture and refrigerators.—This industry, which is largely dependent on the local and near-by supply of hardwood, is well developed in the state. During the decade 1899-1909 the number of establishments increased from 129 to 201, the average number of wage earners from 7,149 to 11,284, or 57.8 per cent, and the value of products from \$8,770,000 to \$18,456,000, or 110.4 per cent. The industry ranked fourth in the state in 1909 in number of wage earners employed.

Agricultural implements.—This industry has been an important one in Indiana for a number of years, the value of products increasing from \$6,415,000 in 1899 to \$13,670,000 in 1909, or 113.1 per cent. The manufacture of agricultural implements is carried on also in many factories devoted primarily to the manufacture of foundry and machine-shop products, and for this reason the figures given fail to show the full extent of the industry.

Glass.—There were only two glass plants in Indiana when natural gas was discovered in the state about 1886. With the development with this cheap form of fuel, however, the number of such plants increased rapidly until in 1899 there were 110 glass factories, reporting products valued at \$14,758,000. As measured by the value of products the state rose from eighth place in this industry in 1879 to fourth place in 1889 and second place in 1899 and 1904. With a reduction in the supply of natural gas during the last 10 years, however, the growth of the industry has been checked, and the value of products fell off three-tenths of 1 per cent from 1899 to 1904 and 21.2 per cent from 1904 to 1909. As a result the state had in 1909 dropped back to third place in the value of glass products.

The utilization of bituminous coal, of which there is a large supply in Indiana, may result in making the manufacture of glass a more permanent and a better established industry in the state than would have

been the case if it had remained dependent upon an uncertain supply of natural gas for fuel.

If the leading industries were arranged according to value added by manufacture, there would be a considerable change from the order in which they stand in the table, where they are arranged according to value of products. On the basis of value added by manufacture the seven leading industries are, in the order named, the distilleries, the foundries and machine shops, the steel works and rolling mills, the lumber industry, the printing and publishing industry, the furniture industry, and the steam-railroad repair shops. The carriage and wagon industry remains in eighth place; the manufacture of agricultural implements becomes ninth in order instead of twelfth; and the glass industry becomes eleventh instead of thirteenth. The automobile industry drops from sixth to tenth place, and the brewery industry advances from seventeenth to twelfth.

Owing to the comparatively simple processes involved in both the slaughtering and meat-packing and the flour-mill and gristmill industries, and the extent to which the manufacturing processes are carried on by machinery in the latter industry, the value added by manufacture is not commensurate with the value of products, for which reason these two industries, which rank first and second in value of products, become fourteenth and thirteenth, respectively, in value added by manufacture.

This table shows also the percentages of increase for the leading industries in respect to value of products and value added by manufacture in all cases where comparative statistics can be presented. The automobile industry shows a far greater rate of increase from 1904 to 1909 in value of products and value added by manufacture (1,349.9 per cent and 976 per cent, respectively) than any of the other industries presented. Seven other industries show increases of over 100 per cent both in value of products and in value added by manufacture, two others show increases exceeding 100 per cent in value of products only, and one an increase of more than 100 per cent in value added by manufacture only. The most interesting of these are the artificial stone and the cement industries, which show increases of approximately 300 per cent and 450 per cent, respectively, in value of products, and 275 per cent and 230 per cent, respectively, in value added by manufacture.

Five of the industries presented separately show decreases in both value of products and value added by manufacture from 1904 to 1909, and nine show decreases in both respects from 1899 to 1904.

The refining of petroleum is the most important of the industries included under the head of "All other industries." There was only one establishment reported and for this reason the statistics can not be published. In addition to this industry and the 47 industries presented separately in the preceding table for which products valued at more than \$1,000,000 were reported,

17 other industries had a value of products in excess of this amount in 1909. They 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 comparable statistics for the different census years can not be presented on account of changes of classification. These industries are as follows: Bags, other than paper; boots and shoes, rubber; carriages and sleds, children's; cars and general shop construction and repairs by street-railroad companies; chemicals; coffee and spice, roasting and grinding; explosives; furnishing goods, men's; iron and steel, blast furnaces; rubber goods, "not elsewhere specified;" saws; sewing machines, cases, and attachments; smelting and refining, lead; tin plate and terneplate; windmills; wire; and wood, turned and carved. Statistics for street-railroad repair shops, the manufacture of men's furnishing goods, and of miscellaneous rubber goods, are given for 1909 in Table II, page 28.

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.....	218,263	190,684	27,579
Proprietors and officials.....	14,520	14,185	335
Proprietors and firm members.....	7,074	7,425	249
Saliered officers of corporations.....	2,021	2,577	44
Superintendents and managers.....	4,225	4,183	42
Clerks.....	16,759	12,801	3,958
Wage earners (average number).....	186,984	163,008	23,286
16 years of age and over.....	183,372	161,117	22,255
Under 16 years of age.....	3,612	2,581	1,031

The average number of persons engaged in manufactures during 1909 was 218,263, of whom 186,984 were wage earners. Of the remainder, 14,520 were proprietors and officials, and 16,759 were clerks. Corresponding figures for individual industries will be found in Table II, page 28.

The next table 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 20 important industries individually.

Of the total number of persons engaged in all manufacturing industries, 6.7 per cent were proprietors and

officials, 7.7 per cent clerks, and 85.7 per cent wage earners. The highest percentages of proprietors and officials shown among the individual industries are those for the flour mills and gristmills and the bakeries, 26.5 and 24.2, respectively. In these two industries 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 for most other industries or for all industries combined. Similar conditions prevail to some extent in the lumber industry, where the proprietors and officials form 16 per cent of the total number of persons engaged, and in printing and publishing, where they form 13.7 per cent.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number)
All industries.....	218,263	6.7	7.7	85.7
Agricultural implements.....	6,061	3.9	17.7	78.4
Auto nobles, including bodies and parts.....	7,753	2.8	9.5	87.7
Bread and other bakery products.....	3,780	24.2	9.6	66.3
Canning and preserving.....	3,052	5.6	8.2	86.2
Carriages and wagons and materials.....	10,190	4.8	7.4	87.8
Cars and general shop construction and repairs by steam-railroad companies.....	13,745	1.4	4.9	93.7
Cars, steam-railroad, not including operations of railroad companies.....	4,440	2.2	6.0	91.8
Cement.....	2,016	1.3	10.1	88.6
Clothing, men's, including shirts.....	4,444	2.0	6.3	91.7
Electrical machinery, apparatus, and supplies.....	3,723	4.3	13.2	82.5
Flour-mill and gristmill products.....	3,508	26.5	8.0	65.5
Foundry and machine-shop products.....	18,439	5.8	8.4	85.7
Furniture and refrigerators.....	12,352	4.2	4.4	91.4
Glass.....	9,030	1.7	2.2	96.1
Iron and steel, steel works and rolling mills.....	13,200	1.0	6.2	92.8
Liquors, distilled.....	527	0.5	9.3	81.2
Liquors, malt.....	1,023	6.0	10.2	82.0
Lumber and timber products.....	12,840	16.0	3.6	80.4
Printing and publishing.....	9,600	13.7	16.0	70.4
Slaughtering and meat packing.....	4,892	2.8	6.2	91.0
All other industries.....	70,447	7.6	7.9	84.5

On account of the large average number of wage earners in the steel works and rolling mills and in the establishments manufacturing cement, these industries show a small proportion of proprietors and officials. The steam-railroad repair shops, also, reported a small proportion of proprietors and officials, as these shops are very large, and in addition are operated by corporations, which report no proprietors. The glass industry, which reports the smallest percentage of clerks, as well as a very small percentage of proprietors and officials, shows a larger percentage of wage earners than any other industry given in the table.

The next 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 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.....	186,984	86.2	11.9	1.9
Agricultural implements.....	4,740	96.9	2.6	0.5
Automobiles, including bodies and parts.....	0,797	99.1	0.5	0.4
Bread and other bakery products.....	2,505	79.4	17.5	3.1
Canning and preserving.....	3,406	42.7	54.2	3.1
Carrriages and wagons and materials.....	8,807	95.8	3.0	1.2
Cars and general shop construction and repairs by steam-railroad companies.....	12,884	99.8	0.1	0.1
Cars, steam-railroad, not including operations of railroad companies.....	4,084	99.6	(?)	0.4
Cement.....	2,318	99.6	0.1	0.3
Clothing, men's, including shirts.....	4,073	13.6	83.3	3.2
Electrical machinery, apparatus, and supplies.....	3,073	69.2	29.9	0.9
Flour-mill and gristmill products.....	2,288	98.9	0.6	0.5
Foundry and machine-shop products.....	15,809	97.3	2.0	0.7
Furniture and refrigerators.....	11,284	95.2	2.7	2.1
Glass.....	9,544	89.5	5.4	5.1
Iron and steel, steel works and rolling mills.....	12,255	99.8	.....	0.2
Liquors, distilled.....	428	99.8	0.2	.....
Liquors, malt.....	1,594	95.6	0.9	3.6
Lumber and timber products.....	10,317	97.3	1.2	1.4
Printing and publishing.....	6,756	70.1	27.7	2.2
Slaughtering and meat packing.....	4,423	92.3	5.9	1.7
All other industries.....	59,520	77.2	19.8	3.0

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, 86.2 per cent of the average number of wage earners were males 16 years of age and over; 11.9 per cent females 16 years of age and over; and 1.9 per cent children under the age of 16. The largest number of women were employed in the canning and preserving, men's clothing, and printing and publishing industries. In the men's clothing industry over four-fifths of the employees were women 16 years of age and over; in the canning and preserving industry, more than one-half; and in the manufacture of electrical machinery, apparatus, and supplies, almost three-tenths. The printing and publishing and the bakery industries also show large proportions of female wage earners, 27.7 per cent and 17.5 per cent, respectively.

The total number of wage earners under 16 years of age was small, and such employees were widely distributed among the several industries. The largest number of children, both absolutely and relatively, were employed in the glass industry, where they formed 5.1 per cent of all wage earners.

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 next table makes this comparison according to occupational status.

Comparable figures are not obtainable for 1899. The table shows that the greatest percentage of increase from 1904 to 1909 was in the number of salaried employees.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				Per cent of increase, 1904-1909.
	1909		1904		
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	218,263	100.0	176,227	100.0	23.9
Proprietors and firm members.....	7,674	3.5	7,191	4.1	6.7
Salaried employees.....	23,605	10.8	14,862	8.4	58.8
Wage earners (average number)....	186,984	85.7	154,174	87.5	21.3

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.....	186,984	100.0	154,174	100.0	139,017	100.0
16 years of age and over.....	183,372	98.1	150,781	97.8	135,497	97.5
Male.....	161,117	86.2	131,551	85.3	119,580	86.0
Female.....	22,255	11.9	19,230	12.5	15,917	11.4
Under 16 years of age.....	3,612	1.9	3,393	2.2	3,520	2.5

This table indicates that for all industries combined there has been little change in the proportions of male and female wage earners 16 years of age and over. In 1909 males 16 years of age and over formed 86.2 per cent of all wage earners, as compared with 85.3 per cent in 1904 and 86 per cent in 1899. The actual number of children employed changed very little during the 10 years, but the proportion which they formed of the total number of wage earners decreased from 2.5 per cent to 1.9 per cent.

Wage earners employed by months.—The next table gives the number of wage earners employed on the 15th of each month during the year 1909, for all industries combined, for the canning and preserving 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 28, are shown for practically all of the important industries in the state, the largest number and 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.

In all industries combined there was a more or less regular increase throughout the year, due no doubt to a general improvement in business conditions. The minimum number was reported for January, when 172,475 wage earners, or 85.6 per cent of the maximum number, were employed. There was very little change from October, when the maximum number was employed, to the end of the year.

MONTH.	NUMBER OF WAGE EARNERS.					
	All industries.		Canning and preserving.		All other industries.	
	Number.	Percent of maximum.	Number.	Percent of maximum.	Number.	Percent of maximum.
January	172,475	85.6	759	6.5	171,716	86.2
February	177,371	88.0	909	7.8	176,462	88.6
March	181,151	89.9	989	8.5	180,162	90.5
April	182,641	90.6	1,104	9.5	181,537	91.1
May	182,228	90.4	1,073	9.2	181,155	91.0
June	183,167	90.9	2,042	25.4	180,225	90.5
July	175,838	87.3	2,505	21.6	173,333	87.0
August	188,311	93.5	7,638	65.8	180,073	90.7
September	198,293	98.4	11,600	100.0	180,693	93.7
October	201,481	100.0	6,925	59.7	194,550	97.7
November	199,937	99.2	2,678	23.1	197,259	99.0
December	200,915	99.7	1,760	15.1	199,165	100.0

759 in January to 11,600 in September, affects to a small extent the totals for all industries combined. The number in all industries combined, exclusive of canning and preserving, increased constantly from January to December, except for a slight falling off in the summer months. In the glass industry, which is not shown in the table, the number of wage earners employed in July and August was only one-half the number employed in December, the month of greatest activity.

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.

Canning and preserving is one of the most important seasonal industries in the state, and although the number of wage earners employed was relatively small, the great variation in the number, from

AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.

INDUSTRY.	Total.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.							
		48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All Industries	186,984	13,609	10,974	23,552	48,040	76,343	4,832	7,129	2,505
Agricultural implements.....	4,749		539	459	2,879	872			
Artificial stone.....	468	16	3	79	20	344			
Automobiles, including bodies and parts.....	6,707	18	19	1,505	3,488	1,707			
Boots and shoes, including cut stock and findings.....	436				425	11			
Boxes, fancy and paper.....	550			59	467	24			
Brass and bronze products.....	408	1	7	24	153	283			
Bread and other bakery products.....	2,505	191	19	222	124	1,612	214	89	37
Brick and tile.....	3,788	212	80	428	118	2,937	7		
Butter, cheese, and condensed milk.....	488	44	1	0	19	323	81	2	12
Canning and preserving.....	3,400	211	55	30	610	2,485			
Carriages and wagons and materials.....	8,807	198	850	997	4,447	2,375			
Cars and general shop construction and repairs by steam-railroad companies.....	12,884	1,272	2,131	2,077	3,826	2,255	1,323		
Cars, steam-railroad, not including operations of railroad companies.....	4,084			458	410	3,216			
Cement.....	2,318		1		188	1,246			883
Clothing, men's, including shirts.....	4,073	980	189	353	2,502	49			
Clothing, women's.....	1,291	12	109	576	529	65			
Coffins, burial cases, and undertakers' goods.....	669		9	73	219	368			
Confectionery.....	885	74	76	18	373	322	9		3
Cooperage and wooden goods, not elsewhere specified.....	891	220	41	172	88	369		1	
Copper, tin, and sheet-iron products.....	2,121	227	74	220	506	1,094			
Cotton goods, including cotton small wares.....	1,582				38	1,544			
Cutlery and tools, not elsewhere specified.....	572	32		143	93	304			
Electrical machinery, apparatus, and supplies.....	3,073	17	104	184	1,772	936			
Flour-mill and gristmill products.....	2,298	114	13	43	18	1,149	343	571	47
Foundry and machine-shop products.....	15,809	386	1,412	2,129	5,658	6,222	1		1
Furniture and refrigerators.....	11,284	257	202	283	2,400	8,186			
Gas and electric fixtures and lamps and reflectors.....	342	11	5	37	112	177			
Gas, illuminating and heating.....	928	5			55	101	248	3	456
Glass.....	9,544	1,850	2,109	1,978	1,575	1,584	448		
Glucose and starch.....	860				483	243		160	217
Hosiery and knit goods.....	1,933				1,090	243			
Ice, manufactured.....	563	4			8	45	70	80	356
Iron and steel, steel works and rolling mills.....	12,255	101		1,647		4,120	1,518	4,809	
Leather goods.....	1,240	5	6	15	652	553	7	2	
Leather, tanned, curried, and finished.....	398	3	182	43	45	125			
Liquors, distilled.....	428	1				130		207	
Liquors, malt.....	1,594	96		1,046	259	146	27		20
Lumber and timber products.....	10,317	280	447	1,051	1,156	7,401	2		
Marble and stone work.....	3,283	169	65	196	143	2,693		17	
Mattresses and spring beds.....	563	12	211	20	112	192			
Millinery and lace goods.....	166	23	81	45	5	12			
Musical instruments and materials, not specified.....	390			346	13	31			
Musical instruments, pianos and organs and materials.....	1,667				480	1,181			
Paint and varnish.....	200	6	11	17	117	49			
Paper and wood pulp.....	1,501					293	141	954	143
Paper goods, not elsewhere specified.....	719	0				713			
Patent medicines and compounds and druggists' preparations.....	891	44	485	142	48	82			
Pottery, terra-cotta, and fire-clay products.....	2,186	142		512	560	972			
Printing and publishing.....	6,756	3,912	500	1,002	628	706	3	5	
Scales and balances.....	266		14	7	194	51			
Slaughtering and meat packing.....	4,423	28			22	4,373			
Stoves and furnaces, including gas and oil stoves.....	1,362	122	179	173	513	375			
Tobacco manufactures.....	2,794	1,622	48	45	974	99		6	
Wirework, including wire rope and cable.....	689	2	1	25	191	470			
Woolen, worsted, and felt goods, and wool hats.....	776				2	774			
All other industries.....	21,688	793	633	4,650	7,094	7,821	390	67	330

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Indiana the usual hours of labor ranged from 54 to 60 a week, only 13.1 per cent of the total having been employed in establishments where they were less than 54 a week, and only 7.7 per cent in establishments where they were more than 60 a week.

The prevailing hours of labor in the foundries and machine shops, which employed a larger number of wage earners than any other single industry, were from 54 to 60 a week, inclusive. In the repair shops of the steam railroads the hours varied widely, but over one-half of the wage earners worked more than 54 hours a week. The steel works and rolling mills, operating in some departments seven days a week, reported uniformly long hours, over five-sixths of the wage earners working 60 hours or more a week, and about two-fifths, 72 hours a week. The furniture factories and lumber mills operated mainly on a 60-hour basis, while the glass factories reported 54 hours or less per week as the prevailing hours for nearly two-thirds of their employees. In the printing and

publishing and the tobacco products industries nearly three-fifths of the wage earners were in establishments operating 48 hours or less a week, while in the gas and the manufactured ice industries about one-half and two-thirds, respectively, were in establishments where the prevailing hours were more than 72 a week. These two last-named industries and the cement industry gave employment to more than two-thirds of the wage earners who were employed more than 72 hours a week.

Location of establishments.—The next table shows the extent to which in 1909 the manufactures of Indiana were centralized in cities of 10,000 inhabitants or over. (See Introduction.) The comparison is confined here, as in other states, to the years 1899 and 1909, in the absence of a Federal census of population by which the grouping of cities in 1904 could be determined. Statistics for Gary, a city having a population of over 10,000, whose manufactures are practically all carried on by a single corporation, are, however, included with those for the sections of the state outside of such cities, so as to avoid disclosure of individual operations.

ITEM.	Year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES 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.	Percent of total.
			Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.		
Population.....	1910	2,700,876	802,265	29.7	323,194	12.0	245,421	9.1	233,650	8.6	1,898,611	70.3
	1900	2,516,462	564,581	22.4	218,623	8.7	176,794	7.0	169,164	6.7	1,051,881	77.6
Number of establishments.....	1909	7,969	2,975	37.3	1,203	15.1	917	11.5	855	10.7	4,994	62.7
	1899	7,128	2,334	32.7	912	12.8	725	10.2	607	9.8	4,794	67.3
Average number of wage earners	1909	186,984	112,658	60.3	45,400	24.3	35,443	19.0	31,815	17.0	74,326	39.7
	1899	139,017	78,097	56.2	31,952	23.0	25,160	18.1	20,085	15.1	60,920	43.8
Value of products.....	1909	\$579,075,046	\$348,759,733	60.2	\$125,973,814	21.8	\$96,263,806	16.6	\$126,522,113	21.8	\$230,315,313	39.8
	1899	337,071,630	208,220,871	61.8	86,218,946	25.0	62,085,091	18.6	59,322,234	17.0	128,844,759	38.2
Value added by manufacture...	1909	244,700,293	148,609,815	60.7	58,094,467	23.7	48,144,171	19.7	42,371,177	17.3	66,090,478	30.3
	1899	141,909,004	88,116,611	62.1	31,181,888	22.0	35,809,395	25.3	21,035,328	14.8	53,792,453	37.3

In 1909, 60.2 per cent of the total value of products was reported from cities having over 10,000 inhabitants and 60.3 per cent of the average number of wage earners were employed in such cities. The industries located in cities of this size show a slight loss during the decade in relative importance, measured by value of products, as compared with those located outside of this class of cities.

Five cities in Indiana which had less than 10,000 inhabitants in 1900 had over 10,000 in 1910, and accordingly their statistics of manufactures for 1899 are included with the outside districts and for 1909 with the first city group. These cities, East Chicago, Mishawaka, Peru, Laporte, and Huntington, had in 1909 a combined value of products amounting to \$23,662,684. Otherwise the city groups contain the same cities for both censuses.

In 1909, as compared with 1899, the cities having between 10,000 and 25,000 inhabitants and those having between 25,000 and 100,000 inhabitants show a loss in their proportion of the total value of products reported for the state, while Indianapolis, the only

city of more than 100,000 inhabitants, shows a gain in this respect.

The population for 1910 and 1900 of the 25 cities which had 10,000 inhabitants or over in 1910 is given in the following statement:

CITY.	1910	1900	CITY.	1910	1900
Indianapolis.....	233,650	169,164	East Chicago.....	10,098	3,411
Evansville.....	69,047	59,007	Logansport.....	19,050	16,204
Fort Wayne.....	63,933	45,115	Michigan City.....	19,027	14,550
Terre Haute.....	58,157	36,673	Kokomo.....	17,019	10,609
South Bend.....	53,684	35,969	Gary ¹	10,802	.....
Muncie.....	24,005	20,942	Vincennes.....	14,895	10,240
Anderson.....	22,470	20,178	Mishawaka.....	11,880	5,560
Richmond.....	22,324	18,226	Elwood.....	11,028	12,950
Hammond.....	20,925	12,370	Peru.....	10,910	8,403
New Albany.....	20,029	20,028	Laporte.....	10,525	7,113
Lafayette.....	20,081	18,110	Jeffersonville.....	10,412	10,774
Marion.....	19,359	17,337	Huntington.....	10,272	9,491
Elkhart.....	19,282	15,184			

¹ City incorporated in 1906.

The relative importance in manufactures of each of the cities except Gary is shown in the following table, in which the value of products and the average number of wage earners are shown separately as far as comparative figures can be given for 1909, 1904, and 1899.

CITY. ¹	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Indianapolis.....	31,815	26,725	20,985	\$126,522,113	\$82,227,050	\$50,322,234
South Bend ²	11,789	8,997	7,078	27,854,527	15,179,400	12,959,836
Fort Wayne ²	10,208	7,729	6,519	23,680,809	14,011,356	11,262,072
Evansville ²	8,097	7,758	6,284	22,020,024	18,091,140	12,107,524
Terre Haute ²	4,359	4,044	4,079	21,708,440	18,007,630	20,205,020
Hammond.....	3,841	1,548	2,083	15,580,250	7,071,203	25,070,551
Anderson ²	4,395	3,079	3,537	13,704,938	8,180,595	8,205,533
Mishawaka.....	3,445	(*)	(*)	10,832,840	(*)	(*)
Richmond.....	3,021	2,970	2,688	10,373,837	6,731,740	4,753,540
Muncie ²	4,033	2,855	3,848	9,684,238	5,990,750	7,041,070
Elwood.....	2,073	1,779	2,745	8,407,650	6,111,083	6,433,513
Michigan City.....	2,887	3,140	2,912	8,239,576	6,314,226	6,032,301
Elkhart.....	3,010	2,265	2,123	6,032,065	4,345,400	3,932,908
Lafayette.....	1,030	1,786	1,343	5,841,900	4,031,415	3,514,270
East Chicago.....	2,370	(*)	(*)	5,489,500	(*)	(*)
Kokomo.....	2,051	1,917	1,355	5,451,441	3,051,105	2,002,150
Marion ²	2,209	2,219	2,843	4,442,110	4,034,152	4,592,922
Vincennes ²	1,233	1,354	906	4,233,574	3,028,585	1,979,342
Logansport.....	2,189	1,720	1,310	4,201,309	2,955,921	2,100,304
Laporte.....	1,074	(*)	(*)	3,971,624	(*)	(*)
New Albany ²	1,910	2,240	2,137	3,492,530	3,834,608	3,038,193
Huntington.....	1,376	1,311	1,246	2,227,558	2,081,019	1,725,002
Jeffersonville.....	766	1,492	1,516	1,915,682	4,526,443	3,771,635
Peru ²	619	912	1,136	1,097,150	1,342,877	1,338,248

¹ Statistics for Gary can not be shown without disclosing 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 Figures not available.

Of the cities for which comparative statistics are given, only three, New Albany, Jeffersonville, and Peru, show a decrease in value of products from 1904 to 1909. From 1899 to 1904, however, decreases took place in six cities, while for most of the remaining cities the increases were smaller than those reported for the period 1904-1909. The greatest relative gain in value of products shown by any city from 1904 to 1909, 103.1 per cent, was made by Hammond. Large increases were also reported for South Bend, Fort Wayne, and Anderson, but Indianapolis, the industrial center of the state, shows by far the greatest absolute increase. The city of Gary, which was not incorporated until 1906, has experienced remarkable growth on account of the location there of extensive steel works and rolling mills, but statistics for this city can not be published without disclosing individual operations.

Indianapolis contributed 21.8 per cent of the total value of manufactured products for the state in 1909. It shows an increase, for the period 1904-1909, of \$44,294,163, or 53.9 per cent, in value of products, and 5,090, or 19 per cent, in the average number of wage earners. It was the center of the slaughtering and meat-packing industry of the state, reporting over four-fifths of the value of the entire output of this industry in Indiana. Among other important industries in Indianapolis may be mentioned foundries and machine shops; flour mills and gristmills; the manufacture of automobiles, including bodies and parts; printing and publishing; canning and preserving; and the lumber industry. Six industries in addition to those shown in Table I had products in excess of \$1,000,000 in value, these industries being the manufacture of bags, other than paper; the roasting and grinding of coffee and spice; and the manufacture of copper, tin, and sheet-iron products; glucose and starch; rubber goods, "not elsewhere specified;" and

saws. The manufacture of saws in the state was practically confined to Indianapolis.

South Bend held second place in manufacturing among the municipalities of the state in 1909, having displaced Evansville from this position since 1904. The increase of 83.5 per cent in the total value of its manufactured products was due principally to the large increases in the manufacture of carriages and wagons, agricultural implements, sewing machines, cases, and attachments, and men's shirts, and to the establishment and growth of the automobile industry. Each of these industries had a value of products in excess of \$1,000,000, but the carriage and wagon industry is the only one which can be shown separately without disclosing individual operations. The city ranked first among the cities of the state in the manufacture of carriages and wagons, contributing more than one-third of the total value of the output for the state. The manufacture of sewing-machine cases in the state was practically confined to this city.

Fort Wayne ranked third as a manufacturing city in 1909. The number of its wage earners and the value of its manufactured products increased 33.2 per cent and 69.1 per cent, respectively, from 1904 to 1909, as compared with increases of 18.6 per cent and 24.4 per cent, respectively, from 1899 to 1904. The most important industries were foundries and machine shops and the manufacture of electrical machinery, apparatus, and supplies. Statistics for the latter industry are included under the head of "All other industries" in Table I to avoid disclosure of individual operations.

Evansville fell back from second to fourth place in manufacturing among the cities of the state between 1904 and 1909, although the value of its manufactured products increased 26.7 per cent during this period. The industries of chief importance were the flour mills and gristmills, the furniture factories, and the breweries. The latter industry and also the slaughtering and meat-packing industry, which is important in Evansville, are included under the head of "All other industries" in Table I to avoid disclosure of individual operations.

Terre Haute, the only other city having a population of over 50,000, ranked fifth among the cities of the state in value of manufactured products in 1909. The city owes its importance in this respect principally to a large distillery which is located there. Three other industries, however, had products exceeding \$1,000,000 in value—the flour mills and gristmills, the steam-railroad repair shops, and the breweries. With the exception of the flour mills and gristmills, however, statistics for these industries can not be shown in Table I without disclosing individual operations.

The great decrease in the value of products for Hammond between 1899 and 1904 was due to the removal of the large slaughtering and meat packing establishments located there in 1899. The distilleries

of the city formed in 1909 its principal industry, but its steam-railroad repair shops, its foundries and machine shops, and its canning and preserving establishments were also important.

Anderson, East Chicago, and Elwood are important because of their large steel works and rolling mills. There was only one establishment manufacturing rubber boots and shoes in Indiana in 1909. This establishment was located at Mishawaka and was the city's most important branch of manufacture. The manufacture of agricultural implements was the chief industry in Richmond and Laporte, and the manufacture of glass and of automobiles were the chief industries in Muncie. The repair shops of steam railroads formed the principal branch of manufacturing in Elkhart, Logansport, and Huntington. The manufacture of steam-railroad cars continued to be the leading industry of Jeffersonville and Michigan City. Kokomo has large automobile interests. In Marion, foundries and machine shops and glass factories led in importance; in Vincennes, flour mills and grist-mills; in New Albany, the tanning and currying of leather and steel works and rolling mills; in Lafayette, slaughtering and meat packing; and in Peru, the furniture and refrigerator industry. Mention may be made also of the factory at Jeffersonville operated by the Quartermaster's branch of the War Department, engaged in the manufacture of clothing, etc. The reports of governmental establishments are not included in the general statistics for manufactures, but this factory gave employment to an average of 590 wage earners in 1909, and products amounting in value to \$401,801 were reported.

Character of ownership.—The next table has for its purpose the presentation of conditions in respect to the character of ownership, or legal organization, of manufacturing enterprises. For all indus-

tries 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 between corporate and all other forms of ownership. In all manufacturing industries combined 29.7 per cent of the total number of establishments were in 1909 under corporate ownership, as against 70.3 per cent under all other forms. The corresponding figures for 1904 were 27.2 and 72.8 per cent, respectively. Of the total value of products, however, the establishments operated by corporations in 1909 reported 85.6 per cent as against 14.4 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 80.6 and 19.4 per cent, respectively. In seven of the eleven industries for which statistics are presented separately in the table, establishments operated by corporations reported more than seven-eighths of the wage earners, the value of products, and the value added by manufacture. In two of the remaining industries, printing and publishing and the flour-mill and gristmill products, such establishments reported more than half of the total for each of these items; in the lumber industry they reported about one-half, and in the bakery industry less than two-fifths. In only five of the eleven industries, however, were more than half the total number of establishments under corporate control, these five being the manufacture of agricultural implements, of automobiles, and of furniture, the foundry and machine-shop industry, and the canning and preserving industry.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number wage of 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:					Agricultural implements, 1909.	39	4,749	\$13,669,824	\$8,806,009
1909.....	7,969	186,984	\$579,075,048	\$244,700,293	Individual.....	9	70	193,814	105,580
1904.....	7,044	154,174	393,954,405	173,447,398	Firm.....	4	0	26,895	12,105
Individual:					Corporation.....	26	4,070	13,449,115	8,688,324
1909.....	3,004	15,607	40,929,084	18,959,428	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	3,481	10,426	38,193,241	17,748,504	Individual.....	23.1	1.5	1.4	1.2
Firm:					Firm.....	10.3	0.2	0.2	0.1
1909.....	1,604	12,400	41,189,693	18,574,194	Corporation.....	66.7	98.3	98.4	98.7
1904.....	1,594	12,076	37,223,913	14,124,713	Automobiles, including bodies and parts, 1909.	67	6,797	\$23,764,070	\$8,769,201
Corporation:					Individual.....	9	74	106,876	75,507
1909.....	2,363	158,631	495,570,000	206,023,327	Firm.....	10	410	510,698	28,694
1904.....	1,915	124,317	317,481,228	140,972,550	Corporation.....	48	6,313	23,146,496	8,465,100
Other:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	98	256	1,386,170	543,344	Individual.....	13.4	1.1	0.4	0.9
1904.....	54	455	1,056,023	601,571	Firm.....	14.9	0.0	2.1	3.3
Per cent of total:					Corporation.....	71.6	92.9	97.4	95.8
1909.....	100.0	100.0	100.0	100.0	Bread and other bakery products, 1909.	754	2,505	\$10,209,068	\$3,982,843
1904.....	100.0	100.0	100.0	100.0	Individual.....	620	1,332	5,205,178	2,049,496
Individual:					Firm.....	112	271	1,111,170	447,830
1909.....	40.0	8.3	7.1	7.7	Corporation.....	22	902	3,892,718	1,485,517
1904.....	40.4	10.7	9.7	10.2	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	82.2	53.2	51.0	51.5
1909.....	20.1	6.7	7.1	7.6	Firm.....	14.9	10.8	10.9	11.2
1904.....	22.6	8.4	9.4	8.1	Corporation.....	2.9	36.0	38.1	37.3
Corporation:									
1909.....	20.7	84.8	85.6	84.4					
1904.....	27.2	80.6	80.6	81.3					
Other:									
1909.....	1.2	0.1	0.2	0.2					
1904.....	0.8	0.3	0.3	0.3					

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.
Canning and preserving, 1909					Furniture and refrigerators, 1909				
Individual.....	134	3,406	\$8,758,343	\$2,813,682	Individual.....	201	11,284	\$18,456,899	\$9,096,272
Firm.....	22	245	589,496	202,038	Individual.....	37	565	1,002,808	507,264
Corporation.....	17	160	380,051	88,895	Firm.....	10	402	783,904	372,084
	95	3,601	7,788,796	2,522,749	Corporation.....	145	10,227	16,669,597	9,056,924
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.....	16.4	7.2	6.7	7.2	Individual.....	18.4	5.0	5.4	5.7
Firm.....	12.7	4.7	4.3	3.2	Firm.....	9.5	4.4	4.2	3.7
Corporation.....	70.9	88.1	88.9	89.7	Corporation.....	72.1	90.6	90.2	90.6
Carriages and wagons and materials, 1909					Lumber and timber products, 1909				
Individual.....	221	8,867	\$21,655,440	\$9,197,717	Individual.....	1,277	10,317	\$23,135,324	\$10,752,996
Firm.....	94	487	843,535	504,928	Individual.....	704	3,130	5,542,239	2,951,346
Firm.....	47	361	874,212	404,414	Firm.....	361	2,590	5,870,410	2,678,309
Corporation.....	80	8,010	19,937,693	8,288,375	Corporation.....	212	4,597	11,713,675	5,123,341
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.....	42.5	5.5	3.9	5.5	Individual.....	55.1	30.3	24.0	27.4
Firm.....	21.3	4.1	4.0	4.4	Firm.....	28.3	25.1	25.4	24.9
Corporation.....	36.2	90.4	92.1	90.1	Corporation.....	16.6	44.6	50.6	47.6
Flour - mill and gristmill products, 1909					Printing and publishing, 1909				
Individual.....	563	2,298	\$40,541,422	\$5,539,615	Individual.....	892	6,756	\$14,356,376	\$10,331,836
Firm.....	249	523	6,850,195	1,185,924	Individual.....	546	1,073	3,593,194	2,626,657
Firm.....	189	516	7,721,094	1,274,456	Firm.....	150	803	2,084,753	1,511,260
Corporation.....	125	1,259	25,969,293	3,079,235	Corporation.....	165	3,818	8,182,617	5,805,496
Per cent of total.....	100.0	100.0	100.0	100.0	Other.....	31	162	495,812	387,414
Individual.....	44.2	22.8	16.9	21.4	Per cent of total.....	100.0	100.0	100.0	100.0
Firm.....	33.6	22.5	19.0	23.0	Individual.....	61.2	20.2	25.0	25.4
Corporation.....	22.2	54.8	64.1	55.6	Firm.....	10.8	11.0	14.5	14.0
Foundry and machine-shop products, 1909					Slaughtering and meat packing, 1909				
Individual.....	415	15,809	\$39,883,774	\$21,265,086	Individual.....	61	4,423	\$47,289,469	\$5,303,495
Firm.....	133	1,106	2,364,349	1,234,168	Individual.....	22	132	1,647,241	257,754
Firm.....	70	747	1,833,623	1,062,750	Firm.....	18	123	2,085,684	295,120
Corporation.....	212	13,956	35,685,802	10,028,168	Corporation.....	21	4,158	43,556,544	4,750,622
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.....	32.0	7.0	5.9	5.8	Individual.....	36.1	3.2	3.5	4.9
Firm.....	16.9	4.7	4.6	4.7	Firm.....	29.5	2.8	4.4	5.6
Corporation.....	51.1	88.3	80.5	80.5	Corporation.....	34.4	94.0	92.1	89.6

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 next 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 certain 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 individual industries figures are given for 1909 only.

Size measured by value of products.—The table shows that, in 1909, of the 7,969 manufacturing establishments in the state only 92, or 1.2 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 56,553 wage earners, or 30.2 per cent of the total number of wage earners in all establishments, and reported 47.1 per cent of the total value of products, and 41.3 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of product of less than \$5,000—constituted a considerable proportion (38.7 per cent) of the total number of establishments, but the value of their products amounted to only 1.3 per cent of the total. The great bulk of the manufacturing was reported by establishments having products valued at not less than \$100,000.

During the five years from 1904 to 1909 there was a considerable increase, whether measured by average

number of wage earners, value of products, or value added by manufacture, in the relative importance of the largest establishments—those reporting products valued at not less than \$1,000,000—and a decrease in that of all other classes.

The fact that the average value of products per establishment increased from \$55,928 in 1904 to \$72,666 in 1909, and the average value added by manufacture from \$24,623 to \$30,707, can not be taken as in itself indicating a tendency toward concentration. The increased values shown 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 increased from 22 to 23 during the five-year period.

Size measured by number of wage earners.—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 page 15 shows, for 1909, such a classification for all industries combined and for 20 important industries individually, and gives not only the number of establishments falling into each group, but also the average number of wage earners employed.

Of the 7,969 establishments reported for all industries, 8.7 per cent employed no wage earners; 55.5 per cent, from 1 to 5; 19.4 per cent, from 6 to 20; 7.8 per cent, from 21 to 50; and 8.6 per cent, 51 or more. The most numerous single group consists of the 4,421

MANUFACTURES—INDIANA.

establishments employing from 1 to 5 wage earners each, and the next of the 1,545 establishments employing from 6 to 20 wage earners. There were 124

establishments that employed over 250 wage earners each; 16 of these employed over 1,000 each.

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.
ALL INDUSTRIES:					Carriages and wagons and materials, 1909.				
1909	7,969	186,084	\$579,075,048	\$244,700,293	Less than \$5,000	221	8,867	\$21,655,440	\$9,197,717
1904	7,044	164,174	393,954,406	173,447,398	\$5,000 and less than \$20,000	65	104	202,187	120,216
Less than \$5,000:					\$20,000 and less than \$100,000	68	465	600,905	426,558
1909	3,080	4,335	7,339,369	4,513,557	\$100,000 and less than \$1,000,000	46	627	2,008,965	876,584
1904	2,631	4,076	6,477,788	4,108,476	\$1,000,000 and over	30	3,672	9,615,955	3,963,537
\$5,000 and less than \$20,000:					Average per establishment	3	3,690	9,131,728	3,801,822
1909	2,401	11,875	24,674,110	13,080,612	Per cent of total	100.0	100.0	100.0	100.0
1904	2,162	12,081	21,935,754	12,190,662	Less than \$5,000	29.4	1.2	0.9	1.4
\$20,000 and less than \$100,000:					\$5,000 and less than \$20,000	30.8	5.2	3.2	4.6
1909	1,620	30,875	73,503,536	33,750,556	\$20,000 and less than \$100,000	20.8	10.5	9.3	9.5
1904	1,576	32,971	70,354,847	32,958,855	\$100,000 and less than \$1,000,000	17.6	41.4	44.4	43.1
\$100,000 and less than \$1,000,000:					\$1,000,000 and over	1.4	41.7	42.2	41.3
1909	764	83,346	200,978,938	92,184,974	Average per establishment	40	\$97,988	\$41,010	
1904	631	73,000	160,211,644	72,691,498	Flour - mill and gristmill products, 1909.				
\$1,000,000 and over:					Less than \$5,000	563	2,298	\$40,541,422	\$5,539,015
1909	92	56,553	272,679,094	101,170,694	\$5,000 and less than \$20,000	67	31	201,843	43,601
1904	45	32,046	134,674,371	51,497,907	\$20,000 and less than \$100,000	102	214	1,040,456	300,571
Per cent of total:					\$100,000 and less than \$1,000,000	279	944	11,904,293	2,160,086
1909	100.0	100.0	100.0	100.0	\$1,000,000 and over	47	607	13,504,248	1,543,038
1904	100.0	100.0	100.0	100.0	Average per establishment	8	502	12,894,682	1,401,419
Less than \$5,000:					Per cent of total	100.0	100.0	100.0	100.0
1909	38.7	2.3	1.3	1.8	Less than \$5,000	11.9	1.3	0.5	0.8
1904	37.4	2.6	1.6	2.4	\$5,000 and less than \$20,000	28.8	9.3	4.8	7.0
\$5,000 and less than \$20,000:					\$20,000 and less than \$100,000	49.6	41.1	20.6	39.0
1909	30.1	6.4	4.2	5.3	\$100,000 and less than \$1,000,000	8.3	26.4	33.3	27.9
1904	30.7	7.8	5.0	7.0	\$1,000,000 and over	1.4	21.8	31.8	25.3
\$20,000 and less than \$100,000:					Average per establishment	4	\$72,010	\$30,839	
1909	20.4	16.5	12.7	13.8	Foundry and machine-shop products, 1909.				
1904	22.4	21.4	17.9	19.0	Less than \$5,000	415	15,809	\$39,883,774	\$21,265,086
\$100,000 and less than \$1,000,000:					\$5,000 and less than \$20,000	86	110	214,888	145,000
1909	9.6	44.6	34.7	37.7	\$20,000 and less than \$100,000	128	692	1,373,009	863,154
1904	9.0	47.3	40.7	41.9	\$100,000 and less than \$1,000,000	115	2,790	5,336,027	3,000,995
\$1,000,000 and over:					\$1,000,000 and over	79	8,802	20,079,456	11,001,790
1909	1.2	30.2	47.1	41.3	Average per establishment	7	3,408	11,979,435	6,005,147
1904	0.6	20.8	34.3	29.7	Per cent of total	100.0	100.0	100.0	100.0
Average per establishment:					Less than \$5,000	20.7	0.7	0.6	0.7
1909	23	\$72,606	\$30,707		\$5,000 and less than \$20,000	30.8	4.4	3.4	4.1
1904	22	\$55,928	\$24,623		\$20,000 and less than \$100,000	27.7	17.7	13.4	14.4
Agricultural implements, 1909.					\$100,000 and less than \$1,000,000	19.0	55.7	52.0	52.2
Less than \$5,000	39	4,749	\$13,669,824	\$8,806,009	\$1,000,000 and over	1.7	21.5	30.0	28.7
\$5,000 and less than \$20,000	9	13	21,320	14,020	Average per establishment	38	\$90,105	\$51,241	
\$20,000 and less than \$100,000	7	33	76,375	37,070	Furniture and refrigerators, 1909.				
\$100,000 and less than \$1,000,000	11	105	551,532	280,861	Less than \$5,000	201	11,284	\$18,456,399	\$9,995,273
\$1,000,000 and over	7	678	1,713,902	1,020,123	\$5,000 and less than \$20,000	25	38	62,878	41,524
Per cent of total	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000	27	256	308,180	176,809
Less than \$5,000	23.1	0.3	0.2	0.2	\$100,000 and less than \$1,000,000	87	3,447	4,831,465	2,670,152
\$5,000 and less than \$20,000	17.9	0.7	0.6	0.4	Average per establishment	62	7,543	13,253,876	7,008,730
\$20,000 and less than \$100,000	28.2	4.1	4.0	3.3	Per cent of total	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000	17.9	14.3	12.5	11.7	Less than \$5,000	12.4	0.3	0.3	0.4
\$1,000,000 and over	12.8	80.6	82.7	84.5	\$5,000 and less than \$20,000	13.4	2.3	1.7	1.8
Average per establishment	122	\$350,508	\$225,705		\$20,000 and less than \$100,000	43.3	30.5	26.2	26.8
Automobiles, including bodies and parts, 1909.					\$100,000 and less than \$1,000,000	30.8	66.8	71.8	71.0
Less than \$5,000	67	6,797	\$23,764,070	\$8,769,201	Average per establishment	56	\$91,823	\$49,733	
\$5,000 and less than \$20,000	11	17	24,175	13,604	Lumber and timber products, 1909.				
\$20,000 and less than \$100,000	15	90	158,449	78,154	Less than \$5,000	1,277	10,317	\$23,135,324	\$10,752,996
\$100,000 and less than \$1,000,000	12	250	580,874	307,110	\$5,000 and less than \$20,000	648	1,179	1,347,016	831,688
\$1,000,000 and over	7	3,000	8,122,803	3,490,401	\$20,000 and less than \$100,000	351	2,165	3,623,655	1,804,674
Per cent of total	100.0	100.0	100.0	100.0	\$100,000 and less than \$1,000,000	225	4,112	9,345,725	4,243,833
Less than \$5,000	16.4	0.2	0.1	0.2	\$1,000,000 and over	53	2,801	8,818,028	3,784,001
\$5,000 and less than \$20,000	22.4	1.3	0.7	0.9	Per cent of total	100.0	100.0	100.0	100.0
\$20,000 and less than \$100,000	17.9	3.8	2.5	3.5	Less than \$5,000	50.7	11.4	5.8	7.7
\$100,000 and less than \$1,000,000	32.8	44.1	34.2	39.8	\$5,000 and less than \$20,000	27.5	21.0	15.7	17.6
\$1,000,000 and over	10.4	50.5	62.6	55.6	\$20,000 and less than \$100,000	17.6	39.9	40.4	39.5
Average per establishment	101	\$354,688	\$130,884		\$100,000 and less than \$1,000,000	4.2	27.7	38.1	35.2
Bread and other bakery products, 1909.					Average per establishment	8	\$18,117	\$8,421	
Less than \$5,000	754	2,505	\$10,209,066	\$3,982,843	Printing and publishing, 1909.				
\$5,000 and less than \$20,000	340	259	1,053,081	447,315	Less than \$5,000	892	6,756	\$14,356,376	\$10,331,836
\$20,000 and less than \$100,000	331	775	3,017,625	1,242,870	\$5,000 and less than \$20,000	480	715	1,119,553	876,237
\$100,000 and less than \$1,000,000	68	597	2,173,942	750,021	\$20,000 and less than \$100,000	282	1,579	2,705,332	2,051,337
Per cent of total	100.0	100.0	100.0	100.0	\$100,000 and less than \$1,000,000	109	2,034	4,540,973	3,203,762
Less than \$5,000	45.1	10.3	11.2	11.2	Average per establishment	21	2,428	5,081,518	4,102,470
\$5,000 and less than \$20,000	43.9	30.9	29.6	31.2	Per cent of total	100.0	100.0	100.0	100.0
\$20,000 and less than \$100,000	9.0	23.8	21.3	19.1	Less than \$5,000	53.8	10.6	7.8	8.5
\$100,000 and less than \$1,000,000	2.0	34.9	38.8	38.5	\$5,000 and less than \$20,000	31.6	23.4	18.8	19.9
Average per establishment	3	\$13,540	\$5,282		\$20,000 and less than \$100,000	12.2	30.1	31.7	31.9
Canning and preserving, 1909.					\$100,000 and less than \$1,000,000	2.4	35.9	41.7	39.7
Less than \$5,000	134	3,406	\$8,788,343	\$2,813,882	Average per establishment	8	\$10,095	\$11,583	
\$5,000 and less than \$20,000	23	95	67,768	28,760	Slaughtering and meat packing, 1909.				
\$20,000 and less than \$100,000	30	639	669,181	236,020	Less than \$5,000	61	4,423	\$47,289,469	\$5,303,495
\$100,000 and less than \$1,000,000	17	1,660	6,448,229	1,930,242	\$5,000 and less than \$20,000	7	10	78,903	21,884
Per cent of total	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000	23	118	1,248,617	217,166
Less than \$5,000	17.2	2.8	0.8	1.0	\$100,000 and less than \$1,000,000	26	549	6,024,818	690,717
\$5,000 and less than \$20,000	44.8	18.8	7.6	8.4	\$1,000,000 and over	5	3,746	39,037,131	4,073,728
\$20,000 and less than \$100,000	25.4	29.7	18.0	22.0	Per cent of total	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000	12.7	48.7	73.6	68.6	Less than \$5,000	11.5	0.2	0.2	0.4
Average per establishment	25	\$65,361	\$20,998		\$5,000 and less than \$20,000	37.7	2.7	2.6	4.1
					\$20,000 and less than \$100,000	42.6	12.4	14.6	18.7
					\$100,000 and over	8.2	84.7	82.5	70.8
					Average per establishment	72	\$775,237	\$80,943	

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

² Includes the group "Less than \$5,000."

Of the total number of wage earners, 42.4 per cent were in establishments employing over 250 wage earners each. The single group having the largest number of wage earners was the one comprising the establishments employing from 101 to 250 wage earners each. These establishments employed an aggregate of 36,520 wage earners, or 19.5 per cent of the total. The individual industries listed in this table but not in the preceding one, namely, the

repair shops of the steam-railroad companies, the construction of steam-railroad cars, the cement and the mens' clothing industries, the manufacture of electrical machinery, apparatus, and supplies, and of glass, the steel works and rolling mills, and the manufacture of distilled and of malt liquors are industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of 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.....	7,909	602	4,421	1,545	624	332	231	68	40	16
Agricultural implements.....	39	2	12	9	6	3	2	3	1	1
Automobiles, including bodies and parts.....	67		22	13	11	4	10	4	2	1
Bread and other bakery products.....	754	130	553	56	9	4	2			
Canning and preserving.....	134		20	58	33	11	2	1		
Carriages and wagons and materials.....	221	11	86	65	27	15	11	4	1	1
Cars and general shop construction and repairs by steam-railroad companies.....	34		1	2	3	1	12	4	8	3
Cars, steam-railroad, not including operations of railroad companies.....	7					1	1	3		2
Cement.....	11		2	1		2	3	1	2	
Clothing, men's, including shirts.....	42	1	3	8	13	6	8	1	2	
Electrical machinery, apparatus, and supplies.....	42		13	9	7	7	3	2	1	
Flour-mill and gristmill products.....	563	42	436	70	10	3	2			
Foundry and machine-shop products.....	415	15	156	111	62	35	27	5	4	
Furniture and refrigerators.....	201		32	34	54	53	23	4	1	
Glass.....	44			5	1	6	20	10	1	1
Iron and steel, steel works and rolling mills.....	17					2	3	1	8	3
Liquors, distilled.....	14		6	2	2	4				
Liquors, malt.....	37		8	10	13	2	3	1		
Lumber and timber products.....	1,277	20	814	307	99	25	3			
Printing and publishing.....	892	140	512	187	33	13	0		1	
Slaughtering and meat packing.....	61		20	18	6	4	2	1		1
All other industries.....	3,007	322	1,707	580	235	131	88	23	8	3
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	136,334		9,840	16,841	20,588	23,848	36,520	23,972	27,242	28,135
Agricultural implements.....	4,749		25	119	147	276	352	1,307	523	1,010
Automobiles, including bodies and parts.....	6,707		57	173	401	300	1,846	1,424	1,219	1,377
Bread and other bakery products.....	2,505		1,059	541	346	314	245			
Canning and preserving.....	3,406		99	643	1,030	756	375	494		
Carriages and wagons and materials.....	8,807		230	711	877	1,018	1,562	1,185	682	2,612
Cars and general shop construction and repairs by steam-railroad companies.....	12,884		3	28	122	60	1,027	1,613	5,182	3,040
Cars, steam-railroad, not including operations of railroad companies.....	4,084					98	199	1,062		2,725
Cement.....	2,318		3	15		156	500	373	1,271	
Clothing, men's, including shirts.....	4,073		9	79	459	437	1,303	413	1,373	
Electrical machinery, apparatus, and supplies.....	3,073		24	87	225	534	480	854	860	
Flour-mill and gristmill products.....	2,208		976	507	310	187	228			
Foundry and machine-shop products.....	15,800		415	1,342	2,128	2,470	4,828	1,505	3,112	
Furniture and refrigerators.....	11,284		62	406	1,003	3,607	3,316	1,235	865	
Glass.....	9,544			90	25	428	3,361	3,010	612	1,112
Iron and steel, steel works and rolling mills.....	12,255					180	460	400	5,213	5,987
Liquors, distilled.....	428		6	32	58	332				
Liquors, malt.....	1,594		27	133	408	127	612	287		
Lumber and timber products.....	10,317		1,814	3,324	3,055	1,607	427			
Printing and publishing.....	6,756		1,236	1,880	1,109	822	863		846	
Slaughtering and meat packing.....	4,423		80	215	191	276	273	335		3,053
All other industries.....	59,520		3,715	6,426	7,785	9,654	13,367	7,479	5,675	5,419
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		5.3	9.0	11.0	12.8	19.5	12.8	14.6	15.0
Agricultural implements.....	100.0		0.5	2.5	3.1	5.8	7.4	29.4	11.0	40.2
Automobiles, including bodies and parts.....	100.0		0.8	2.5	5.0	4.4	27.2	21.0	17.9	20.3
Bread and other bakery products.....	100.0		42.3	21.0	13.8	12.5	9.8			
Canning and preserving.....	100.0		2.9	18.9	30.5	22.2	11.0	14.5		
Carriages and wagons and materials.....	100.0		2.6	8.0	9.9	11.5	17.5	13.4	7.7	20.5
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		(1)	0.2	0.0	0.5	15.0	26.5	40.2	30.6
Cars, steam-railroad, not including operations of railroad companies.....	100.0					2.4	4.9	12.0		66.7
Cement.....	100.0		0.1	0.6		6.7	21.6	16.1	54.8	
Clothing, men's, including shirts.....	100.0		0.2	1.9	11.3	10.7	32.0	10.1	33.7	
Electrical machinery, apparatus, and supplies.....	100.0		0.8	2.8	7.3	17.4	15.6	27.8	28.3	
Flour-mill and gristmill products.....	100.0		12.7	26.0	13.5	8.1	9.9			
Foundry and machine-shop products.....	100.0		2.6	8.5	13.5	15.7	30.5	9.5	19.7	
Furniture and refrigerators.....	100.0		0.5	3.6	10.9	32.8	20.4	10.9	5.9	
Glass.....	100.0			0.9	0.3	4.5	35.2	41.0	6.4	11.7
Iron and steel, steel works and rolling mills.....	100.0					1.5	8.8	3.3	42.5	48.9
Liquors, distilled.....	100.0		1.4	7.5	13.6	77.6				
Liquors, malt.....	100.0		1.7	8.3	25.6	8.0	38.4	18.0		
Lumber and timber products.....	100.0		17.6	32.2	29.0	16.4	4.1			
Printing and publishing.....	100.0		18.3	27.8	16.4	12.2	12.8		12.5	
Slaughtering and meat packing.....	100.0		1.8	4.9	4.3	6.2	6.2	7.6		69.0
All other industries.....	100.0		6.2	10.8	13.1	16.2	22.5	12.6	9.5	9.1

(1) Less than one-tenth of 1 per cent.

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. The following table shows, for 1909, in percentages, the distribution of expenses indicated for all industries combined and for certain important industries separately. The figures on which the percentages are based appear in Table II, page 28.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	5.0	18.2	63.7	13.1
Agricultural implements.....	10.8	23.2	44.0	22.1
Automobiles, including bodies and parts.....	4.0	18.8	68.1	9.2
Bread and other bakery products.....	3.9	15.2	72.1	8.8
Canning and preserving.....	0.5	11.1	74.9	7.5
Carriages and wagons and materials.....	6.7	22.4	64.1	6.8
Cars and general shop construction and repairs by steam-railroad companies.....	4.0	47.2	46.0	2.2
Cars, steam-railroad, not including operations of railroad companies.....	5.4	21.2	67.3	6.1
Cement.....	4.0	19.8	64.4	10.8
Clothing, men's, including shirts.....	6.3	18.0	64.0	11.7
Electrical machinery, apparatus, and supplies.....	9.6	21.1	57.4	11.9
Flour-mill and gristmill products.....	1.3	3.2	92.9	2.6
Foundry and machine-shop products.....	8.2	25.1	52.9	13.8
Furniture and refrigerators.....	6.6	31.1	51.2	11.1
Glass.....	4.7	44.6	42.7	8.0
Iron and steel, steel works and rolling mills.....	3.0	22.7	70.7	3.6
Liquors, distilled.....	0.6	0.9	15.3	83.3
Liquors, malt.....	7.8	14.4	28.1	49.8
Lumber and timber products.....	5.0	23.2	64.0	7.8
Printing and publishing.....	14.2	30.3	34.6	21.0
Slaughtering and meat packing.....	1.5	4.7	91.4	2.4
All other industries.....	5.9	18.0	67.0	9.1

As would be expected, the proportions for total expenses vary greatly in the different industries. The slaughtering and meat-packing and flour-mill and gristmill industries show high percentages for materials, 91.4 and 92.9, respectively. The large proportion for miscellaneous expenses shown for the brewery and distillery industries is due to the fact that under this head are included the internal-revenue taxes on the products of these industries.

Engines and power.—The next 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.

The table indicates that from 1899 to 1909 there was an increase of 307,458 horsepower, or 94.3 per cent, in the total primary power reported. Nearly one-half of this increase was in power generated by steam engines, though the proportion of the total primary power reported which was generated by steam engines has steadily decreased. This proportion was 91.1 per cent in 1899, 88.5 per cent in 1904, and 70.8 per cent in 1909. Of the total increase in primary power for the decade 31.5 per cent was in power generated by gas engines. The horsepower of the gas engines reported in 1899 was 12,295 and in 1909 it had increased to 109,105, or nearly nine times as much. The number and horsepower of water wheels show decreases for both five-year periods. The figures show that the practice of renting power is on the increase, 10.6 per cent of the total power being rented in 1909, as

against 2.9 per cent in 1904, and but 1.4 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is shown to be rapidly increasing—the horsepower of such motors having increased from 5,139 in 1899 to 24,500 in 1904 and 167,645 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	12,399	6,141	6,784	633,377	380,758	325,919	100.0	100.0	100.0
Owned.....	6,630	6,141	6,784	566,125	369,709	321,475	89.4	97.1	98.6
Steam.....	5,197	4,700	5,657	448,528	336,932	296,026	70.8	88.5	91.1
Gas.....	1,195	1,134	804	100,105	21,171	12,295	17.2	5.6	3.8
Water wheels.....	212	217	323	7,447	9,541	11,004	1.2	2.5	3.7
Water motors.....	26	30	(²)	447	144	(²)	0.1	(²)	(²)
Other.....				599	1,921	200	0.1	0.5	0.1
Rented.....	5,769	(²)	(²)	67,252	11,049	4,444	10.6	2.9	1.4
Electric.....	5,769	(²)	(²)	65,548	9,082	2,764	10.3	2.4	0.8
Other.....				1,704	1,967	1,680	0.3	0.5	0.5
Electric motors	11,916	1,779	378	233,193	33,582	7,903	100.0	100.0	100.0
Run by current generated by establishment.....	6,147	1,779	378	167,645	24,500	5,139	71.9	73.0	65.0
Run by rented power.....	5,769	(²)	(²)	65,548	9,082	2,764	28.1	27.0	35.0

¹ Includes 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 is that of the fuel consumed in generating this power, or otherwise used as material in the manufacturing processes. The greater part of the coke reported for "All other industries" was used by two blast-furnace plants which are not shown separately in any of the tables for this state. The following table shows the quantity of each kind of fuel used in 1909, for all industries and for certain selected industries.

INDUSTRY.	An-thracite coal (tons).	Bitu-minous coal (tons).	Coke (tons).	Wood (cords).	Oil, in-cluding gaso-line (barrels).	Gas (1,000 feet).
All industries	16,800	6,356,825	930,397	65,780	743,195	1,247,053
Agricultural implements.....	195	44,043	14,538	225	3,555	3,611
Automobiles, including bodies and parts.....	44	34,783	1,182	20	7,085	19,276
Bread and other bakery products.....	2,288	10,760	10,065	22,672	401	35,560
Canning and preserving.....		37,085	70	274	489	893
Carriages and wagons and materials.....	78	92,691	1,421	607	17,458	5,730
Cars and general shop construction and repairs by steam-railroad companies.....	2,371	274,918	2,390	3,634	12,005	12
Cars, steam-railroad, not including operations of railroad companies.....	2	122,422	11,756		29,420	
Cement.....		558,777				
Clothing, men's, including shirts.....		4,646		25	188	3,337
Electrical machinery, apparatus, and supplies.....	702	21,296	32		4,086	61,160
Flour-mill and gristmill products.....	181	189,970	1,344	0,844	915	105,193
Foundry and machine-shop products.....	1,157	274,877	41,757	2,182	27,017	20,514
Furniture and refrigerators.....	714	103,666	576	185	332	1,638
Gas, illuminating and heating.....	2,478	180,994	20,750		140,915	13,645
Glass.....	443	467,900	730	175	66,957	140,069
Iron and steel, steel works and rolling mills.....	5	1,028,754	14,083	300	351,032	502,360
Liquors, distilled.....		155,960		60		
Liquors, malt.....		148,147		4		
Lumber and timber products.....	5	68,193	120	607	1,183	14,012
Printing and publishing.....	1,035	19,520	159	524	1,552	36,513
Slaughtering and meat packing.....		151,800		1,852	3	3,602
All other industries.....	5,102	2,375,008	803,364	24,900	77,093	273,317

NOTE.—In addition there were 1,730 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, detailed information regarding the quantity and cost of materials and 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 10 important industries in Indiana are here presented.

Slaughtering and meat packing.—This industry, which is the most important in the state when measured by value of products, has developed rapidly during the past five years. Because of the general advance in prices during the decade the growth of the industry is best measured by the increase in the quantity rather than in the value of its products. The following table gives the number and cost of the various kinds of animals slaughtered and the quantity and value of the various products of the slaughtering and meat-packing establishments of the state in 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$41,985,974	\$26,249,430	\$38,628,557
Beeves slaughtered:			
Number.....	252,007	178,678	358,585
Cost.....	\$10,702,274	\$7,334,344	\$19,305,705
Calves slaughtered:			
Number.....	60,678	37,560	12,943
Cost.....	\$615,007	\$321,000	\$107,327
Sheep slaughtered:			
Number.....	58,435	33,120	368,837
Cost.....	\$276,043	\$130,035	\$1,023,135
Hogs slaughtered:			
Number.....	1,751,454	1,408,707	1,950,370
Cost.....	\$25,277,218	\$15,751,263	\$13,705,302
Fuel and rent of power.....	\$205,108	\$159,961	\$85,525
All other materials.....	\$4,909,064	\$2,546,737	\$3,801,503
Products, total value.....	\$47,289,469	\$29,434,589	\$43,889,953
Beef, fresh:			
Pounds.....	119,985,578	93,224,422	219,106,574
Value.....	\$9,580,214	\$6,743,908	\$16,476,701
Beef, salted or cured:			
Pounds.....	1,361,800	2,572,500	1,538,988
Value.....	\$134,096	\$359,280	\$172,930
Veal, fresh:			
Pounds.....	5,505,181	3,178,656	1,155,508
Value.....	\$603,540	\$292,192	\$107,383
Mutton, fresh:			
Pounds.....	2,310,824	1,477,656	15,911,070
Value.....	\$230,509	\$130,866	\$1,413,522
Pork, fresh:			
Pounds.....	79,377,568	27,301,374	29,202,285
Value.....	\$8,974,150	\$1,993,047	\$1,985,006
Pork, salted or cured:			
Pounds.....	143,474,072	105,587,061	191,150,284
Value.....	\$17,242,240	\$13,232,630	\$13,595,083
Sausage, fresh or cured.....	\$1,062,140	\$1,254,304	\$607,440
All other fresh meat:			
Pounds.....	207,516	811,200	5,732,510
Value.....	\$13,848	\$62,484	\$373,351
Lard:			
Pounds.....	46,901,294	43,809,750	48,674,440
Value.....	\$4,943,363	\$3,108,225	\$3,038,202
Tallow, oleo stock, and stearin:			
Pounds.....	5,320,977	(1)	(1)
Value.....	\$472,624	(1)	(1)
Fertilizers and fertilizer materials:			
Tons.....	7,389	11,874	8,009
Value.....	\$160,316	\$193,022	\$143,011
Hides:			
Number.....	302,076	198,413	371,538
Pounds.....	14,209,481	11,428,871	23,550,614
Value.....	\$1,847,702	\$1,060,279	\$2,645,605
Pelts:			
Number.....	58,367	31,402	(1)
Value.....	\$71,092	\$27,844	(1)
Amount received for custom or contract work.....	\$5,331	\$12,701	\$250
All other products.....	\$1,397,704	\$962,907	\$3,331,409

¹ Figures not available.

From 1899 to 1904 there was an increase of nearly 200 per cent in the number of calves slaughtered, but

there was a decrease of 451,603, or 23.2 per cent, in the number of hogs killed. The number of beeves killed in 1904 was about one-half and that of sheep less than one-tenth of that reported for 1899. The large decreases during this five-year period were due in great measure to the removal of a large packing house from the state. From 1904 to 1909 there were increases in the total number of each of the four kinds of animals slaughtered. In this five-year period the number of hogs killed increased from 1,498,767 to 1,751,454, or 16.9 per cent, and the number of beeves from 178,678 to 252,697, or 41.4 per cent.

The total value of products decreased 32.9 per cent from 1899 to 1904, but increased 60.7 per cent from 1904 to 1909, the increase for the decade being from \$43,889,953 in 1899 to \$47,289,469 in 1909, a gain of \$3,399,516, or 7.7 per cent. The products generally show similar fluctuations, except fresh veal, which shows large increases for both five-year periods. Of the total value of products, that of pork, fresh and cured, formed 55.4 per cent in 1909 and 35.5 in 1899. It is interesting to note that while there was but little change in the total quantity or value of pork sold fresh in 1904, as compared with 1899, there was an increase from 1904 to 1909 of 51,986,189 pounds, or nearly 190 per cent, in quantity and an increase of \$6,890,203, or 350 per cent, in value. Salted or cured pork, on the other hand, decreased 17,112,389 pounds, or 10.3 per cent, in quantity from 1904 to 1909, but increased \$4,009,610, or 30.3 per cent, in value. Fresh beef decreased both in quantity and in value from 1899 to 1904, but increased in both respects from 1904 to 1909. With salted or cured beef the conditions were reversed, increases being shown for the earlier five-year period and decreases for the later.

Flour-mill and gristmill products.—The next table gives the quantity and value of the principal kinds of products manufactured during 1909, 1904, and 1899.

PRODUCT.	1909	1904	1899
Total value.....	\$40,541,422	\$36,473,543	\$29,037,843
Wheat flour:			
White—			
Barrels.....	4,784,808	5,173,360	5,733,308
Value.....	\$25,274,216	\$25,243,760	\$20,009,146
Graham—			
Barrels.....	10,039	8,546	.....
Value.....	\$41,455	\$39,120	.....
Corn meal and corn flour:			
Barrels.....	855,409	909,622	1,987,719
Value.....	\$2,483,265	\$2,076,266	\$2,601,562
Rye flour:			
Barrels.....	1,770	8,416	23,478
Value.....	\$7,027	\$30,790	\$68,382
Buckwheat flour:			
Pounds.....	1,446,534	1,985,725	3,320,063
Value.....	\$36,480	\$56,039	\$89,264
Hominy and grits:			
Pounds.....	256,678,796	182,106,165	96,714,589
Value.....	\$3,758,367	\$2,147,012	\$716,640
Feeds:			
Tons.....	184,664	145,307	190,703
Value.....	\$4,593,176	\$2,659,062	\$2,575,061
Offal:			
Tons.....	203,353	228,947	185,451
Value.....	\$4,247,471	\$4,044,428	\$2,188,722
All other products.....	\$99,965	\$177,057	\$730,066

Between 1899 and 1909 there was a decrease in the quantity of all products except offal and hominy and grits. The output of white flour, the most important product, decreased from 5,733,308 barrels in 1899 to 4,784,808 barrels in 1909, a decrease during the decade of 948,500 barrels, or 16.5 per cent. In this same period the output of corn meal and corn flour decreased 1,132,310 barrels, or 57 per cent, and that of buckwheat flour 1,873,529 pounds, or 56.4 per cent. The value of white flour, however, shows an increase of \$5,205,070, or 20.6 per cent, from 1899 to 1909. Feed, which consists largely of corn and oats ground together, shows a slight decrease in quantity during the decade, but an increase of \$2,018,115, or 78.4 per cent, in value. Hominy and grits increased nearly 200 per cent in quantity and over 400 per cent in value, and offal, which is mainly a by-product of the manufacture of wheat flour, shows an increase of only 17,908 tons, or 9.1 per cent, in quantity, but an increase of \$2,058,749, or 94 per cent, in value.

Of the total value of products reported in 1909, the value of white flour formed 62.3 per cent; that of offal, 10.5 per cent; that of feed, 11.3 per cent; and that of corn meal and corn flour, 6.1 per cent.

The 563 mills reported for Indiana in 1909 were equipped with 4,399 pairs of rolls and 380 runs of stone and steel burrs. Eighteen mills made their own barrels and one manufactured sacks.

Iron and steel, steel works and rolling mills.—Steel works and rolling mills constitute the most important branch of the iron and steel industry in Indiana. The table which follows shows the quantity and value of the products of such establishments for 1909, 1904, and 1899. Only the total tonnage of the rolled, forged, and other classified products can be presented without disclosing individual operations.

PRODUCT.	1909	1904	1899
Total value	\$38,651,848	\$16,920,326	\$19,338,481
Rolled, forged, and other classified products of steel and iron:			
Pens.....	1,110,408	446,458	425,946
Value.....	\$35,525,349	\$15,430,164	\$17,391,548
All other products, including value added to iron and steel rolling-mill products by further manufacture.....	\$3,126,499	\$1,490,162	\$1,946,933

There was an increase in the output of rolled, forged, and other classified products from 1899 to 1904, but their value decreased during this period. From 1904 to 1909 the tonnage increased 664,040, or 148.7 per cent, and the value \$20,095,185, or 130.2 per cent.

Automobiles, including bodies and parts.—The number and value of the different classes of automobiles manufactured, as reported at the censuses of 1909 and 1904, are shown in the next table.

The total number of automobiles of all kinds turned out in 1909 was 17,253, valued at \$17,604,936, as compared with 1,020, valued at \$1,428,463, in 1904. The value of "All other products, including bodies and parts and repairs," shows an even more rapid increase than

that of the complete machines, and the manufacture of bodies and parts constitutes an important branch of the industry. Of the 17,253 machines reported for 1909, 762 were of less than 10 horsepower; 6,597, of 10 but less than 20 horsepower; 6,240, of 20 but less than 30 horsepower; 3,573, of 30 but less than 50 horsepower; and 81, of 50 but less than 90 horsepower.

There were 546 electric cars reported in 1909, and 424 in 1904. Of the total number of automobiles reported for 1909, 17,087 were passenger vehicles and 150 were delivery wagons and trucks. In 1904 only 18 business vehicles were reported. Of the passenger cars, 47.6 per cent were runabouts, 40 per cent touring cars, and 9.6 per cent buggies.

PRODUCT.	1909		1904	
	Number.	Value.	Number.	Value.
Total value		\$23,764,070		\$1,638,662
Automobiles.....	17,253	17,604,936	1,020	1,428,463
Gasoline.....	16,707	16,734,648	595	1,034,519
Electric.....	546	870,288	425	393,944
Passenger vehicles (pleasure, family, and public conveyances).....	17,087	17,224,231	1,002	1,408,303
Gasoline.....	16,644	16,563,237	595	1,034,519
Electric.....	443	661,004	407	373,784
Buggies.....	1,639	652,656	(²)	(²)
Gasoline.....	1,576	(²)		
Electric.....	63	(²)		
Runabouts.....	8,139	5,055,208	578	620,344
Gasoline.....	8,100	(²)	208	299,859
Electric.....	39	(²)	370	321,484
Touring cars.....	6,838	10,710,280	424	787,960
Gasoline.....	6,838		387	735,660
Electric.....	(²)		37	52,300
Closed (limousine, cabs, etc.).....	439	772,401	(²)	
Gasoline.....	100	(²)		
Electric.....	339	(²)		
All other (omnibuses, sight-seeing, patrol and fire department wagons, ambulances, etc.).....	32	147,232	(⁴)	
Gasoline.....	30	(²)		
Electric.....	2	(²)		
Business vehicles (merchandise).....	146	380,705	18	20,160
Gasoline.....	63	(²)		
Electric.....	103	(²)	18	20,160
Delivery wagons.....	107	157,358	18	20,160
Gasoline.....	31	(²)		
Electric.....	76	(²)	18	20,160
Trucks and all other.....	59	223,347	(²)	
Gasoline.....	32	(²)		
Electric.....	27	(²)		
All other products, including bodies and parts and repairs.....		6,159,134		210,139

¹ Includes one steam touring car.

² None reported.

³ Can not be shown separately without disclosing individual operations.

⁴ Included with gasoline touring cars.

Lumber and timber products.—The following is a statement of the production of rough lumber, lath, and shingles as reported at the censuses of 1909 and 1899:

PRODUCT.	QUANTITY.	1909		1899	
		1909	1899	1909	1899
Rough lumber.....	M feet b. m.	556,418	1,030,399		
Lath.....	thousands..	3,600	10,138		
Shingles.....	thousands..	7,340	34,188		

The production of rough lumber decreased nearly one-half during the decade covered by the table, and that of lath and shingles in a greater proportion. Practically the entire output in 1909 was hardwood.

Of the hardwood lumber reported, 41.1 per cent was oak, the remainder being made up of numerous varieties, of which beech, maple, and elm were the most important.

Carriages and wagons and materials.—The following statement shows the number and value of the different kinds of carriages and wagons manufactured in 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	\$21,655,440	\$19,258,861	\$15,810,805
Carriages (family and pleasure):			
Number.....	177,194	178,062	141,734
Value.....	\$10,150,893	\$9,694,820	\$9,959,897
Wagons:			
Number.....	87,844	92,893	94,224
Value.....	\$5,444,456	\$4,288,694	\$4,350,908
Business—			
Number.....	15,617	12,554	(1)
Value.....	\$1,408,543	(1)	(1)
Farm—			
Number.....	71,530	78,340	(1)
Value.....	\$3,952,786	(1)	(1)
Government, municipal, etc.—			
Number.....	607	1,000	(1)
Value.....	\$83,127	(1)	(1)
Public conveyances (cabs, hacks, hacks, hotel coaches, omnibuses, etc.):			
Number.....	52	63	64
Value.....	\$9,035	\$11,180	\$13,605
Sleighs and sleds:			
Number.....	1,101	1,378	3,834
Value.....	\$20,483	\$27,149	\$52,554
Automobiles:¹			
Number.....	225	92	.....
Value.....	\$110,525	\$117,516	.....
All other products, including parts and repair work.....	\$5,910,448	\$5,119,523	\$4,425,140

¹ Not reported separately.
² Automobiles manufactured in establishments devoted primarily to the manufacture of carriages and wagons.

Every class of carriages and wagons reported, with the exception of business wagons, shows a decrease in number from 1904 to 1909. From 1904 to 1909 the number of family and pleasure carriages decreased, but their value increased. Wagons, which constituted the second largest class both in 1909 and in 1904, decreased 5.4 per cent in number but increased 26.9 per cent in value during the five-year period. The industry has been largely affected by the development of the automobile industry, many of the factories formerly manufacturing carriages and wagons now being engaged entirely in the manufacture of automobiles or automobile bodies and parts.

Printing and publishing.—The following table gives the number and the aggregate circulation per issue of the various classes of publications for 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	799	858	864	2,856,173	3,405,804	2,108,805
Daily.....	172	161	155	925,591	538,121	345,404
Sunday.....	20	21	23	206,176	305,180	(1)
Semiweekly.....	230	32	41	51,978	55,905	77,185
Weekly.....	517	560	561	781,806	891,634	858,424
Monthly.....	52	68	64	976,902	1,288,028	715,292
All other classes.....	8	16	19	213,600	265,976	112,600

¹ Included with circulation of daily. ² Includes one triweekly.

During the decade the number of publications decreased 7.5 per cent, while their aggregate circulation

increased 35.4 per cent. The monthly publications form the most important class, reporting 34.2 per cent of the aggregate circulation in 1909.

Every class of publication except the daily shows a falling off during the five-year period 1904–1909, both in number and in aggregate circulation. During this period the circulation of the dailies increased 16.3 per cent, and their number 6.8 per cent. Most of the publications were in English, but there were five dailies, two Sunday papers, eight weeklies, one semiweekly, and three monthlies printed in German; one weekly in Hungarian; one semiweekly in Polish; one monthly in German and English; and one monthly printed in English, French, German, and Italian.

Agricultural implements.—The following tabular statement shows the value of the different classes of agricultural implements reported at the censuses of 1909 and 1904:

PRODUCT.	1909	1904
Total value	\$13,669,824	\$8,060,575
Implements of cultivation.....	4,000,748	3,340,695
Seeders and planters.....	1,499,030	694,047
Harvesting implements.....	154,878	138,533
Seed separators.....	2,748,913	718,575
All other products.....	4,669,646	3,192,725

Every class of product shows an increase in value. Implements of cultivation are the most important class shown separately, representing about one-third of the total value in 1909. Implements of cultivation and seed separators together contributed more than one-half of the total value of products returned for the industry.

Glass.—The following statement gives the quantity of the principal materials used in the manufacture of glass, and the value of the different classes of products, for 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904	1899
Principal materials:			
Glass sand..... tons.....	153,248	103,600	179,367
Soda ash (carbonate of soda)..... tons.....	52,178	55,249	48,629
Salt cake (sulphate of soda)..... tons.....	7,047	9,063	14,371
Nitrate of soda..... tons.....	2,572	2,156	2,329
Limestone..... tons.....	18,793	27,120	27,093
Lime..... bushels.....	235,574	213,041	287,685
Litharge and red lead..... pounds.....	517,120	790,509	1,482,887
Potash or pearlash..... pounds.....	378,730	435,100	453,461
Manganese..... pounds.....	717,593	785,802	521,980
Arsenic..... pounds.....	373,473	548,711	837,487
Products, total value.....	\$11,598,094	\$14,706,929	\$14,757,883
Building glass.....	1,616,092	3,799,618	5,711,048
Pressed and blown glass.....	2,774,128	2,859,087	2,691,787
Bottles and jars.....	6,932,378	7,213,456	6,327,408
All other products.....	220,406	843,768	26,680

From 1904 to 1909 the total value of products of the establishments engaged in the manufacture of glass in Indiana decreased 21.2 per cent. The value of bottles and jars formed 60.2 per cent of the total value of all products in 1909; that of pressed and blown glass formed 23.9 per cent of the total, and that of building glass 13.9 per cent.

Canning and preserving.—The quantity and value of the various products of this industry in 1909, 1904, and 1899 are given in the following table:

PRODUCT.	1909	1904	1899
Total value	\$58,758,343	\$5,893,665	\$3,146,380
Canned vegetables.....	\$6,199,194	\$4,422,958	\$2,169,003
Beans.....			
Cases.....	822,508	202,501	136,116
Value.....	\$2,116,648	\$491,233	\$270,670
Corn.....			
Cases.....	520,401	678,950	207,155
Value.....	\$679,446	\$958,455	\$270,265
Peas.....			
Cases.....	521,704	425,314	209,154
Value.....	\$753,527	\$644,439	\$310,172
Pumpkin.....			
Cases.....	119,065	35,278	24,255
Value.....	\$139,738	\$57,417	\$31,439
Tomatoes.....			
Cases.....	916,755	1,150,143	878,791
Value.....	\$1,460,219	\$1,820,870	\$1,286,027
All other.....			
Cases.....	899,109	320,617	430
Value.....	\$1,040,616	\$450,538	\$430
All other products, including pickles, preserves, and sauces.....	\$2,550,140	\$1,470,707	\$970,377

¹ Does not include pickles, preserves, and sauces to the value of \$76,755, reported by establishments classified as engaged in other industries.

The case, which is used as a unit in measuring the quantities of canned goods produced, consists of 24 standard-size cans—No. 2 cans (also called 2-pound cans) in the case of beans, corn, and peas, and No. 3 cans (also called 3-pound cans) for all other vegetables.

Between 1904 and 1909 there was an increase of 40.2 per cent in the total value of all canned vegetables. Beans were the most important vegetable canned. The increase both in quantity and in value from 1904 to 1909 was approximately 300 per cent. Canned peas and canned pumpkin also show substantial increases. Canned tomatoes and canned corn show decreases in quantity and value. In 1909 the value of canned beans formed 24.2 per cent, and that of canned tomatoes, 16.8 per cent, of the total value of all canned and preserved products. The proportion represented by canned fruits was unimportant, this product being included under the heading "All other products."

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 163 such establishments in the state of Indiana, 23 of which were in Indianapolis, 7 in Evansville, 6 in South Bend, 5 in Terre Haute, 4 in Richmond, and 3 each in Fort Wayne, Muncie, Hammond, Lafayette, Marion, Logansport, Michigan City, Kokomo, and Vincennes.

The following statement summarizes the statistics:

Number of establishments.....	163
Persons engaged in the industry.....	3,308
Proprietors and firm members.....	184
Salaried employees.....	223
Wage earners (average number).....	2,901
Primary horsepower.....	3,746
Capital.....	\$1,236,060
Expenses.....	1,937,297
Services.....	1,212,558
Materials.....	371,178
Miscellaneous.....	353,561
Amount received for work done.....	2,448,355

The most common form of ownership was the individual, with 90 establishments. The firm and corporate forms of ownership were represented by 41 and 32 establishments, respectively. Forty-two establishments had receipts for the year's business of less than \$5,000; 80, receipts of \$5,000 but less than \$20,000; and 41, receipts of \$20,000 but less than \$100,000.

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.	Percent of maximum.		Number.	Percent of maximum.
January.....	2,769	92.8	July.....	2,050	99.1
February.....	2,777	93.0	August.....	2,985	100.0
March.....	2,786	93.3	September.....	2,900	99.5
April.....	2,807	94.0	October.....	2,940	98.8
May.....	2,872	95.2	November.....	2,982	99.9
June.....	2,984	99.9	December.....	2,973	99.6

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		3,746
Owned:		
Steam.....	123	3,290
Gas.....	13	58
Water motor.....	1	5
Rented:		
Electric.....	50	318
Other.....		125

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	201
Bituminous coal.....	Tons.....	41,364
Coke.....	Tons.....	183
Wood.....	Cords.....	168
Oil.....	Barrels.....	248
Gas.....	1,000 feet.....	22,073

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.....	204	175
Persons engaged in the industry.....	594	274
Proprietors and firm members.....	260	216
Salaried employees.....		5
Wage earners (average number).....	325	53
Primary horsepower.....	4,298	4,556
Capital.....	\$237,931	\$428,879
Expenses.....	98,505	718,616
Services.....	77,588	22,852
Materials.....	1,888	1,079,818
Miscellaneous.....	19,079	15,399
Value of products.....	220,437	1,836,847

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

MANUFACTURES—INDIANA.

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).							
STATE—All industries	1909	7,969	218,263	7,074	23,005	186,984	633,377	\$508,717	\$20,305	\$65,511	\$334,375	\$579,075	\$244,700
	1904	7,044	176,227	7,191	14,862	154,174	380,758	312,071	15,029	72,058	220,507	393,954	173,447
	1899	7,128	.....	.....	10,447	139,017	325,919	210,321	9,971	59,280	195,103	337,072	141,009
Agricultural implements.....	1909	39	6,061	30	1,282	4,749	9,254	23,008	1,196	2,505	4,804	13,070	8,806
	1904	41	3,047	15	389	3,543	3,831	14,523	466	1,841	2,975	8,061	5,086
	1899	45	3,957	20	618	3,419	4,091	8,325	490	1,594	2,020	6,415	3,795
Artificial stone.....	1909	219	807	284	55	408	495	652	32	227	300	851	551
	1904	55	243	65	20	158	210	174	11	72	68	215	147
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Automobiles, including bodies and parts.	1909	67	7,763	36	920	6,797	5,813	16,722	870	4,131	14,995	23,704	8,769
	1904	11	921	6	99	816	700	1,194	80	496	824	1,639	815
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boots and shoes, including cut stock and findings.	1909	8	524	4	84	436	393	738	82	159	664	978	314
	1904	4	250	1	23	226	133	300	20	71	300	460	160
	1899	10	.....	.....	48	639	.....	593	46	164	678	987	259
Boxes, fancy and paper.....	1909	13	609	9	50	550	351	624	48	179	422	782	360
	1904	11	450	6	32	412	309	401	29	110	215	407	192
	1899	11	343	8	12	323	.....	163	14	77	95	238	138
Brass and bronze products.....	1909	21	534	18	48	468	503	878	99	292	774	1,379	605
	1904	9	118	7	10	101	143	119	8	55	85	175	90
	1899	10	72	12	4	56	.....	82	4	31	75	155	80
Bread and other bakery products.....	1909	754	3,780	854	421	2,505	2,124	6,044	338	1,815	6,226	10,209	3,983
	1904	581	3,082	667	300	2,115	1,580	3,859	221	994	4,131	6,935	2,864
	1899	391	1,961	426	202	1,334	.....	2,192	138	528	2,339	4,166	1,827
Brick and tile.....	1909	311	4,361	336	237	3,788	10,881	7,455	251	1,835	1,306	4,719	3,413
	1904	392	4,009	498	176	3,335	15,890	6,499	172	1,403	982	3,818	2,630
	1899	558	4,448	691	148	3,609	12,721	4,505	104	1,190	552	2,931	2,379
Butter, cheese, and condensed milk.....	1909	132	807	116	203	488	1,853	1,042	85	292	3,196	3,959	793
	1904	87	324	72	65	187	1,025	302	19	98	1,011	1,291	280
	1899	112	233	92	23	118	1,000	287	7	57	711	930	219
Canning and preserving.....	1909	134	3,952	60	480	3,406	6,398	5,572	515	879	5,045	8,758	2,813
	1904	110	3,750	55	269	3,426	4,738	3,982	220	802	3,674	5,894	2,320
	1899	69	.....	.....	191	2,162	.....	1,628	143	436	1,921	3,145	1,224
Carrriages and wagons and materials....	1909	221	10,100	211	1,022	8,867	13,790	29,110	1,295	4,355	12,458	21,955	9,197
	1904	252	10,601	257	938	9,406	13,352	25,879	952	4,184	10,899	19,259	8,390
	1899	323	.....	.....	707	8,714	.....	19,798	683	3,525	8,553	15,811	7,258
Cars and general shop construction and repairs by steam-railroad companies.	1909	34	13,745	.....	801	12,884	13,550	9,942	787	8,081	7,876	17,128	9,252
	1904	44	12,020	.....	672	11,348	9,126	5,147	589	6,064	7,000	14,515	7,506
	1899	54	8,429	.....	348	8,081	5,516	4,730	290	4,325	5,455	10,242	4,787
Cars, steam-railroad, not including operations of railroad companies.	1909	7	4,449	.....	365	4,084	10,000	14,884	505	1,991	6,309	9,498	3,189
	1904	6	3,341	.....	89	3,252	4,700	5,304	108	1,928	6,844	10,036	3,192
	1899	4	3,433	.....	96	3,337	3,740	6,092	112	1,551	6,287	9,007	2,720
Cement.....	1909	11	2,010	.....	298	2,318	28,101	7,271	318	1,280	4,159	7,022	2,863
	1904	6	817	.....	29	788	5,550	2,144	42	381	422	1,283	861
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing, men's, including shirts.....	1909	42	4,444	23	348	4,073	784	4,617	459	1,305	4,652	8,020	3,377
	1904	41	4,081	20	291	3,761	587	2,335	245	994	3,292	5,420	2,168
	1899	42	.....	.....	154	3,725	.....	2,015	171	904	2,481	4,267	1,788
Clothing, women's.....	1909	18	1,403	15	97	1,291	190	851	141	440	1,067	2,058	1,001
	1904	27	1,781	22	153	1,606	455	906	160	484	988	2,109	1,121
	1899	14	1,339	11	64	1,204	1,392	521	63	296	650	1,257	607
Coffins, burial cases, and undertakers' goods.	1909	19	824	7	148	669	1,249	1,494	163	313	701	1,448	747
	1904	17	575	9	72	494	937	1,194	87	217	472	1,107	635
	1899	15	507	2	68	437	.....	798	65	180	373	799	426
Confectionery.....	1909	64	1,134	62	187	885	624	949	179	208	1,523	2,558	1,035
	1904	43	884	30	103	685	499	870	121	228	831	1,530	699
	1899	28	.....	.....	95	559	.....	451	71	169	691	1,249	558
Cooperage and wooden goods, not elsewhere specified.	1909	57	1,016	49	76	891	2,441	1,476	74	382	1,490	2,398	899
	1904	59	1,139	64	53	1,022	2,541	1,307	84	433	1,784	2,777	993
	1899	98	1,504	102	48	1,354	.....	866	41	503	1,111	2,060	940
Copper, tin, and sheet-iron products....	1909	146	2,485	147	217	2,121	1,637	6,814	202	1,065	3,431	5,763	2,332
	1904	91	1,286	103	195	988	495	4,504	200	440	1,498	2,885	1,387
	1899	34	.....	.....	160	605	.....	728	56	224	835	1,520	685
Cotton goods, including cotton small wares.	1909	7	1,021	.....	39	1,582	5,315	2,473	105	478	1,670	2,502	832
	1904	5	1,208	.....	34	1,174	5,250	2,277	51	302	1,140	1,484	344
	1899	4	1,442	3	18	1,421	3,994	1,678	34	324	701	1,335	634
Cutlery and tools, not elsewhere specified.	1909	24	639	10	51	672	1,738	1,297	62	305	403	933	530
	1904	19	701	11	51	639	1,654	1,037	57	286	371	843	472
	1899	22	.....	.....	82	1,244	.....	1,070	71	433	543	1,496	953
Electrical machinery, apparatus, and supplies.	1909	42	3,723	25	625	3,073	5,285	6,857	616	1,361	3,693	7,718	4,025
	1904	34	1,813	13	384	1,416	3,042	3,175	383	604	1,087	2,857	1,790
	1899	24	1,028	13	134	881	1,476	1,453	134	340	784	1,586	802

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.

MANUFACTURES—INDIANA.

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

THE STATE—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.													
STATE—Continued.													
Flour-mill and gristmill products.....	1909	563	3,508	703	607	2,298	38,502	\$15,857	\$474	\$1,216	\$35,002	\$40,541	\$5,539
	1904	566	3,404	830	345	2,289	42,160	11,007	303	1,081	31,842	36,474	5,132
	1899	541			280	2,071		10,023	277	932	24,804	29,038	4,234
Foundry and machine-shop products...	1909	415	18,439	301	2,329	15,809	29,108	39,711	2,886	8,857	18,619	39,884	21,265
	1904	346	14,680	271	1,553	12,860	19,486	25,658	1,738	6,359	11,061	25,595	13,934
	1899	1,377	13,145	304	919	11,802		16,029	932	5,201	9,501	18,826	10,325
Furniture and refrigerators.....	1909	201	12,352	83	985	11,284	20,449	16,537	1,095	5,137	8,400	18,456	9,996
	1904	186	10,780	88	717	9,955	15,858	12,003	763	4,044	5,716	13,050	8,243
	1899	1,120	7,727	82	490	7,149		7,066	431	2,540	4,032	8,770	4,738
Gas and electric fixtures and lamps and reflectors.	1909	12	401	3	56	342	558	714	63	152	285	620	335
	1904	15	81	6	9	66	93	93	9	38	73	172	99
	1899												
Gas, illuminating and heating.....	1909	53	1,390	9	453	928	5,845	23,550	356	508	1,102	3,147	2,045
	1904	43	826	3	202	621	1,855	11,972	172	289	671	1,830	1,268
	1899	39	486		146	340	654	7,746	80	172	256	1,034	778
Glass.....	1909	44	9,636	3	389	9,544	21,031	13,140	526	4,042	4,728	11,593	6,865
	1904	96	12,470	18	432	12,020	14,656	13,884	549	6,038	5,559	14,707	9,148
	1899	110	13,548	24	509	13,015	10,918	12,775	649	7,226	4,583	14,758	10,176
Glucose and starch.....	1909	4	944	0	72	866	3,070	4,265	131	480	4,682	5,750	1,068
	1904	4	510	0	42	462	1,370	1,187	60	249	1,490	2,048	549
	1899	4	219	2	7	210	941	2,873	8	89	550	990	440
Hosiery and knit goods.....	1909	5	2,032		99	1,933	1,393	2,406	178	687	915	2,381	1,466
	1904	5	1,804		84	1,720	1,415	2,215	85	510	1,105	2,105	1,000
	1899	7	2,119		103	2,016	1,360	2,728	201	703	1,200	2,424	1,224
Ice, manufactured.....	1909	85	765	62	140	563	7,720	3,318	109	304	320	1,311	985
	1904	66	647	52	104	391	5,611	2,204	73	199	161	748	587
	1899	47	439	35	61	343	3,512	1,581	44	102	121	544	423
Iron and steel, steel works and rolling mills.	1909	17	13,206		951	12,255	111,806	47,781	1,104	8,390	26,099	38,652	12,553
	1904	21	7,538		323	7,215	48,504	22,986	370	4,072	10,900	16,920	6,014
	1899	27	7,784		205	7,579	39,050	14,994	267	4,244	12,439	19,338	6,899
Leather goods.....	1909	118	1,582	140	202	1,240	3,542	3,108	182	527	2,002	3,406	1,494
	1904	90	1,107	110	86	911	716	1,457	82	388	1,098	1,098	900
	1899	55			78	631		823	67	294	829	1,420	600
Leather, tanned, curried, and finished..	1909	10	440	5	37	398	1,028	2,213	55	205	1,713	2,311	598
	1904	13	301	18	18	265	624	1,248	20	134	704	1,051	287
	1899	23	454	27	27	400	628	1,321	27	102	1,187	1,580	403
Liquors, distilled.....	1909	14	527	20	79	428	2,820	5,556	173	269	4,712	31,010	26,898
	1904	18	394	18	39	337	2,228	1,820	90	190	2,098	20,520	17,522
	1899	24	300	26	38	236	2,782	1,326	63	112	1,930	16,901	15,031
Liquors, malt.....	1909	37	1,923	16	313	1,594	11,882	10,571	550	1,019	1,989	8,313	6,324
	1904	41	1,633	25	295	1,313	8,524	9,073	440	704	1,762	6,190	4,434
	1899	42	1,276	26	205	1,045	5,009	6,348	318	602	1,127	5,777	4,650
Lumber and timber products.....	1909	1,277	12,840	1,540	938	10,317	57,243	19,177	965	4,492	12,382	23,135	10,753
	1904	994	11,739	1,254	781	9,704	49,505	18,816	695	4,226	11,752	21,479	9,724
	1899	1,504			938	14,549		12,799	513	5,529	12,908	25,000	12,758
Marble and stone work.....	1909	200	3,811	209	319	3,283	17,143	7,441	417	1,043	1,700	5,750	3,996
	1904	128	2,466	145	164	2,157	8,310	3,193	174	1,129	1,177	3,399	2,222
	1899	104			88	1,003		1,331	74	463	590	1,040	1,056
Mattresses and spring beds.....	1909	27	644	18	73	553	791	1,450	81	257	691	1,287	596
	1904	26	523	25	40	458	604	743	30	170	437	854	417
	1899	16			41	299		298	25	108	288	512	224
Millinery and lace goods.....	1909	7	198	5	27	166	23	182	35	50	331	538	207
	1904	9	276	6	19	251	11	29	21	68	138	274	136
	1899	3	94		8	86		29	8	29	44	104	69
Musical instruments and materials, not specified.	1909	9	429	6	33	390	216	604	123	208	108	610	502
	1904	5	325	3	39	283	125	445	43	125	88	352	264
	1899	6	254	8	19	227	113	176	9	116	39	206	167
Musical instruments, pianos and organs and materials.	1909	15	1,985	4	314	1,667	2,650	4,270	462	994	1,793	3,686	1,983
	1904	12	1,420	3	180	1,237	2,340	2,617	187	630	884	2,270	1,386
	1899	5			63	429		857	51	235	303	814	451
Paint and varnish.....	1909	18	297	4	93	200	521	841	112	74	683	1,108	425
	1904	14	140	7	52	81	420	580	67	42	437	748	311
	1899	8	90	1	38	51	309	340	44	23	255	403	148
Paper and wood pulp.....	1909	27	1,027	7	119	1,501	18,382	7,132	173	754	3,497	5,202	1,705
	1904	36	1,737	5	112	1,620	19,775	6,511	132	664	2,617	3,917	1,400
	1899	39	1,662	12	134	1,816	23,797	5,370	186	724	2,471	4,170	1,699
Paper goods, not elsewhere specified....	1909	8	816	5	92	719	835	3,403	122	256	1,224	1,887	663
	1904	3	392	1	32	359	575	465	20	132	545	779	234
	1899	5	262		14	248		173	15	74	206	386	150
Patent medicines and compounds and druggists' preparations.	1909	113	1,481	96	584	801	809	2,858	585	354	1,460	4,844	2,884
	1904	100	1,211	78	320	813	468	2,274	357	292	1,454	4,410	2,956
	1899	59			326	603		927	257	220	701	2,403	1,702

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

MANUFACTURES—INDIANA.

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

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	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.	Salaried employes.	Wage earners (average number).							
STATE—Continued.													
Pottery, terra-cotta, and fire-clay products.	1909	31	2,373	16	171	2,186	5,080	\$4,806	\$213	\$1,190	\$859	\$2,906	\$2,107
	1904	38	2,200	35	140	2,019	5,387	3,837	183	981	646	2,043	1,997
	1899	40	1,350	40	00	1,250	2,021	1,520	60	531	312	1,291	979
Printing and publishing.....	1909	892	9,000	865	1,970	6,756	17,808	11,844	1,050	3,522	4,025	14,366	10,331
	1904	805	8,295	893	1,583	5,819	3,996	9,440	1,275	2,041	3,175	11,473	8,298
	1899	809			932	5,033		6,555	815	2,445	2,422	8,000	6,538
Scales and balances.....	1909	8	357	1	90	266	200	985	118	163	208	877	609
	1904	5	96	3	18	75	167	189	10	30	41	208	167
	1899	3	57	1	14	42		130	9	21	32	130	98
Slaughtering and meat packing.....	1909	61	4,862	64	375	4,423	5,073	8,058	690	2,161	41,986	47,289	5,303
	1904	50	3,400	46	199	3,155	4,388	240	240	1,371	20,249	29,435	3,186
	1899	39			303	3,604		8,870	315	1,570	33,029	43,890	5,261
Stoves and furnaces, including gas and oil stoves.	1909	24	1,603	11	236	1,302	1,704	2,853	277	723	1,021	2,751	1,730
	1904	23	1,210	9	131	1,070	1,395	1,704	104	659	807	2,030	1,223
	1899												
Tobacco manufactures.....	1909	470	3,410	507	115	2,794	123	1,408	140	1,126	1,590	4,155	2,565
	1904	552	3,414	622	124	2,668	145	1,580	90	1,040	1,581	3,905	2,324
	1899	485	2,542	531	73	1,938	60	820	55	703	934	2,595	1,661
Wirework, including wire rope and cable.	1909	31	834	18	127	689	1,182	1,192	141	314	2,342	3,161	819
	1904	25	589	22	95	472	784	1,059	84	209	1,130	1,096	560
	1899	27	413	25	68	320		639	47	122	547	1,100	553
Woolen, worsted, and felt goods, and wool hats.	1909	11	825	12	37	776	1,078	1,555	71	293	1,050	1,570	514
	1904	13	1,038	10	35	993	1,945	1,045	49	300	997	1,697	600
	1899	20	1,118	12	58	1,048	1,945	1,849	68	307	877	1,491	614
All other industries.....	1909	772	25,427	633	3,106	21,688	109,023	89,146	3,569	10,428	58,692	88,043	29,951
	1904	701	22,290	543	2,036	19,611	40,421	50,000	2,072	8,905	40,612	63,150	22,644
	1899	654			1,370	15,702		32,049	1,310	6,065	33,532	49,285	15,753

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

INDUSTRY.	1909	1904	1899	Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
EVANSVILLE—All industries..	299	10,162	231	934	8,997	18,849	\$20,093	\$1,039	\$3,965	\$12,704	\$22,829	\$10,135		
	1904	288	8,771	251	762	7,758	14,337	818	3,430	10,132	18,091	7,969		
	1899	273			561	6,284	9,428	596	2,451	6,545	12,168	5,623		
Agricultural implements.....	1909	5	282	48	234	755	730	71	128	218	650	432		
	1904	4	208	2	27	179	456	29	92	173	403	230		
	1899	4	193	2	27	104	479	20	73	106	313	207		
Bread and other bakery products.....	1909	19	161	22	20	119	103	605	16	57	319	487		
	1904	13	147	12	32	103		227	20	48	229	355		
	1899	23	127	22	24	81		170	15	28	141	257		
Carrriages and wagons and materials.....	1909	13	699	9	42	648	1,019	877	46	308	1,213	1,835		
	1904	9	358	9	19	330		407	18	143	628	806		
	1899	7	82	9	4	69		130	3	20	73	124		
Confectionery.....	1909	6	109	9	12	88	2	65	0	23	81	142		
	1904	4	42	6	14	22		21	2	12	27	53		
	1899													
Cooperage and wooden goods, not elsewhere specified.	1909	5	78	7	3	68	108	48	3	37	119	192		
	1904	4	82	5	5	72		94	6	45	110	213		
	1899	11	126	15	3	108		32	3	40	91	169		
Flour-mill and gristmill products.....	1909	9	154	7	42	105	1,045	941	39	67	2,029	3,304		
	1904	9	141	14	25	102		486	25	65	2,384	2,639		
	1899	10			22	111		506	25	45	1,562	1,701		
Foundry and machine-shop products...	1909	13	495	12	63	420	809	999	49	227	395	826		
	1904	12	374	10	52	312		727	50	155	291	666		
	1899	12			57	477		830	72	253	274	745		
Furniture and refrigerators.....	1909	20	1,569	3	108	1,458	2,997	2,312	124	633	1,205	2,520		
	1904	21	1,273	4	71	1,108		1,326	76	494	696	1,655		
	1899	18	1,011	9	75	927		700	69	205	453	978		
Ice, manufactured.....	1909	3	93	1	18	74	348	439	14	30	17	156		
	1904	3	47	1	12	34		374	11	18	15	84		
	1899	3	68	1	9	58		292	8	27	13	76		
Leather goods.....	1909	12	229	16	15	198	284	383	10	63	198	357		
	1904	6	168	9	9	150		197	7	71	186	297		
	1899	5			15	168		152	11	61	141	244		
Lumber and timber products.....	1909	16	621	9	63	549	2,060	1,891	77	284	818	1,443		
	1904	16	730	18	70	642		1,586	83	257	935	1,603		
	1899	20	776	23	37	716		1,090	43	362	869	1,620		
Patent medicines and compounds and druggists' preparations.	1909	6	33	5	12	16	22	65	11	8	47	90		
	1904	8	28	13	4	11		50	3	3	18	55		
	1899	3			10	30		10	8	7	28	70		

1 Not reported separately.
 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.
 4 Figures can not be shown without disclosing individual operations.
 5 Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—INDIANA.

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.	Salaries employes.	Wage earners (average number).							
Expressed in thousands.													
EVANSVILLE—Continued.													
Printing and publishing.....	1909	27	364	18	92	254	296	\$424	\$93	\$165	\$152	\$600	\$448
	1904	20	289	19	56	214	.....	268	57	114	114	406	292
	1899	17	285	15	40	230	.....	238	53	117	90	335	245
Stoves and furnaces, including gas and oil stoves.	1909	5	429	.....	53	376	492	810	81	208	217	771	554
	1904	4	358	.....	41	317	.....	529	63	183	137	527	390
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures.....	1909	35	1,141	38	25	1,078	85	280	35	355	551	1,331	789
	1904	37	750	40	28	682	.....	371	22	208	453	848	395
	1899	42	615	47	19	540	.....	97	15	138	167	442	275
All other industries.....	1909	99	3,705	75	318	3,312	7,224	9,200	364	1,363	4,315	8,225	3,919
	1904	98	3,770	89	291	3,390	.....	7,218	346	1,522	3,826	7,421	3,595
	1899	98	.....	.....	219	2,596	.....	4,642	242	1,000	2,597	5,094	2,497
FORT WAYNE—All industries.													
	1909	230	12,184	205	1,681	10,298	15,063	\$20,346	\$1,795	\$5,023	\$11,415	\$23,687	\$12,272
	1904	193	8,845	183	933	7,729	.....	12,363	978	3,595	7,019	14,011	6,992
	1899	178	.....	.....	601	6,519	.....	8,074	528	2,627	6,032	11,263	6,831
Bread and other bakery products.....	1909	15	343	10	63	269	247	408	52	145	631	1,021	390
	1904	17	270	22	52	196	.....	470	40	83	404	640	245
	1899	15	.....	.....	34	169	.....	322	35	55	200	503	234
Carrriages and wagons and materials....	1909	10	87	15	11	61	145	205	9	31	83	140	57
	1904	13	227	17	14	196	.....	357	15	82	111	262	151
	1899	13	.....	.....	20	278	.....	456	21	117	205	514	249
Confectionery.....	1909	6	93	5	17	71	77	118	23	23	80	210	130
	1904	3	70	2	18	50	.....	69	13	14	90	130	43
Flour-mill and gristmill products.....	1909	5	50	9	10	31	430	166	10	21	425	503	78
	1904	5	55	10	11	34	.....	172	9	17	430	493	57
	1899	6	.....	.....	5	33	.....	172	4	15	314	378	64
Foundry and machine-shop products...	1909	20	2,389	8	498	1,880	3,061	5,066	502	889	1,813	4,878	3,065
	1904	15	1,456	8	143	1,305	.....	3,426	153	627	1,255	2,430	1,181
	1899	12	.....	.....	54	872	.....	2,120	60	389	889	1,695	899
Leather goods.....	1909	4	36	7	12	17	28	91	0	11	46	85	39
	1904	4	31	7	4	20	.....	22	2	10	24	50	26
	1899	5	.....	.....	2	31	.....	25	1	12	29	57	28
Lumber and timber products.....	1909	13	431	17	60	354	1,500	800	56	175	709	1,263	494
	1904	12	325	13	25	287	.....	512	31	130	357	653	296
	1899	14	245	17	28	200	.....	437	20	83	308	551	266
Marble and stone work.....	1909	6	63	8	4	51	90	84	4	33	36	91	55
	1904	3	43	4	1	38	.....	50	(3)	25	20	70	50
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	10	48	13	15	20	27	177	21	7	79	244	165
	1904	5	13	4	1	8	.....	5	(4)	4	6	33	27
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing.....	1909	20	444	13	118	313	314	588	95	181	255	728	473
	1904	6	207	18	47	202	.....	356	53	116	160	443	274
	1899	9	171	6	36	129	.....	181	33	73	87	247	160
Tobacco manufactures.....	1909	32	255	31	26	198	.....	126	22	100	144	355	211
	1904	33	230	37	5	188	.....	76	3	109	134	355	221
	1899	22	.....	.....	6	120	.....	40	4	58	63	187	124
All other industries.....	1909	89	7,943	63	847	7,033	8,544	11,878	995	3,407	7,054	14,169	7,115
	1904	64	5,858	41	612	5,205	.....	6,333	653	2,369	4,007	8,428	4,421
	1899	82	.....	.....	416	4,687	.....	4,015	341	1,325	3,808	7,131	3,909
INDIANAPOLIS—All industries.													
	1909	855	37,929	631	5,483	31,815	50,872	\$76,497	\$6,494	\$16,557	\$84,151	\$126,522	\$42,371
	1904	810	31,481	591	4,115	26,725	.....	53,420	4,096	12,620	51,763	82,228	30,453
	1899	697	.....	.....	2,325	20,985	.....	34,736	2,248	3,844	38,287	59,322	21,035
Agricultural implements.....	1909	6	71	1	16	54	98	162	15	28	81	171	90
	1904	6	116	2	28	86	.....	325	20	40	81	242	161
	1899	6	74	3	20	51	.....	257	17	24	73	270	197
Artificial stone.....	1909	17	97	11	29	57	39	98	16	32	39	167	128
	1904	4	18	.....	4	14	.....	19	4	8	6	34	28
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Automobiles, including bodies and parts.	1909	17	2,782	9	379	2,394	2,296	5,066	329	1,466	5,994	8,840	2,846
	1904	4	509	.....	62	447	.....	810	56	278	554	798	244
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boxes, fancy and paper.....	1909	3	169	.....	14	155	127	170	15	56	135	239	104
	1904	3	117	2	8	107	.....	108	8	29	69	114	55
	1899	4	97	4	3	90	.....	59	3	18	31	73	42
Bread and other bakery products.....	1909	73	850	76	187	596	587	3,172	187	288	1,705	2,809	1,194
	1904	64	785	65	124	596	.....	1,007	88	278	1,083	1,870	787
	1899	64	434	63	60	311	.....	886	36	141	730	1,200	470

1 Not reported separately.

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 one establishment, to avoid disclosure of individual operations.

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

MANUFACTURES—INDIANA.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1890—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).							
INDIANAPOLIS—Continued.													
Canning and preserving.....	1909	7	635	12	234	680	785	\$1,595	\$314	\$190	\$2,408	\$3,401	\$908
	1904	10	1,102	10	90	1,002	.....	1,447	112	341	1,245	2,255	1,010
	1890	8	.....	.....	88	382	.....	335	85	90	748	1,107	359
Carpets, rag.....	1909	6	69	6	11	52	54	21	8	13	12	48	36
	1904	4	35	6	4	25	.....	6	2	7	3	17	14
Carriages and wagons and materials.....	1909	14	1,044	11	113	920	904	1,700	129	487	1,315	2,172	857
	1904	18	1,444	12	120	1,303	.....	2,031	130	596	1,468	2,026	1,168
	1890	24	1,575	24	120	1,431	.....	1,644	100	543	1,767	2,812	1,055
Cars and general shop construction and repairs by steam-railroad companies.	1909	5	2,200	.....	152	2,108	1,123	772	129	1,323	1,123	2,002	1,530
	1904	6	2,387	.....	166	2,221	.....	870	133	1,272	1,070	2,503	1,433
	1890	5	1,173	.....	49	1,124	.....	774	43	604	832	1,508	676
Clothing, men's, including shirts.....	1909	10	1,670	3	128	1,530	330	1,293	205	583	1,359	2,700	1,350
	1904	9	1,222	3	111	1,108	.....	672	101	316	709	1,614	845
	1890	12	.....	.....	33	730	.....	311	41	153	370	744	374
Clothing, women's.....	1909	8	506	9	35	492	78	293	52	172	401	725	324
	1904	11	506	8	67	491	.....	387	73	156	304	726	422
	1890	5	486	4	22	400	.....	122	23	102	220	387	158
Confectionery.....	1909	14	585	9	102	474	380	571	104	100	915	1,472	557
	1904	15	461	8	94	359	.....	528	76	123	411	806	395
	1890	11	.....	.....	56	265	.....	210	41	78	306	703	307
Cooperage and wooden goods, not elsewhere specified.	1909	4	56	3	13	40	87	58	4	17	62	115	53
	1904	6	86	6	4	76	.....	77	4	35	80	140	60
	1890	5	117	5	2	110	.....	44	2	40	76	131	55
Electrical machinery, apparatus, and supplies.	1909	7	442	4	74	364	598	708	66	134	407	804	457
	1904	6	235	.....	42	193	.....	410	41	97	115	396	251
	1890	5	145	3	23	119	.....	191	18	46	101	212	111
Flour-mill and gristmill products.....	1909	9	391	4	63	324	4,735	2,223	61	170	5,800	6,448	648
	1904	9	311	5	38	268	.....	1,309	47	151	3,061	4,420	468
	1890	8	.....	.....	46	313	.....	1,040	76	150	3,340	3,817	477
Foundry and machine-shop products...	1909	78	5,221	61	670	4,461	7,318	11,221	811	2,525	5,401	11,442	6,041
	1904	66	5,104	40	596	4,468	.....	8,948	660	2,204	3,566	8,685	5,110
	1890	71	.....	.....	303	4,364	.....	5,570	337	1,078	3,253	6,988	3,735
Fur goods.....	1909	5	25	4	5	16	1	16	6	6	28	56	28
	1904	4	15	4	1	10	.....	8	1	3	24	42	18
Furniture and refrigerators.....	1909	32	1,807	16	158	1,633	2,180	2,251	193	652	1,322	2,942	1,620
	1904	34	1,796	18	149	1,620	.....	1,812	160	704	1,052	2,528	1,476
	1890	22	1,323	22	110	1,182	.....	1,337	106	467	807	1,086	879
Ice, manufactured.....	1909	6	110	4	19	87	850	411	20	41	54	180	126
	1904	10	104	6	23	75	.....	375	13	44	30	152	113
	1890	7	83	5	11	67	.....	235	7	31	28	100	81
Leather goods.....	1909	8	403	3	87	313	199	878	80	137	602	901	359
	1904	8	237	2	32	203	.....	525	38	93	354	606	252
	1890	6	193	4	35	154	.....	291	35	78	220	380	100
Liquors, malt.....	1909	4	474	.....	87	387	3,485	2,037	137	277	436	2,204	1,798
	1904	4	392	.....	74	318	.....	1,500	91	218	383	1,301	918
	1890	5	320	.....	64	256	.....	1,077	90	154	254	1,771	1,517
Lumber and timber products.....	1909	44	1,165	26	161	978	3,025	2,754	215	544	1,044	3,233	1,280
	1904	38	1,120	22	124	983	.....	1,042	125	495	1,832	2,848	1,016
	1890	27	1,005	31	66	908	.....	1,101	75	374	945	1,817	872
Mattresses and spring beds.....	1909	5	320	2	45	273	546	1,000	57	127	307	636	320
	1904	8	396	3	33	360	.....	616	26	128	330	646	316
	1890	5	256	.....	35	221	.....	250	22	84	223	386	163
Millinery and lace goods.....	1909	4	135	3	6	126	18	52	12	45	124	247	123
	1904	5	242	3	14	225	.....	20	17	62	133	244	111
	1890	3	94	.....	8	86	.....	29	8	20	44	104	60
Models and patterns, not including paper patterns.	1909	6	32	0	2	21	25	11	1	18	5	40	35
	1904	7	32	10	1	21	.....	10	1	14	4	35	31
	1890	4	22	6	.....	16	.....	10	.....	9	3	20	17
Paint and varnish.....	1909	9	198	.....	50	148	338	391	67	45	376	592	216
	1904	7	82	.....	37	45	.....	340	48	23	232	418	186
	1890	3	41	.....	11	30	.....	65	11	12	107	147	40
Patent medicines and compounds and druggists' preparations.	1909	34	851	21	281	549	497	1,838	366	244	950	2,301	1,342
	1904	27	516	19	173	324	.....	1,140	222	115	593	1,364	801
	1890	14	.....	.....	123	208	.....	341	130	93	300	741	441
Printing and publishing.....	1909	126	2,695	98	841	1,750	1,671	3,866	760	1,080	1,488	5,022	4,134
	1904	122	2,390	90	854	1,410	.....	3,209	678	893	1,044	4,359	3,315
	1890	108	1,895	89	391	1,415	.....	1,675	354	740	681	2,071	2,200
Slaughtering and meat packing.....	1909	16	4,001	16	248	3,737	3,681	5,853	530	1,804	35,013	39,134	4,121
	1904	13	2,814	8	130	2,676	.....	6,137	188	1,127	22,254	24,487	2,233
	1890	27	2,085	0	136	1,943	.....	3,807	120	783	17,400	18,781	1,381

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—INDIANA.

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.													
INDIANAPOLIS—Continued.													
Stoves and furnaces, including gas and oil stoves.	1909 1904 1899	7 6	362 315	3 5	47 33	312 277	334	\$425 350	\$76 45	\$161 163	\$242 180	\$598 513	\$354 333
Tobacco manufactures.....	1909 1904 1899	44 74 76	546 330 270	41 77 76	30 12 8	475 250 180	2	258 100 120	52 10 6	206 130 87	223 142 119	681 420 348	458 278 220
All other industries.....	1909 1904 1899	227 202 182	7,648 6,104	166 137	1,187 868	6,205 5,149	13,503	25,335 16,466 12,949	1,459 860 453	3,264 2,447 1,946	13,811 8,422 5,211	22,751 15,040 10,100	8,940 6,618 4,889
SOUTH BEND—All industries...													
	1909 1904 1899	218 156 131	13,609 9,905	156 128	1,664 780 521	11,789 8,997 7,678	16,280	\$41,467 26,197 17,826	\$1,612 848 568	\$5,866 3,978 3,136	\$15,253 8,170 6,841	\$27,855 15,179 12,900	\$12,602 7,009 6,119
Bread and other bakery products.....	1909 1904 1899	23 14 12	140 54	23 14	19 40 39	107 40	104	142 53 45	10 23 15	55 107 64	259 161 105	334 161 105	75 55 41
Carriages and wagons and materials.....	1909 1904 1899	7 7 10	3,370 2,957	2 2	302 254 166	2,976 2,701 2,251	3,447	17,442 15,176 11,914	571 272 201	1,542 1,236 973	3,829 2,997 1,027	7,225 4,934 3,404	3,391 1,937 1,867
Confectionery.....	1909 1904 1899	7 5	67 40	6 6	15 1	46 33	20	17 9	9 1	19 13	65 36	140 71	75 37
Flour-mill and gristmill products.....	1909 1904 1899	4 4 3	21 23 20	5 6 3	6 6 3	10 11 14	200	60 48 136	3 1 2	6 6 7	86 117 230	109 120 271	21 12 32
Foundry and machine-shop products...	1909 1904 1899	20 12 10	564 243	10 8	81 30 27	473 205 302	672	930 316 455	92 24 10	255 100 133	331 90 1,193	882 290 1,532	551 291 339
Leather goods.....	1909 1904 1899	6 3	156 14	6 4	22 10	128 10	25	702 21	28 5	70 16	375 16	572 29	197 13
Lumber and timber products.....	1909 1904 1899	8 6 7	189 110	6	22 18 14	167 86 89	418	539 304 143	22 20 12	110 45 37	381 153 141	588 208 242	207 115 101
Patent medicines and compounds and druggists' preparations.	1909 1904 1899	13 10 8	117 114	11 4	69 14 41	37 96 61	20	122 87 73	41 17 21	12 42 25	42 40 23	228 241 183	186 195 194
Printing and publishing.....	1909 1904 1899	21 16 12	336 189 143	20 17 15	53 28 19	203 144 109	237	389 257 131	61 29 18	157 82 51	155 58 53	413 245 159	258 187 156
Tobacco manufactures.....	1909 1904 1899	25 22 12	301 466	25 25	17 24 7	259 417 202	19	240 185 94	19 24 11	106 111 74	164 203 117	423 457 293	259 254 176
All other industries.....	1909 1904 1899	84 57 57	8,339 5,605	48 36	968 405 244	7,323 5,254 4,551	11,118	20,884 9,681 4,835	760 400 282	3,554 2,315 1,821	9,560 4,347 3,384	16,941 8,354 6,661	7,375 4,607 3,217
TERRE HAUTE—All industries.													
	1909 1904 1899	170 178 143	5,159 4,594	142 177	658 373 326	4,359 4,044 4,679	10,460	\$10,371 7,391 8,454	\$701 383 335	\$2,518 2,134 1,953	\$8,657 7,847 7,369	\$21,793 18,008 26,296	\$13,136 10,361 18,927
Bread and other bakery products.....	1909 1904 1899	20 17 8	248 137 91	18 16 7	27 7 20	203 114 64	112	255 329 158	21 8 12	98 52 26	431 268 114	741 457 220	310 189 112
Clothing, men's, including shirts.....	1909 1904 1899	3 4 4	490 424 830	4 8 6	68 64 34	418 352 790	85	615 398 357	80 40 35	136 113 187	640 673 536	941 890 820	301 231 200
Copper, tin, and sheet-iron products.....	1909 1904	5 4	94 32	1	18 5	76 26	85	135 35	25 4	45 14	318 35	444 64	126 29
Flour-mill and gristmill products.....	1909 1904 1899	6 9 6	142 99	4 9	17 11 11	121 79 125	1,377	731 339 1,015	24 13 11	65 39 61	1,819 1,068 1,172	2,015 1,162 1,358	166 64 185
Foundry and machine-shop products...	1909 1904 1899	11 13 12	233 236 239	7 12 10	35 23 22	191 201 207	464	361 352 299	38 26 24	113 111 97	221 187 182	428 420 404	207 239 222
Lumber and timber products.....	1909 1904 1899	6 7	124 153	4 8	14 6	106 139	372	125 127	14 5	57 69	66 78	200 197	134 119

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 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.

5 Figures can not be shown without disclosing individual operations.

MANUFACTURES—INDIANA.

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.													
TERRE HAUTE—Continued.													
Printing and publishing.....	1909	19	350	15	129	206	340	\$432	\$95	\$109	\$102	\$502	\$430
	1904	20	278	18	78	182	.....	370	70	112	109	474	365
	1899	15	216	14	45	157	.....	150	30	73	64	304	240
Tobacco manufactures.....	1909	22	40	22	.....	18	2	14	.....	9	20	54	34
	1904	17	66	20	.....	44	.....	18	1	24	30	82	52
	1899	20	57	22	.....	34	.....	20	1	14	27	71	44
All other industries.....	1909	78	3,438	68	350	3,020	7,623	7,703	404	1,826	4,980	16,378	11,398
	1904	87	3,169	85	177	2,907	.....	5,423	216	1,600	5,199	14,247	9,048
	1899	78	.....	.....	193	3,302	.....	6,437	222	1,495	5,274	23,107	17,833

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

Anderson.....	1909	116	5,100	89	627	4,303	12,981	\$10,728	\$597	\$2,104	\$8,127	\$13,766	\$5,638
	1904	102	3,491	80	332	3,079	.....	6,640	312	1,531	4,800	8,181	3,321
	1899	96	.....	.....	244	3,537	.....	5,080	245	1,844	4,440	8,200	3,866
East Chicago.....	1909	16	2,508	6	102	2,370	7,017	4,614	247	1,285	3,060	5,483	2,423
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elkhart.....	1909	69	3,508	51	447	3,010	4,623	5,478	612	1,534	3,021	6,032	3,911
	1904	58	2,602	36	301	2,265	.....	3,291	281	1,037	2,016	4,345	2,320
	1899	57	.....	.....	210	2,123	.....	2,780	167	1,012	1,882	3,033	2,051
Elwood.....	1909	37	2,301	30	198	2,073	6,122	4,572	227	1,300	6,240	8,408	2,159
	1904	32	1,895	27	80	1,779	.....	3,303	79	1,011	4,396	6,111	1,715
	1899	46	.....	.....	102	2,745	.....	4,362	112	1,665	6,755	9,434	2,679
Hammond.....	1909	49	4,370	33	505	3,841	7,348	10,271	614	1,861	6,651	15,580	8,029
	1904	38	1,702	26	128	1,548	.....	6,975	213	879	2,545	7,071	5,126
	1899	21	.....	.....	290	2,683	.....	6,301	331	1,237	20,202	25,071	4,869
Huntington.....	1909	33	1,575	24	175	1,376	1,400	1,302	175	623	1,130	2,228	1,098
	1904	36	1,475	34	130	1,311	.....	1,077	97	605	1,096	2,081	985
	1899	30	.....	.....	69	1,240	.....	902	48	524	967	1,725	758
Jeffersonville.....	1909	35	919	29	124	766	3,422	2,682	152	437	1,083	1,010	833
	1904	33	1,598	34	72	1,492	.....	2,487	74	816	2,827	4,526	1,609
	1899	34	.....	.....	98	1,516	.....	2,451	110	778	2,436	3,772	1,336
Kokomo.....	1909	72	2,366	52	263	2,051	3,955	3,921	294	1,075	2,982	5,451	2,469
	1904	61	2,131	52	162	1,917	.....	3,384	157	906	1,594	3,651	2,067
	1899	62	.....	.....	90	1,355	.....	2,200	83	528	1,010	2,062	1,052
Lafayette.....	1909	69	1,983	32	291	1,660	3,526	3,914	281	919	3,446	5,542	2,096
	1904	80	2,097	49	202	1,786	.....	3,617	264	834	2,703	4,631	1,928
	1899	85	.....	.....	206	1,343	.....	2,880	246	573	1,990	3,514	1,524
Laporte.....	1909	41	1,960	26	200	1,074	3,373	5,872	323	795	1,813	3,072	2,159
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Logansport.....	1909	68	2,412	75	198	2,169	2,338	2,004	162	1,237	1,982	4,201	2,219
	1904	61	1,976	72	184	1,720	.....	1,920	149	859	1,561	2,950	1,395
	1899	68	.....	.....	70	1,316	.....	1,646	51	588	1,026	2,100	1,074
Marion.....	1909	89	2,610	64	277	2,260	6,206	3,034	271	1,182	2,324	4,442	2,118
	1904	96	2,507	91	197	2,219	.....	3,466	263	1,120	1,738	4,034	2,296
	1899	81	.....	.....	173	2,843	.....	3,316	154	1,337	2,200	4,593	2,393
Michigan City.....	1909	48	3,123	40	196	2,887	5,900	8,890	312	1,263	5,364	8,290	2,026
	1904	52	3,314	44	130	3,140	.....	4,293	149	1,453	3,980	6,314	2,334
	1899	41	.....	.....	91	2,012	.....	4,215	104	1,033	3,061	6,032	2,071
Mishawaka.....	1909	42	3,034	22	407	3,445	7,610	14,224	810	1,748	5,270	10,883	5,613
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Munster.....	1909	102	4,444	83	328	4,033	7,504	6,027	350	2,126	5,474	9,684	4,210
	1904	97	3,106	93	158	2,855	.....	4,400	170	1,400	3,320	5,891	2,571
	1899	90	.....	.....	173	3,848	.....	3,613	210	1,958	3,848	7,042	3,194
New Albany.....	1909	95	2,135	80	145	1,910	3,954	3,566	166	724	1,886	3,493	1,607
	1904	93	2,444	83	121	2,240	.....	2,491	126	996	2,041	3,835	1,794
	1899	95	.....	.....	104	2,137	.....	2,798	104	732	2,116	3,638	1,522
Peru.....	1909	31	692	40	33	619	2,013	1,654	39	276	482	1,097	615
	1904	43	1,010	54	53	912	.....	1,344	43	383	625	1,343	718
	1899	39	.....	.....	49	1,136	.....	1,050	45	422	671	1,338	667
Richmond.....	1909	107	4,433	80	732	3,621	5,087	13,139	670	1,834	5,118	10,374	5,256
	1904	98	3,483	65	448	2,970	.....	9,508	478	1,381	3,001	6,732	3,731
	1899	88	.....	.....	345	2,688	.....	5,044	322	1,183	2,231	4,754	2,523
Vincennes.....	1909	84	1,461	72	156	1,233	5,044	3,560	166	660	2,416	4,234	1,818
	1904	62	1,528	56	118	1,354	.....	2,102	101	600	1,741	3,020	1,288
	1899	48	.....	.....	69	906	.....	1,455	55	344	941	1,979	1,638

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 Figures not available.

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, supts. and managers.	Clerks.		Wage earners.			16 and over.		Under 16.					
					Male.	Female.	Average number.	Number.		Male.	Female.	Male.	Female.				
								Maximum month.	Minimum month.								
1 All industries.....	7,969	218,263	7,674	6,846	12,801	3,958	186,984	Oc 201,481	Ja 172,475	(1)	(1)	(1)	(1)	(1)	633,377		
2 Agricultural implements.....	30	6,061	30	208	948	126	4,740	De 5,310	Ja 4,330	5,503	5,333	142	28	.....	9,254	
3 Artificial stone.....	219	807	284	30	19	0	468	Au 638	Ja 173	644	640	4	4	.....	495	
4 Automobiles, including bodies and parts.....	67	7,753	36	182	552	180	6,797	De 8,825	Ja 5,488	8,940	8,873	40	36	.....	5,813	
5 Baking powders and yeast.....	8	111	6	8	14	6	77	Ap 82	Au 74	78	37	36	2	.....	177	
6 Baskets, and rattan and willow ware.....	9	379	5	14	6	4	360	Je 385	Ja 287	342	222	100	6	.....	524	
7 Belting and hose, leather.....	3	45	2	3	21	4	15	Je 20	Ja 12	16	14	.....	2	.....	49
8 Blacking and cleansing and polishing preparations.....	10	97	11	10	20	5	61	Ja 82	Fe 45	55	29	26	.....	.....	84
9 Boots and shoes, including cut stock and findings.....	8	524	4	22	49	13	436	No 505	Mh 360	496	344	128	13	11	393		
10 Boxes, cigar.....	6	76	6	5	.....	1	64	Oc 70	Mh 61	60	24	45	.....	.....	83
11 Boxes, fancy and paper.....	13	609	9	25	9	10	550	No 598	Jy 523	592	233	323	6	30	331		
12 Brass and bronze products.....	21	534	18	26	10	12	468	De 664	Ja 350	668	603	.....	5	.....	561
13 Bread and other bakery products.....	754	3,780	854	60	254	107	2,505	Se 2,001	Ja 2,368	2,593	2,059	455	41	40	2,124		
14 Brick and tile.....	311	4,361	336	195	55	17	3,788	Je 4,703	Ja 2,173	4,753	4,049	.....	103	1	10,881	
15 Brooms.....	44	480	47	17	14	5	397	De 424	Au 376	427	239	71	46	11	350		
16 Butter, cheese, and condensed milk.....	132	807	116	130	37	36	488	Jy 527	Ja 441	507	477	29	1	.....	1,858	
17 Buttons.....	5	181	7	2	1	1	170	De 184	Ap 144	184	148	36	.....	.....	88
18 Canning and preserving.....	134	3,952	60	103	262	61	3,466	Se 11,600	Ja 759	7,400	3,107	4,060	126	107	6,398		
19 Carpets, rag.....	17	112	20	4	.....	2	80	Je 95	Fe 57	72	46	29	1	2	124	
20 Carriages and wagons and materials.....	221	10,100	211	276	516	230	8,867	Mh 9,420	Oc 8,283	8,974	8,597	272	105	.....	13,793	
21 Cars and general shop construction and repairs by steam-railroad companies.....	34	13,745	.....	194	651	16	12,884	De 13,935	My 12,228	14,241	14,215	18	8	.....	13,550
22 Cars and general shop construction and repairs by street-railroad companies.....	30	784	.....	40	28	3	713	Oc 745	Ja 608	747	744	3	.....	.....	713
23 Cars, steam-railroad, not including operations of railroad companies.....	7	4,449	.....	98	260	7	4,084	No 5,932	Je 2,018	5,067	5,582	3	22	.....	10,699
24 Cement.....	11	2,616	.....	35	220	43	2,318	Ap 2,464	Mh 2,151	2,312	2,303	3	6	.....	28,161
25 Clothing, men's, including shirts.....	42	4,444	23	66	193	80	4,073	Se 5,169	Ja 3,801	4,347	589	3,619	17	122	784		
26 Clothing, women's.....	18	1,403	16	28	44	25	1,291	Mh 1,423	Au 1,172	1,366	118	1,217	.....	31	196	
27 Coffins, burial cases, and undertakers' goods.....	19	824	7	39	87	22	669	Ap 600	Au 626	684	504	180	.....	.....	1,249
28 Confectionery.....	64	1,134	62	33	112	42	885	No 1,180	Jy 701	1,058	375	653	2	28	624		
29 Cooperage and wooden goods, not elsewhere specified.....	57	1,016	49	40	29	7	801	Fe 975	Jy 749	951	938	3	10	.....	2,441	
30 Copper, tin, and sheet-iron products.....	146	2,485	147	83	67	67	2,121	Se 2,373	Ja 1,759	2,076	1,638	390	14	34	1,637		
31 Cotton goods, including cotton small wares.....	7	1,621	.....	24	12	3	1,582	Fe 1,636	De 1,518	1,522	438	957	43	84	5,315	
32 Cutlery and tools, not elsewhere specified.....	24	630	16	20	14	8	572	De 620	Ja 540	636	624	7	4	1	1,733		
33 Dairymen's, poultryers', and apiculturists' supplies.....	15	195	7	21	6	11	150	Ap 168	Au 101	210	195	5	10	.....	300	
34 Electrical machinery, apparatus, and supplies.....	42	3,723	25	135	347	143	3,073	Oc 3,598	Ja 2,601	3,490	2,413	1,045	20	12	5,285		
35 Electroplating.....	12	59	15	3	.....	1	40	No 47	Ap 34	43	41	.....	2	.....	99
36 Fancy articles, not elsewhere specified.....	4	59	8	3	2	4	42	No 68	Ja 33	43	26	17	.....	.....	78
37 Flour-mill and gristmill products.....	563	3,568	703	225	192	90	2,298	De 2,510	My 2,067	2,566	2,537	16	12	.....	38,508	
38 Foundry and machine-shop products.....	415	18,439	301	774	1,195	360	15,869	De 18,110	Ja 14,579	18,297	17,795	374	123	5	29,162		
39 Fur goods.....	8	45	8	5	1	2	29	De 49	Ap 16	48	18	30	.....	.....	13
40 Furnishing goods, men's.....	36	1,441	35	35	48	21	1,302	De 1,385	Ja 1,124	1,475	98	1,340	9	28	529		
41 Furniture and refrigerators.....	201	12,352	83	438	348	199	11,284	No 11,837	Jy 10,592	12,033	11,450	329	253	1	20,449		
42 Gas and electric fixtures and lamps and reflectors.....	12	401	3	25	18	13	342	De 423	My 269	422	376	33	11	2	358		
43 Gas, illuminating and heating.....	53	1,390	9	101	274	78	928	Je 1,012	Ja 799	974	973	1	.....	.....	5,845
44 Glass.....	44	9,936	3	167	147	75	9,544	De 11,731	Jy 5,867	12,031	10,766	650	573	42	21,031		
45 Gloves and mittens, leather.....	3	163	3	3	3	1	153	Ja 175	Oc 128	146	51	95	.....	.....	44
46 Glucose and starch.....	4	944	6	22	39	11	866	Fe 966	Au 749	887	779	105	.....	3	3,670	
47 Hand stamps and stencils and brands.....	9	43	10	3	1	1	28	Se 34	Mh 25	29	29	.....	.....	.....	68
48 Hones and whetstones.....	4	13	4	.....	.....	.....	9	Jy 13	Mh 6	.....	15	.....	.....	.....	25
49 Hosiery and knit goods.....	5	2,032	.....	16	59	24	1,933	No 2,100	Ja 1,782	2,094	550	1,140	186	218	1,390	
50 Ice, manufactured.....	85	765	62	86	33	21	563	Au 812	Ja 315	495	492	2	1	.....	7,726	
51 Iron and steel, steel works and rolling mills.....	17	13,206	.....	129	763	59	12,255	De 14,806	Ja 10,268	14,832	14,804	.....	28	.....	111,866
52 Jewelry.....	9	51	10	2	.....	4	35	Ja 38	No 33	36	36	.....	.....	.....	33
53 Leather goods.....	118	1,582	140	64	100	38	1,240	Mh 1,263	No 1,217	1,271	1,093	161	12	5	3,542		
54 Leather, tanned, curried, and finished.....	10	440	5	17	14	6	398	Au 439	Ap 376	383	382	1	.....	.....	1,028
55 Lime.....	10	473	4	14	9	6	440	Au 494	Ja 371	415	415	.....	.....	.....	890
56 Liquors, distilled.....	14	527	20	30	45	4	428	De 541	My 370	538	537	1	.....	.....	2,829
57 Liquors, malt.....	37	1,923	16	117	188	8	1,594	Jy 1,872	Mh 1,424	1,493	1,427	13	42	11	11,882		
58 Lumber and timber products.....	1,277	12,840	1,540	519	346	118	10,317	Oc 10,835	Ja 9,402	12,132	11,809	148	165	10	57,243		
59 Marble and stone work.....	200	3,811	209	167	135	17	3,283	Au 3,905	Ja 2,310	3,077	3,007	2	8	.....	17,143	
60 Mattresses and spring beds.....	27	644	18	22	30	21	553	Oc 607	Jy 498	606	446	133	24	3	791		
61 Millinery and lace goods.....	7	193	5	6	15	6	166	Mh 256	Je 69	190	25	165	.....	.....	24
62 Mirrors.....	7	118	7	5	.....	2	104	De 111	Ja 97	113	113	.....	.....	.....	224
63 Models and patterns, not including paper patterns.....	14	80	20	3	1	2	54	De 69	Je 37	56	52	2	2	.....	56	

1 No figures given for reasons explained in the Introduction, page 2. See also discussion of wage earners on page 8.

MANUFACTURES—INDIANA.

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 \$508,717,197	\$526,060,079	\$12,429,228	\$13,875,447	\$95,510,616	\$17,376,845	\$316,997,908	\$1,286,365	\$28,593,427	\$2,145,858	\$36,544,385	\$579,075,046	\$244,700,293
2 23,008,107	11,064,993	380,563	815,541	2,504,517	215,382	4,648,433	4,122	95,162	50	2,341,223	13,609,824	8,806,000
3 652,102	605,011	23,447	9,046	226,025	0,050	203,783	0,465	3,933	7,163	27,802	850,511	550,072
4 16,721,696	22,012,580	389,562	480,130	4,130,074	114,003	14,880,806	41,582	34,022	32,382	1,909,350	23,704,070	8,709,201
5 181,265	245,025	13,275	24,233	33,366	8,989	143,278	4,667	183	41	17,893	276,950	124,692
6 202,972	249,430	10,810	5,352	102,781	2,431	80,041	36	1,596	.....	40,383	272,946	190,474
7 93,175	145,406	2,533	7,740	10,473	863	112,932	600	495	.....	9,704	156,267	42,472
8 86,535	241,663	8,900	17,802	22,067	1,771	101,486	3,311	590	.....	85,736	294,732	191,475
9 738,226	974,658	29,075	52,540	158,997	12,046	652,297	2,178	4,068	45	63,412	977,934	313,591
10 99,105	72,556	4,388	364	23,583	1,526	30,011	1,288	469	1,111	816	88,726	48,189
11 623,775	701,064	34,708	12,997	178,700	14,426	408,015	4,530	3,707	2,609	41,813	781,558	359,117
12 878,056	1,220,542	82,189	17,200	292,237	20,758	753,478	3,179	2,836	.....	48,659	1,378,855	604,019
13 6,043,864	8,639,731	95,104	243,141	1,314,755	187,248	6,038,075	111,567	33,877	2,574	612,490	10,209,066	3,982,843
14 7,455,305	3,871,016	193,480	52,280	1,834,927	832,182	473,405	25,405	43,653	85,888	326,290	4,718,923	3,413,336
15 606,461	983,300	25,230	9,442	150,953	6,343	461,510	1,340	3,116	.....	25,351	778,970	311,108
16 1,042,271	3,677,566	52,381	33,001	261,870	38,756	3,157,375	4,238	6,920	6,402	116,614	3,958,000	702,409
17 85,139	93,261	1,986	552	60,584	1,713	20,220	300	102	.....	1,714	116,799	88,803
18 5,571,578	7,934,999	184,710	330,486	878,619	73,833	5,870,828	9,212	31,117	2,211	553,974	8,758,343	2,813,682
19 43,066	55,707	3,124	6,951	24,169	3,301	14,003	1,872	424	70	2,193	73,858	55,054
20 29,110,185	19,437,030	695,411	599,027	4,354,584	207,322	12,250,401	23,548	103,075	10,007	1,193,061	21,665,440	9,197,717
21 9,941,674	17,127,247	258,788	528,267	8,080,816	367,755	7,507,918	212	30,123	60,978	274,390	17,127,540	9,251,873
22 1,086,158	1,085,005	37,715	18,156	449,492	10,560	544,348	150	7,048	379	12,057	1,099,809	538,901
23 14,883,836	9,375,344	280,205	224,710	1,991,361	374,442	5,935,029	.....	45,083	.....	524,514	9,497,504	3,188,093
24 7,270,855	6,454,093	98,839	218,981	1,280,305	1,428,674	2,729,994	139,680	30,919	7,835	518,770	7,021,848	2,863,180
25 4,010,881	7,264,881	163,451	292,524	1,305,290	38,300	4,613,975	36,778	16,555	244,805	553,233	8,028,798	3,370,523
26 851,363	1,772,246	61,585	79,812	449,369	10,304	1,040,476	20,440	3,445	.....	100,815	2,057,635	1,000,855
27 1,494,143	1,320,395	72,022	90,777	313,378	17,099	683,039	910	9,790	776	132,004	1,447,192	747,192
28 940,300	2,218,267	49,030	130,309	298,215	26,135	1,490,528	54,594	5,140	7,721	150,586	2,558,238	1,035,575
29 1,470,406	2,070,162	55,139	18,676	681,579	18,352	1,480,303	2,825	8,122	3,600	101,509	2,397,558	898,843
30 6,813,572	5,201,705	141,335	121,013	1,004,920	75,010	3,355,711	27,689	16,155	5,028	394,844	5,763,463	2,332,732
31 2,473,185	2,424,187	91,670	13,156	478,443	51,361	1,618,636	1,200	14,249	.....	155,472	2,501,598	831,601
32 1,290,591	832,452	47,954	13,757	305,278	28,224	374,701	1,831	6,400	944	53,363	932,950	530,025
33 350,209	251,702	18,767	7,448	74,249	5,769	107,846	1,025	2,463	3,370	30,765	280,904	173,239
34 6,856,728	6,439,218	229,050	386,537	1,360,940	89,769	3,603,615	10,947	25,644	40,865	691,311	7,717,642	4,024,253
35 26,398	48,089	3,000	312	25,598	2,092	10,796	2,652	146	.....	3,613	64,349	51,551
36 33,998	44,391	3,900	2,761	23,835	514	5,781	1,900	150	.....	5,539	48,024	41,779
37 15,867,454	37,670,027	272,541	201,292	1,216,405	367,893	34,633,914	15,023	103,612	31,171	833,576	40,541,422	5,539,615
38 39,711,498	35,221,238	1,530,404	1,355,227	8,856,769	740,048	17,878,040	63,700	164,635	213,329	4,418,486	39,883,774	21,255,036
39 42,803	82,327	8,420	948	15,623	519	49,133	3,704	227	.....	3,753	97,756	48,104
40 744,603	1,741,085	39,465	53,807	330,430	14,324	1,219,530	10,340	2,206	5,713	65,120	1,807,172	573,318
41 16,636,056	16,525,853	712,907	382,238	5,137,301	210,569	8,243,558	32,312	102,917	20,196	1,077,855	18,456,399	9,996,272
42 713,885	571,243	41,336	21,442	151,590	9,667	274,972	2,560	3,021	.....	65,755	620,420	358,787
43 23,550,122	2,313,572	162,488	193,987	508,318	840,317	261,003	1	88,584	12,654	245,020	3,147,305	2,045,335
44 13,148,780	11,083,028	326,510	199,626	4,941,599	998,149	3,729,354	10,000	44,530	6,595	826,665	11,593,094	6,865,591
45 109,607	220,724	2,629	2,171	47,788	1,317	150,238	600	750	.....	15,231	225,287	73,732
46 4,264,995	5,562,414	67,797	63,088	479,621	192,361	4,489,259	.....	20,172	.....	250,116	5,749,976	1,068,356
47 18,220	37,969	2,820	400	12,958	508	17,278	1,872	132	.....	2,001	53,586	35,800
48 5,900	7,143	.....	.....	4,089	390	2,350	.....	74	.....	240	11,100	8,360
49 2,405,786	1,906,913	73,502	104,409	686,755	20,429	894,204	881	9,743	.....	110,030	2,381,219	1,466,586
50 3,318,406	961,914	84,105	24,460	304,197	213,131	112,075	5,810	24,098	19,771	178,658	1,310,556	984,750
51 47,781,258	30,910,062	392,133	712,154	8,389,707	2,339,604	23,759,155	.....	84,213	.....	1,233,096	38,051,848	12,553,089
52 35,423	57,559	4,680	1,342	21,995	616	23,973	3,316	174	.....	1,463	75,804	51,215
53 3,107,508	3,018,357	89,749	92,009	526,987	25,779	1,970,662	31,760	15,497	1,500	257,814	3,405,671	1,403,230
54 2,212,874	2,097,171	35,835	18,867	204,546	21,342	1,691,218	14,338	6,211	.....	104,814	2,311,299	598,739
55 770,148	419,864	38,540	10,200	174,610	91,181	90,517	201	3,004	1,567	25,044	460,548	204,850
56 5,556,432	30,780,128	113,105	60,261	269,103	181,077	4,580,499	.....	25,134,774	.....	491,309	31,610,468	26,898,892
57 10,571,400	7,087,699	384,470	215,158	1,018,854	230,331	1,758,939	4,110	1,315,608	.....	2,210,229	8,313,224	6,323,954
58 19,177,421	19,351,788	650,505	314,552	4,402,047	160,911	12,215,417	42,530	120,599	242,244	1,106,983	23,135,324	10,752,996
59 7,441,079	4,541,753	275,075	141,448	1,942,820	201,871	1,558,036	9,379	28,141	107,795	276,588	5,756,247	3,996,340
60 1,455,869	1,153,435	40,820	40,444	257,103	13,596	677,115	4,829	9,444	493	109,651	1,286,785	596,134
61 182,261	453,560	17,000	18,221	59,173	2,117	329,043	6,755	1,023	.....	20,228	538,116	206,956
62 119,081	303,161	10,400	1,300	52,352	3,207	214,565	1,344	865	.....	19,128	324,233	106,461
63 43,753	74,765	4,050	1,362	41,837	1,265	19,978	1,817	219	1,263	2,984	95,988	74,745

* Same number reported for one or more other months.

MANUFACTURES—INDIANA.

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.		Number.		Male.	Female.		Male.	Female.			
								Maximum month.	Minimum month.								
1 Musical instruments and materials, not specified.	9	429	0	11	10	12	390	My	402	Ja	369	398	344	51	3	.....	216
2 Musical instruments, pianos and organs and materials.	15	1,985	4	44	231	39	1,067	My	1,738	Jy	1,613	1,753	1,689	64	.....	.....	2,650
3 Oil, essential.....	8	25	10	.....	.....	.....	15	My	43	Ja ¹	0	20	20	.....	.....	.....	60
4 Optical goods.....	7	32	7	2	.....	2	21	No ²	18	Je	18	22	20	2	.....	.....	24
5 Paint and varnish.....	18	297	4	31	52	10	200	Jy	235	Ja	174	203	197	6	.....	.....	521
6 Paper and wood pulp.....	27	1,027	7	56	44	19	1,501	De	1,661	My	1,402	1,668	1,577	85	4	2	18,382
7 Paper goods, not elsewhere specified.....	8	816	5	14	62	16	719	De	773	Jy	660	777	488	288	.....	1	835
8 Patent medicines and compounds and druggists' preparations.	113	1,481	96	85	305	194	801	Ja	842	Jy	756	820	387	434	7	1	899
9 Photo-engraving.....	4	97	1	7	15	9	65	De	77	Mh	58	77	71	.....	6	.....	36
10 Pottery, terra-cotta, and fire-clay products.	31	2,373	16	71	75	25	2,186	De	2,353	Fe	2,045	2,422	2,030	353	25	14	5,089
11 Printing and publishing.....	892	9,600	865	447	1,021	511	6,756	Oc.	6,880	Jy	6,610	6,930	4,858	1,919	141	12	17,868
12 Rubber goods, not elsewhere specified.....	11	921	4	24	79	27	787	De	1,028	Mh	575	1,037	976	61	.....	.....	5,276
13 Scales and balances.....	8	357	1	16	35	39	266	De	312	Ja	195	301	293	8	.....	.....	290
14 Shipbuilding, wooden, including boat building.	15	283	13	10	5	2	253	Au	308	Ja	174	259	259	.....	.....	.....	785
15 Show cases.....	5	56	4	3	1	1	47	Ap ²	49	Au ²	45	46	45	1	.....	.....	69
16 Signs and advertising novelties.....	5	105	.....	9	4	8	84	De	4,728	My	3,851	85	54	31	.....	.....	8
17 Slaughtering and meat packing.....	61	4,862	64	72	280	23	4,423	De	4,884	My	3,983	4,888	4,513	269	80	5	5,973
18 Steam packing.....	6	202	.....	11	17	13	161	De	201	Mh	119	202	187	15	.....	.....	990
19 Stereotyping and electrotyping.....	7	115	7	8	13	6	81	Oc	89	Au ²	77	86	85	1	.....	.....	145
20 Stoves and furnaces, including gas and oil stoves.	24	1,009	11	67	131	38	1,362	No	1,550	Jy	1,105	1,463	1,455	.....	8	.....	1,704
21 Surgical appliances and artificial limbs.	7	23	6	.....	5	.....	12	Fe	13	Ja	11	12	12	.....	.....	.....	12
22 Tobacco manufactures.....	470	3,416	507	50	51	14	2,794	De	3,013	Ja	2,668	3,049	1,434	1,459	35	121	123
23 Wall plaster.....	6	34	.....	7	4	3	20	Je	27	No	14	20	20	.....	.....	.....	180
24 Wirework, including wire rope and cable.	31	834	18	37	45	45	689	Mh	841	Ag	516	680	655	10	15	.....	1,183
25 Woolen, worsted, and felt goods, and wool hats.	11	825	12	23	12	2	776	Jy	830	Ja	727	810	344	481	12	23	1,678
26 All other industries ³	428	18,529	346	525	1,435	384	15,830	.....	.....	.....	.....	.....	.....	.....	.....	.....	97,531

¹ None reported for one or more other months.
² Same number reported for one or more other months.
³ All other industries embrace—

Awnings, tents, and sails.....	9	Cordage and twine and jute and linen goods.....	2	Foundry supplies.....	2
Bags, other than paper.....	1	Cordials and sirups.....	1	Galvanizing.....	1
Bags, paper.....	2	Corsets.....	2	Glass, cutting, staining, and ornamenting.....	9
Bicycles, motorcycles, and parts.....	2	Dentists' materials.....	1	Glue.....	2
Bluing.....	1	Dyeing and finishing textiles.....	2	Grease and tallow.....	10
Boots and shoes, rubber.....	1	Dyestuffs and extracts.....	1	Hair work.....	2
Brushes.....	3	Emery and other abrasive wheels.....	1	Hats and caps, other than felt, straw, and wool.....	2
Calcium lights.....	2	Engraving and diesinking.....	2	Hats, fur-felt.....	1
Card cutting and designing.....	2	Engraving, wood.....	1	House-furnishing goods, not elsewhere specified.....	5
Carpets and rugs, other than rag.....	1	Explosives.....	3	Ink, printing.....	1
Carrriages and sleds, children's.....	8	Fertilizers.....	15	Ink, writing.....	1
Charcoal.....	4	Files.....	1	Instruments, professional and scientific.....	2
Chemicals.....	1	Fire extinguishers, chemical.....	1	Iron and steel, blast furnaces.....	2
Clocks and watches, including cases and materials.....	2	Fireworks.....	1	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	3
Coffee and spice, roasting and grinding.....	9	Flavoring extracts.....	2	Iron and steel forgings.....	8
Coke.....	1	Food preparations.....	17		

MANUFACTURES—INDIANA.

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	\$003,640	\$562,454	\$110,394	\$12,750	\$208,479	\$7,084	\$100,046	\$1,725	\$2,481		\$118,889	\$610,081	\$502,351
2	4,209,702	3,522,884	121,606	340,265	993,609	44,158	1,658,881	5,391	12,170	\$300	340,504	3,685,902	1,982,923
3	85,570	11,032			4,750	532	1,320	1,370	208		20	20,570	18,718
4	20,488	55,195	5,000	616	16,918	373	23,220	1,025	182		6,955	78,850	55,251
5	840,783	991,405	52,822	58,703	74,220	10,184	672,861	8,464	5,783		207	1,107,805	424,780
6	7,131,771	4,872,964	118,040	55,161	753,755	408,737	3,088,408	13,153	22,615	24,925	388,164	5,202,330	1,705,185
7	3,402,375	1,703,630	28,551	93,704	256,101	26,611	1,190,955	4,197	5,214	16	92,221	1,880,834	663,268
8	2,867,593	3,580,553	100,651	418,151	354,318	17,575	1,442,044	16,532	10,149	10,966	1,147,167	4,344,358	2,884,739
9	139,265	150,040	11,502	12,727	62,026	2,742	35,872	2,892	512	7,535	14,232	154,920	116,800
10	4,805,630	2,500,674	125,095	87,115	1,189,598	339,413	510,611	145	10,101	2,513	283,483	2,905,708	2,100,744
11	11,843,923	11,640,247	660,948	980,380	3,522,450	198,531	3,826,009	234,900	69,866	552,921	1,585,152	14,356,376	10,331,836
12	3,965,318	4,008,229	68,191	98,764	410,455	52,580	2,855,250	688	13,003		608,700	4,812,650	1,404,820
13	985,040	696,379	30,998	87,187	163,131	6,068	202,265	2,340	1,779		677	201,904	608,895
14	484,159	387,997	15,016	5,210	100,295	4,780	238,370	192	2,636			15,492	131,355
15	42,727	70,392	4,600	988	20,234	1,409	31,214	2,435	213			3,299	46,566
16	119,129	184,704	11,620	7,809	50,700	1,301	59,616	1,650	583	13,841	31,434	196,455	135,448
17	8,057,732	45,929,846	185,508	504,626	2,160,944	205,108	41,780,866	20,149	84,963	6,469	975,513	47,280,409	5,303,495
18	535,573	420,533	19,900	32,337	80,198	44,346	189,748	720	1,181	1,650	50,403	470,884	236,790
19	62,847	163,982	11,000	11,637	67,152	6,934	61,131	3,000	601		13,437	175,082	118,017
20	2,863,475	2,493,030	138,080	139,067	722,737	30,969	983,896	9,721	17,391	11,413	434,416	2,751,088	1,730,283
21	16,409	32,021		8,335	7,106	611	7,637	1,350	121		6,861	51,474	43,226
22	1,407,716	3,675,820	68,567	71,639	1,120,422	12,961	1,577,247	44,104	430,620	405	343,775	4,155,348	2,565,140
23	65,056	117,590	5,930	3,195	10,650	2,321	81,919	1,405	341		11,779	130,523	46,283
24	1,101,929	2,873,400	79,175	61,672	314,353	22,384	2,319,905	1,900	9,208		64,503	3,161,083	818,794
25	1,555,245	1,541,216	59,650	11,531	293,317	30,040	1,025,643	450	10,027	12,317	98,241	1,569,905	514,282
26	78,738,404	60,779,312	1,148,791	1,675,717	7,870,844	4,697,955	40,705,085	70,177	281,080	209,458	4,016,205	75,901,302	24,468,322

3 All other industries embrace—Continued.

Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills.....	2	Photographic apparatus and materials.....	2	Toys and games.....	10
Kaolin and ground earths.....	1	Pulp goods.....	1	Type founding and printing materials.....	1
Lasts.....	1	Pumps, not including steam pumps.....	2	Umbrellas and canes.....	1
Liquors, vinous.....	1	Roofing materials.....	4	Upholstering materials.....	4
Locking-glass and picture frames.....	0	Safes and vaults.....	2	Vinegar and cider.....	6
Malt.....	2	Saws.....	4	Washing machines and clothes wringers.....	8
Matches.....	1	Sewing machines, cases, and attachments.....	3	Waste.....	1
Mineral and soda waters.....	107	Silverware and plated ware.....	2	Whips.....	3
Mucilage and paste.....	4	Smelting and refining, lead.....	1	Windmills.....	4
Oil, not elsewhere specified.....	4	Soap.....	11	Window shades and fixtures.....	2
Oilcloth and linoleum.....	1	Soda-water apparatus.....	3	Wire.....	2
Paving materials.....	3	Sporting and athletic goods.....	2	Wood preserving.....	5
Pens, fountain, stylographic, and gold.....	1	Springs, steel, car and carriage.....	1	Wood, turned and carved.....	47
Petroleum, refining.....	1	Stationery goods, not elsewhere specified.....	4	Wool pulling.....	1
		Statuary and art goods.....	2		
		Tin plate and ternoplate.....	1		

MANUFACTURES : IOWA

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 Iowa 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 Iowa, 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 city of Des Moines. 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, 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 of the state.—Iowa, with a gross area of 56,147 square miles, of which 561 represent water surface, ranks twenty-fourth in size among the 49 states and territories of continental United States. Its population in 1910 was 2,224,771, as compared with 2,231,853 in 1900 and 1,912,297 in 1890. In 1910 the density of population was 40 per square mile, the corresponding figure for 1900 being 40.2. As regards population, it ranked fifteenth among the 49 states and territories of continental United States in 1910 and tenth in 1900. Thirty and six-tenths per cent of the entire population of the state resided in incorporated cities and towns having a population of 2,500 or over, as against 25.6 per cent in 1900.

Des Moines, with a population of 86,368, is the only city in the state having a population of over 50,000. Sixteen other cities, however, each have a population exceeding 10,000. They are Boone, Burlington, Cedar Rapids, Clinton, Council Bluffs, Davenport, Dubuque, Fort Dodge, Iowa City, Keokuk, Marshalltown, Mason City, Muscatine, Ottumwa, Sioux City, and Waterloo. These 17 cities contain 21 per cent of the total population of the state and are credited with 73 per cent of the total value of its manufactures. Apart from the cities named, only 9.6 per cent of the population of the state resided in cities and towns of 2,500 inhabitants or over.

The railway facilities, consisting of trunk lines and various branch lines serving as tributaries, are excellent, Iowa ranking fourth among the states in 1909 in the length of trackage.¹ The Mississippi River on

the eastern boundary and the Missouri River on the western boundary of the state afford water transportation.

Importance and growth of manufactures.—In 1899 the value of the agricultural products of Iowa was greater than that for any other state, while in the value of its manufactures the state ranked only seventeenth in 1899 and eighteenth in 1909.

In 1849-50, when Iowa ranked twenty-seventh in the value of its manufactures, the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to only \$3,552,000, while in 1909, exclusive of the value of the products of the neighborhood and hand industries, it reached \$259,238,000. In 1849-50 an average of 1,707 wage earners, representing nine-tenths of 1 per cent of the total population, were engaged in manufactures, while in 1909 an average of 61,635 wage earners, or 2.8 per cent of the total population, were so engaged. During this period the gross value of manufactured products per capita for the total population of the state increased from \$18 to \$117. From 1849-50 to 1909 the proportion which the value of the manufactures of the state represents of the total value of products of manufacturing industries in the United States increased from three-tenths of 1 per cent to 1.3 per cent.

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:

¹ Statistics of Railways in the United States, Interstate Commerce Commission, 1909.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE. ¹	
	1900	1904	1899	1904-1900	1899-1904
Number of establishments.....	5,528	4,785	4,828	15.5	-0.9
Persons engaged in manufactures.....	78,360	61,361	(²)	27.7	(²)
Proprietors and firm members.....	5,323	4,758	(²)	11.9	(²)
Salaried employees.....	11,402	7,122	5,159	60.1	38.0
Wage earners (average number).....	61,635	49,481	44,420	24.6	11.4
Primary horsepower.....	155,384	118,065	106,664	31.6	10.7
Capital.....	\$171,219,000	\$111,427,000	\$85,637,000	53.7	30.1
Expenses.....	233,364,000	143,692,000	114,659,000	62.4	25.3
Services.....	43,514,000	28,945,000	22,254,000	50.3	30.1
Salaries.....	10,972,000	5,948,000	4,233,000	84.5	40.5
Wages.....	32,542,000	22,997,000	18,021,000	41.5	27.6
Materials.....	170,707,000	102,844,000	85,779,000	66.0	19.9
Miscellaneous.....	19,143,000	11,903,000	6,626,000	60.8	79.6
Value of products.....	259,238,000	160,572,000	132,871,000	61.4	20.8
Value added by manufacture (value of products less cost of materials).....	88,531,000	57,728,000	47,092,000	53.4	22.6

¹ A minus sign (-) denotes a decrease.

² Figures not available.

In 1909 the state of Iowa had 5,528 manufacturing establishments, which gave employment to an average of 78,360 persons during the year and paid out \$43,514,000 in salaries and wages. Of the persons

STATISTICS OF MANUFACTURES—IOWA.

employed, 61,635 were wage earners. These establishments turned out products to the value of \$259,238,000, to produce which materials costing \$170,707,000 were used. The value added by manufacture was thus \$88,531,000, 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 Iowa as a whole showed a steady growth during the two five-year periods. For the earlier period, 1899-1904, although the number of establishments decreased nine-tenths of 1 per cent, the number of wage earners increased 11.4 per cent, the value of products 20.8 per cent, and the value added by manufacture 22.6 per cent. Much greater

increases, however, are shown for the more recent period, 1904-1909. During this period the number of establishments increased 15.5 per cent, the average number of wage earners 24.6 per cent, the value of products 61.4 per cent, and the value added by manufacture 53.4 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. The only decrease shown in the table is that in the number of establishments during the period 1899-1904.

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.....	5,528	61,635	100.0	\$259,238,000	100.0	\$88,531,000	100.0	61.4	20.8	53.4	22.6
Slaughtering and meat packing.....	33	4,144	6.7	59,045,000	22.8	5,918,000	6.7	95.8	17.0	103.5	-30.1
Butter, cheese, and condensed milk.....	512	1,231	2.0	25,850,000	10.0	3,008,000	3.4	72.0	-5.2	41.1	-9.0
Foundry and machine-shop products.....	274	5,108	8.3	14,064,000	5.4	7,092,000	8.7	122.1	15.2	109.1	31.6
Flour-mill and gristmill products.....	277	647	1.0	12,871,000	5.0	1,937,000	2.2	6.4	9.9	8.7	-12.8
Lumber and timber products.....	229	4,658	7.6	12,659,000	4.9	5,518,000	6.2	4.2	-17.0	1.0	6.2
Printing and publishing.....	1,110	4,853	7.9	12,129,000	4.7	3,842,000	10.0	41.0	37.2	30.0	33.1
Cars and general shop construction and repairs by steam-railroad companies.....	33	6,969	11.3	10,269,000	4.0	5,120,000	5.8	34.8	22.5	18.0	29.5
Bread and other bakery products.....	495	1,647	2.7	6,818,000	2.6	2,671,000	3.0	33.8	35.0	72.5	24.2
Carriages and wagons and materials.....	119	1,441	2.3	4,785,000	1.8	2,038,000	2.3	42.0	-15.5	20.8	-17.3
Agricultural implements.....	42	1,318	2.1	4,757,000	1.8	2,586,000	2.9	70.7	78.4	93.7	59.1
Brick and tile.....	235	3,158	5.1	4,483,000	1.7	3,279,000	3.7	33.3	70.1	29.9	66.5
Buttons.....	70	3,172	5.1	4,035,000	1.6	2,621,000	3.0	103.8	73.1	171.0	44.3
Tobacco manufactures.....	372	1,943	3.2	3,423,000	1.3	2,037,000	2.3	1.9	.....	-2.0	.....
Patent medicines and compounds and druggists' preparations.....	100	358	0.6	3,401,000	1.3	2,336,000	2.6	.....	.....	.....	.....
Liquors, malt.....	19	495	0.8	3,325,000	1.3	2,424,000	2.7	39.4	39.2	43.0	27.3
Confectionery.....	40	1,032	1.7	2,914,000	1.1	1,211,000	1.4	103.1	37.0	88.9	51.2
Gas, illuminating and heating.....	117	806	1.3	2,893,000	1.1	1,782,000	2.0	67.0	129.7	47.5	100.0
Leather goods.....	67	600	1.0	2,856,000	1.1	1,043,000	1.2	117.9	27.3	92.4	-15.6
Furniture and refrigerators.....	44	1,074	1.7	2,650,000	1.0	1,314,000	1.5	.....	.....	.....	.....
Canning and preserving.....	71	1,247	2.0	2,549,000	1.0	981,000	1.1	-30.6	73.3	-37.0	65.6
Clothing, men's, including shirts.....	28	1,480	2.4	2,496,000	1.0	1,084,000	1.2	30.0	25.1	39.8	24.5
Copper, tin, and sheet-iron products.....	71	585	0.9	2,414,000	0.9	909,000	1.0	5.0	293.6	19.9	174.6
Dairymen's, poultrymen's, and apiarists' supplies.....	17	730	1.2	1,904,000	0.8	995,000	1.1	596.5	.....	400.7	.....
Boots and shoes, including cut stock and findings.....	10	716	1.2	1,933,000	0.6	574,000	0.6	.....	.....	.....	.....
Artificial stone.....	308	780	1.2	1,509,000	0.6	937,000	1.1	1,207.5	.....	1,149.3	.....
Clothing, women's.....	19	876	1.4	1,535,000	0.6	650,000	0.7	101.4	1,521.3	97.0	1,400.0
Marble and stone work.....	87	315	0.5	1,338,000	0.5	722,000	0.8	110.4	0.5	93.3	13.1
Stoves and furnaces, including gas and oil stoves.....	14	352	0.6	890,000	0.3	523,000	0.6	187.1	.....	187.0	.....
Copperage and wooden goods, not elsewhere specified.....	34	249	0.4	876,000	0.3	316,000	0.4	-13.6	40.8	-2.5	23.2
Coffins, burial cases, and undertakers' goods.....	8	242	0.4	763,000	0.3	365,000	0.4	24.1	52.1	19.7	76.3
Wall plaster.....	6	539	0.9	739,000	0.3	546,000	0.6	17.9	.....	7.9	.....
Mattresses and spring beds.....	17	242	0.4	729,000	0.3	271,000	0.3	250.4	37.4	203.0	46.7
Gloves and mittens, leather.....	10	234	0.4	693,000	0.3	320,000	0.4	-0.7	145.8	-5.9	113.3
Cutlery and tools, not elsewhere specified.....	16	160	0.3	489,000	0.2	246,000	0.3	33.2	91.1	15.0	120.6
Pottery, terra-cotta, and fire-clay products.....	10	286	0.5	464,000	0.2	284,000	0.3	404.9	-08.7	479.0	-74.5
Paper and wood pulp.....	4	205	0.3	437,000	0.2	150,000	0.2	72.7	3.7	27.9	-10.9
Woolen, worsted, and felt goods, and wool hats.....	3	134	0.2	350,000	0.1	122,000	0.1	-38.9	92.9	-41.3	70.5
Ice, manufactured.....	18	151	0.2	290,000	0.1	220,000	0.3	408.6	34.2	545.7	29.6
Fur goods.....	11	73	0.1	287,000	0.1	182,000	0.2	50.0	228.0	111.6	160.6
Cars and general shop construction and repairs by street-railroad companies.....	13	183	0.3	231,000	0.1	135,000	0.2	54.0	54.6	89.0	23.0
Carpets, rag.....	32	158	0.3	206,000	0.1	162,000	0.2	34.6	028.6	32.8	577.3
Shipbuilding, including boat building.....	17	76	0.1	182,000	0.1	97,090	0.1	6.4	.....	10.2	.....
Gas and electric fixtures and lamps and reflectors.....	7	55	0.1	170,000	0.1	75,000	0.1	750.0	-25.9	476.9	-13.3
Boxes, fancy and paper.....	6	128	0.2	128,000	(2)	71,000	0.1	70.7	25.0	51.1	42.4
Boxes, cigar.....	7	79	0.1	112,000	(2)	58,000	0.1	-23.3	60.4	-29.3	100.0
All other industries.....	491	6,755	11.0	42,490,000	16.4	14,139,000	16.0	.....	.....	.....	.....

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.

In addition to the 45 industries presented separately, there are 14 important industries each of which had a value of products in 1909 in excess of \$500,000. They are included in the total for all other industries in the table, because in some cases 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, while for others comparable statistics for the different census years can not be presented on account of changes in classification. These industries are: Automobiles, including bodies and parts; brooms; butter, reworking; cars, steam-railroad, not including operations of railroad companies; cement; coffee and spice, roasting and grinding; explosives; food preparations; glucose and starch; mineral and soda waters; oil, linseed; soap; stationery goods, not elsewhere specified; and washing machines and clothes wringers. Statistics for automobiles, including bodies and parts, and for brooms are presented in Table II for 1909.

Although a few industries greatly predominate in importance, it will be seen from Table II that there is, on the whole, considerable diversity in the manufacturing activities of the state. The most important industries listed in the table, in which they are arranged in the order of the value of products, call for brief consideration.

Slaughtering and meat packing.—This industry is by far the most important in the state when measured by value of products, although 4 other industries employed a greater average number of wage earners. It embraces not only establishments doing wholesale slaughtering and meat packing, but also those engaged in the manufacture of sausage. Twenty-seven of the 33 plants reported in 1909 were primarily engaged in the first-named branch of the industry. The industry is to a large extent confined to the four cities of Cedar Rapids, Des Moines, Ottumwa, and Sioux City. In 1849-50 there were 8 establishments reported, with a product valued at \$273,600; or 7.7 per cent of the total for all manufacturing industries in the state, whereas the value of output in 1909 constituted 22.8 per cent of the total. The value of products increased from \$25,763,000 in 1899 to \$59,045,000 in 1909, a gain of \$33,282,000, or 129.2 per cent. In 1909 the state had sixth place among the states and territories in this industry, as compared with the eighth place in 1904 and 1899.

Butter, cheese, and condensed milk.—The factory manufacture of butter, cheese, and condensed milk, common to many agricultural districts, is the second industry of the state when measured by value of products. Iowa has occupied a prominent place in the creamery industry ever since its establishment on a factory basis. In 1904 it ranked third among the states, the value of its products being \$15,028,000, or 8.9 per cent of the total for all the states. From 1904 to 1909 the industry showed marked development, the value of products having increased \$10,822,000, or 72 per cent. It continued to rank third in respect to its manufactured dairy products in 1909.

Foundry and machine-shop products.—This industry includes not only foundries and machine-shops, but also establishments engaged in the manufacture of gas machines and meters; hardware; hardware saddlery; plumbers' supplies; steam fittings and heating apparatus; and structural ironwork. The industry was really of greater importance in the state than is indicated by the statistics, as some machine shops manufacturing a distinctive product were assigned to other classifications. A number of the most important establishments are engaged in the manufacture of pumps, windmills, and parts for agricultural machinery. With the exception of steam-railroad repair shops a larger number of wage earners was employed in the foundry and machine-shop industry than in any other industry, constituting 8.3 per cent of the total wage earners in all industries. The growth in the value of products during the 10-year period, 1899 to 1909, amounted to \$8,568,000, or 155.9 per cent.

Flour-mill and gristmill products.—As a rule, the mills are small and are located in the rural districts. Owing to the comparatively simple processes involved and the extent to which these processes are carried on by machinery, the value added by manufacture and the number of wage earners employed are not commensurate with the gross value of products. The development during the last 10 years was slight when compared with all manufactures combined and other important industries individually. Iowa was nineteenth among the states in the value of flour and grist mill products in 1909, eighteenth in 1904, and fifteenth in 1899.

Lumber and timber products.—This industry includes the logging operations, as well as the mills which saw rough lumber, shingles, and cooperage materials, the mills which produce finished lumber, sash, doors, blinds, interior finish, and other millwork, and wooden packing-box factories. The output of the planing mills in 1909 represented much the greater proportion of the total value of products for the entire industry. The state contains very little timber land. For a number of years the sawmills of Iowa have been largely depend-

ent upon the forests of Minnesota and Wisconsin for logs, and the depletion of those forests, together with the erection and growth of the mills in those states, has caused a decline in the lumber industry of Iowa. In 1909 the value of products was \$12,659,000, compared with \$14,635,000 in 1899, a decrease of \$1,976,000, or 13.5 per cent, during the decade.

Printing and publishing.—The printing and publishing of newspapers, books, music, and periodicals; job printing; bookbinding and blank-book making; and lithographing are included under this classification in Iowa. Almost one-fifth of all the manufacturing establishments of the state were reported by this industry in 1909, although it employed only 7.9 per cent of the total wage earners and reported only 4.7 per cent of the total value of products. More than twice as many establishments are engaged in this industry as in any other in the state.

Cars and general shop construction and repairs by steam-railroad companies.—The activity in this industry is practically confined to repairs to the rolling stock and equipment of the steam railroads, although to a limited extent there may be some new construction of rolling stock. The statistics are exclusive of minor repairs made in roundhouses. More wage earners are employed in this industry than in any other manufacturing industry in the state, the number being 6,969 in 1909, or 11.3 per cent of the total for all manufacturing industries combined.

Buttons.—The output of buttons in Iowa consists of the fresh-water pearl variety made from the shells of the Mississippi River mussel. Muscatine is the center of the industry in the state, having within its corporate limits 43 of the 70 establishments reported for the entire state in 1909.

None of the six leading industries presented in the above table held the same rank when measured by value added by manufacture as when measured by value of products. When measured by value added by manufacture, printing and publishing displaces slaughtering and meat packing from first place, the latter industry falling to third place. The foundries and machine shops displace the butter, cheese, and condensed milk industry from second place, the latter industry dropping to seventh place. The lumber and timber industry advances from fifth to fourth place, and flour and grist mills change from fourth to fifteenth place. The brick and tile industry ranks only eleventh in value of products, but sixth in value added by manufacture.

This table shows also the percentages of increase for the leading industries in respect to value of products and value added by manufacture, where these statistics are comparable. Five industries—artificial stone,

gas and electric fixtures and lamps and reflectors, dairymen's, poulterers', and apiarists' supplies, pottery, terra-cotta, and fire-clay products, and manufactured ice—show extraordinary rates of increase from 1904 to 1909 in both value of products and value added by manufacture.

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.....	78,360	66,802	12,158
Proprietors and officials.....	8,814	8,578	236
Proprietors and firm members.....	5,323	5,137	186
Salaried officers of corporations.....	1,424	1,399	25
Superintendents and managers.....	2,067	2,042	25
Clerks.....	7,911	5,854	2,057
Wage earners (average number).....	61,635	51,770	9,865
16 years of age and over.....	60,588	51,128	9,460
Under 16 years of age.....	1,047	642	405

The average number of persons engaged in manufactures during 1909 was 78,360, of whom 61,635 were wage earners. Of the remainder, 8,814 were proprietors and officials and 7,911 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 15 important industries individually.

Of the total number of persons engaged in all manufacturing industries, 11.2 per cent were proprietors and officials, 10.1 per cent clerks, and 78.7 per cent wage earners. In the bakeries, creameries, flour and grist mills, and printing and publishing establishments, the proportion of proprietors and officials was 20 per cent or more. Many of the establishments reported in the industries named 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 in the class of proprietors and officials is very much higher than for most of the other industries or for all industries combined. The smallest

proportion for this class is shown for railroad repair shops and is due partly to the fact that the establishments in this industry were under corporate ownership and so reported no proprietors; and partly to the fact that the higher officials of the railroad companies, who exercise general supervision over them, are not as a rule assigned to this particular branch of work.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	78,860	11.2	10.1	78.7
Agricultural implements.....	1,420	7.5	11.1	81.4
Bread and other bakery products.....	2,550	24.4	11.0	64.6
Brick and tile.....	3,654	11.8	1.8	86.4
Butter, cheese, and condensed milk.....	2,199	26.9	17.1	56.0
Buttons.....	3,376	4.1	2.6	94.0
Carrriages and wagons and materials.....	1,828	12.2	9.0	78.8
Cars and general shop construction and repairs by steam-railroad companies.....	7,460	2.0	4.6	93.4
Flour-mill and gristmill products.....	1,186	37.1	8.3	54.6
Foundry and machine-shop products.....	0,289	8.8	10.0	81.2
Liquors, malt.....	636	10.4	11.8	77.8
Lumber and timber products.....	5,403	7.4	6.4	86.2
Patent medicines and compounds and druggists' preparations.....	887	17.4	42.3	40.4
Printing and publishing.....	8,005	20.0	10.0	60.2
Slaughtering and meat packing.....	4,849	3.4	11.2	85.5
Tobacco manufactures.....	2,523	18.8	4.2	77.0
All other industries.....	25,835	10.4	10.3	79.3

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.

For all industries combined, 83 per cent of the average number of wage earners were males 16 years of age and over; 15.3 per cent females 16 years of age and over; and 1.7 per cent persons under the age of 16 years. The largest proportions of female wage earners for the industries shown separately are in the printing and publishing, bakery, button, patent medicine, and tobacco industries. In the first three of these industries over one-fourth of the employees are females 16 years of age and over, and in the tobacco industry about two-fifths are of this class. Although the total number of wage earners is comparatively small in the patent medicine industry, more than one-half of the employees were females 16 years of age and over.

Of the total number of wage earners who are under 16 years of age, 43.8 per cent were employed in the

bakery, button, printing and publishing, slaughtering and meat-packing, and tobacco industries combined. The last-named industry shows the highest proportion of wage earners under 16 years of age, 4 per cent, while slaughtering and meat packing shows the next highest proportion, 3 per cent.

INDUSTRY.	Average number. ¹	WAGE EARNERS.		
		Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All industries.....	61,635	83.0	15.3	1.7
Agricultural implements.....	1,313	93.3	6.5	0.2
Bread and other bakery products.....	1,647	70.8	26.5	2.7
Brick and tile.....	3,158	99.2	.....	0.8
Butter, cheese, and condensed milk.....	1,231	96.0	3.7	0.3
Buttons.....	3,172	70.6	27.1	2.3
Carrriages and wagons and materials.....	1,441	98.3	1.6	0.1
Cars and general shop construction and repairs by steam-railroad companies.....	6,909	99.9	(²)	(²)
Flour-mill and gristmill products.....	647	97.8	1.7	0.5
Foundry and machine-shop products.....	5,108	96.9	2.5	0.6
Liquors, malt.....	495	92.5	6.3	1.2
Lumber and timber products.....	4,658	97.7	0.4	1.9
Patent medicines and compounds and druggists' preparations.....	358	47.5	52.0	0.6
Printing and publishing.....	4,853	70.7	26.5	2.9
Slaughtering and meat packing.....	4,144	92.7	4.3	3.0
Tobacco manufactures.....	1,943	56.4	39.6	4.0
All other industries.....	20,493	71.0	26.3	2.1

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 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.....	78,860	100.0	61,861	100.0	27.7
Proprietors and firm members.....	5,323	6.8	4,753	7.8	11.9
Salaried employees.....	11,402	14.5	7,123	11.6	60.1
Wage earners (average number).....	61,635	78.7	49,481	80.6	24.6

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.)

This table indicates that for all industries combined there has been practically no change in the proportion of male wage earners 16 years of age and over. In 1909 and 1904 they formed 83 per cent of all wage earners, as compared with 83.1 per cent in 1899. The proportion of female wage earners 16 years of age and over has shown greater variation, being 15.3 per cent of all wage earners in 1909, as compared with 14.8 per cent in 1904 and 12.9 per cent in 1899. There has been a decided decrease during the decade in the employment of children under 16 years of age.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	61,635	100.0	49,481	100.0	44,420	100.0
16 years of age and over.....	60,588	98.3	48,396	97.8	42,625	96.0
Male.....	51,128	83.0	41,082	83.0	36,896	83.1
Female.....	9,460	15.3	7,314	14.8	5,729	12.9
Under 16 years of age.....	1,047	1.7	1,085	2.2	1,795	4.0

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 and can-

ning and preserving industries, 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 24, 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.

Decidedly the greatest variation during the year was shown for the canning and preserving industry, the numbers employed varying from 217, or only 3.6 per cent of the maximum, in February, the month of least activity, to 5,642 in September, the month of greatest activity occasioned by the time of ripening of the raw material. Employment in the brick and tile industry fluctuates from 1,594 in January to 4,093 in June.

The number of wage earners employed in all industries combined was the smallest in January and increased steadily month by month, with the exception of a small decrease in July, until September, when the largest number was reported. There was a difference of 12,357 wage earners, or 18.2 per cent, between the numbers employed in the months of greatest and least activity.

MONTH.	NUMBER OF WAGE EARNERS.							
	All Industries.		Brick and tile.		Canning and preserving.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	55,649	81.8	1,594	38.0	221	3.0	53,834	86.2
February.....	50,081	82.5	1,018	30.5	217	3.8	54,246	88.2
March.....	57,912	85.2	2,359	57.0	253	4.5	55,303	89.7
April.....	60,328	88.7	3,376	82.5	310	5.5	56,643	91.7
May.....	61,440	90.3	3,024	75.9	296	5.2	57,220	92.8
June.....	62,581	92.0	4,093	100.0	380	6.0	58,099	94.3
July.....	62,215	91.5	4,022	98.3	581	10.3	57,612	93.5
August.....	66,408	97.6	3,993	97.0	4,601	81.5	57,814	93.8
September.....	68,006	100.0	3,971	97.0	5,642	100.0	58,393	96.2
October.....	64,097	94.3	3,434	88.8	1,492	26.3	58,081	96.4
November.....	62,895	92.5	3,020	73.8	570	10.2	59,299	96.1
December.....	62,018	91.2	2,294	56.0	393	7.0	59,331	96.0

Prevailing hours of labor.—In the next 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 a few employees work a greater or less number of hours.

It is evident from the figures that for slightly more than three-fourths of the wage earners employed in the manufacturing industries of Iowa the prevailing

hours of labor range from 54 to 60 a week, 14 per cent of the total being employed in establishments operating less than 54 hours per week, and only 9.5 per cent being employed in establishments operating more than 60 hours per week.

It will be noted that in most of the larger industries the greater part of the wage earners work 60 hours per week. The majority of the wage earners in the gas industry, however, work more than 60 hours a week, while the prevailing hours of labor in the tobacco manufacturing industry are for the most part less than 54 hours per week.

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.....	61,635	6,600	2,084	2,972	11,125	27,043	2,946	504	1,411
Agricultural implements.....	1,318			80	493	739			
Artificial stone.....	730	12	20	46	56	596			
Boots and shoes, including cut stock and findings.....	716			9	645	62			
Boxes, cigar.....	79			24	40	15			
Boxes, fancy and paper.....	128		18		50	54			
Bread and other bakery products.....	1,647	87	6	182	184	1,028	89	31	40
Brick and tile.....	3,158	95	22	300	110	2,328	202	34	
Butter, cheese, and condensed milk.....	1,281	173	12	123	60	597	179	48	44
Buttons.....	3,172	19	9	432	1,804	634			274
Canning and preserving.....	1,247	69		11	4	1,061		91	11
Carpets, rag.....	158	6		60	31	61			
Carriages and wagons and materials.....	1,441	49	187	287	63	705	120		
Cars and general shop construction and repairs by steam-railroad companies.....	6,009	1,685		1,467	106	1,099	1,678		14
Cars and general shop construction and repairs by street-railroad companies.....	183	55		45		65	14		4
Clothing, men's, including shirts.....	1,480	170	267	422	529	102			
Clothing, women's.....	876	36	6	76	536	172			
Coffins, burial cases, and undertakers' goods.....	242		26	6		210			
Confectionery.....	1,032	7		147	165	701	0		6
Cooperage and wooden goods, not elsewhere specified.....	249	7	50	11	10	162			
Copper, tin, and sheet-iron products.....	685	92	19	116	20	338			
Cutlery and tools, not elsewhere specified.....	160	1		107	7	45			
Dairymen's, poulterers', and apjarists' supplies.....	730	1			35	694			
Flour-mill and gristmill products.....	647	36	6	22	1	408	60	30	50
Foundry and machine-shop products.....	5,108	34	28	673	1,771	2,595	3		9
Fur goods.....	73	8		32	1	32			
Furniture and refrigerators.....	1,074		28	67	375	604			
Gas and electric fixtures and lamps and reflectors.....	56	18	17	20		1			
Gas, illuminating and heating.....	806	43	5	67	143	46	101	24	377
Gloves and mittens, leather.....	294		78	4	101	51			
Ice, manufactured.....	151					26	7	74	44
Leather goods.....	600	4	6	16	400	108			
Liquors, malt.....	495	108		178	7	202			
Lumber and timber products.....	4,658	12	11	525	532	3,312	210		
Marble and stone work.....	315	154	5	58	15	83			
Mattresses and spring beds.....	242		3		61	178			
Paper and wood pulp.....	205						31	174	
Patent medicines and compounds and druggists' preparations.....	358	220	31	36	18	52			
Pottery, terra-cotta, and fire-clay products.....	286	7		22		171	86		
Printing and publishing.....	4,853	1,720	500	1,282	508	719	3	1	
Shipbuilding, including boat building.....	76			2		74			
Slaughtering and meat packing.....	4,144	324		622	60	2,336		2	
Stoves and furnaces, including gas and oil stoves.....	352	0		91		252			
Tobacco manufactures.....	1,043	1,020	505	129	184	90			
Wall plaster.....	530	13		27		499			
Woolen, worsted, and felt goods, and wool hats.....	134	22			4	108			
All other industries.....	0,755	209	154	822	1,814	2,100	1,052		538

Location of establishments.—The next table shows the extent to which the manufactures of Iowa are centralized in cities of 10,000 population or over. (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 to be included in the group having over 10,000 inhabitants:

ITEM.	Year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 AND OVER.						DISTRICTS OUTSIDE OF CITIES HAVING A POPULATION OF 10,000 AND OVER.	
			Total.		10,000 to 25,000.		25,000 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	2,224,771	467,198	21.0	137,107	6.2	330,091	14.8	1,757,573	79.0
	1900	2,231,853	347,355	15.6	129,096	5.7	218,259	9.8	1,884,498	84.4
Number of establishments.....	1909	5,528	1,987	35.9	645	11.7	1,342	24.3	3,541	64.1
	1899	4,823	1,417	29.3	539	12.2	823	17.1	3,411	70.6
Average number of wage earners.....	1909	61,635	44,845	72.8	15,776	25.6	29,069	47.2	10,790	27.2
	1899	44,420	29,798	67.1	12,633	28.4	17,165	38.6	14,622	32.9
Value of products.....	1909	\$259,237,637	\$189,270,682	73.0	\$49,011,676	18.9	\$140,259,000	54.1	\$99,966,955	27.0
	1899	132,870,865	89,630,045	67.5	34,656,737	26.1	54,974,908	41.4	43,240,220	32.5
Value added by manufacture.....	1909	88,530,589	63,114,904	71.3	17,309,166	19.6	45,745,738	51.7	25,415,685	28.7
	1899	47,091,998	31,784,431	67.5	11,430,013	24.4	20,304,418	43.1	15,307,567	32.5

In 1909, 73 per cent of the total value of products was reported from cities having over 10,000 inhabitants, and 72.8 per cent of the average number of wage earners was employed in such cities. The figures indicate that while very little relative change has taken place during the last 10 years, yet on the whole the industries of the cities of over 10,000 have gained slightly on those of the districts outside during the last decade. The increase in the population of different cities has affected the grouping in the table. In 1900 Clinton and Waterloo were in the first group, but during the following decade the population of each increased so that both now fall in the second group. Prior to 1910 Boone, Iowa City, and Mason City each had less than 10,000 inhabitants, hence were included with the districts outside the cities in 1899.

The population for 1910 and 1900 of the 17 cities which had 10,000 inhabitants or over in 1910 is given in the following statement:

CITY.	1910	1900	CITY.	1910	1900
Des Moines.....	80,308	62,130	Ottumwa.....	22,012	18,197
Sioux City.....	47,828	33,111	Muscatine.....	10,178	14,073
Davenport.....	43,028	35,254	Fort Dodge.....	15,543	12,102
Dubuque.....	38,494	30,297	Keokuk.....	14,008	14,641
Cedar Rapids.....	32,811	25,056	Marshalltown.....	13,374	11,544
Council Bluffs.....	29,292	25,802	Mason City.....	11,230	10,746
Waterloo.....	26,603	12,580	Boone.....	10,347	18,880
Clinton.....	25,577	22,098	Iowa City.....	10,091	17,987
Burlington.....	24,324	23,201			

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 addition of Boone, Iowa City, and Mason City to the group of cities having 10,000 inhabitants or over in 1909 caused little proportionate change in the totals for such cities and for the remainder of the state. By deducting from the total for cities the total value of products, \$4,368,202, reported in 1909 for these three places, the remainder would represent 71.3 per cent instead of 73 per cent of the total for the state. The group comprising the cities having from 10,000 to 25,000 inhabitants shows a decline in its proportions of the various totals, as compared with 1899, while the group made up of cities having more than 25,000 inhabitants shows pronounced increases in these proportions, due in part to changes in the composition of the respective groups. A marked absolute increase was, however, returned in all items for the group of smaller cities. In 1909, of the total value of products reported for the state, 18.9 per cent was reported from the nine cities having from 10,000 to 25,000 inhabitants, and 54.1 per cent from the eight cities having more than 25,000 inhabitants.

The relative importance of each of the 17 cities having a population of 10,000 or over in 1910 is shown in the next table, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1900	1904	1899	1909	1904	1899
Sioux City.....	3,750	2,299	2,463	\$37,424,450	\$14,700,751	\$14,237,068
Cedar Rapids.....	3,505	3,259	2,374	24,824,276	10,270,706	11,135,435
Des Moines.....	5,383	4,155	3,479	23,681,667	15,084,658	8,396,495
Davenport.....	4,231	3,840	3,403	18,801,842	13,695,978	9,872,327
Dubuque.....	5,168	4,274	4,653	15,376,328	9,279,414	9,631,247
Ottumwa.....	2,650	2,304	1,820	14,833,315	10,374,183	8,633,006
Waterloo.....	3,124	1,674	804	8,909,420	4,693,888	2,088,222
Burlington.....	4,100	2,915	2,054	8,443,296	5,778,337	4,450,359
Clinton.....	2,414	2,153	2,502	7,470,515	4,900,355	6,203,316
Keokuk.....	1,541	1,533	1,362	7,398,733	4,225,915	3,048,460
Muscatine.....	3,406	2,763	2,589	6,165,860	5,039,640	5,219,787
Marshalltown.....	1,365	888	1,112	4,821,805	3,090,312	3,956,732
Council Bluffs.....	1,434	1,001	788	3,768,508	1,924,109	1,692,336
Fort Dodge.....	1,115	961	390	2,975,450	3,025,650	1,906,834
Mason City.....	807	(1)	(1)	2,880,732	(1)	(1)
Iowa City.....	282	(1)	(1)	805,046	(1)	(1)
Boone.....	330	(1)	(1)	682,424	(1)	(1)

¹ Population less than 10,000 in 1900.

With the exception of Fort Dodge, every city for which separate statistics are presented for both 1904 and 1909 shows an increase in value of products for the five-year period, and all excepting Dubuque, Clinton, Muscatine, and Marshalltown show increases from 1899 to 1904. The percentages of increase, however, are generally greater for the period 1904 to 1909. The greatest absolute and relative gains from 1904 to 1909 were made by Sioux City, which is the most important manufacturing center of the state. During the period named the value of products increased \$22,663,699, or 153.5 per cent. This increase was due largely to the development of slaughtering and meat packing, which is the leading industry of the city. The next largest absolute increase, \$8,544,570, is shown for Cedar Rapids, and was due principally to an increased production of meat and other food products. Council Bluffs ranks next to Sioux City in the percentage of increase, with 95.9. This large increase was not due to unusual gains in any particular industry. Des Moines, which ranks first in population, ranks only third as a manufacturing center. The most important industries are foundry and machine-shop products, patent medicines and compounds, printing and publishing, and slaughtering and meat packing. A number of new industries have been established since 1904. This city shows an increase from 1904 to 1909 of \$8,499,709, or 56.3 per cent, in value of products, and an increase of 1,228, or 29.6 per cent, in number of wage earners.

The manufacture of glucose and starch, foundry and machine-shop, and flour and grist mill products are the leading industries in Davenport. Steam-railroad repair shops, the men's clothing, and the lumber and timber industries are the most important in Dubuque. Ottumwa is the second city of the state in slaughtering and meat packing. Waterloo leads in the production of agricultural implements and dairymen's, poultryers', and apiarists' supplies, while Muscatine leads in the production of buttons. The principal industries in the remaining cities shown in the above table were as

follows: Burlington, the steam-railroad repair shops, and foundries and machine shops; Clinton, the manufacture of glucose and starch and of lumber and timber products; Keokuk, reworking butter and the manufacture of glucose and starch and of patent medicines; Marshalltown and Mason City, slaughtering and meat packing; Fort Dodge, the manufacture of boots and shoes, food preparations, and wall plaster; Iowa City, printing and publishing, breweries, and leather gloves and mittens; and Boone, railroad repair shops.

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.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Buttons, 1909	70	3,179	\$4,085,428	\$2,621,757
1909.....	5,528	61,685	\$269,237,637	\$88,530,589	Individual.....	26	274	318,740	218,601
1904.....	4,785	49,481	160,672,313	57,728,421	Firm.....	22	621	1,317,781	943,173
Individual:					Corporation ¹	22	1,077	2,398,898	1,450,023
1909.....	2,735	7,600	24,053,314	11,140,151	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	2,308	6,850	18,177,908	8,329,139	Individual.....	37.1	8.6	7.0	8.3
Firm:					Firm.....	31.4	29.0	32.7	36.0
1909.....	1,105	7,909	32,801,391	11,107,494	Corporation.....	31.4	62.3	50.4	55.7
1904.....	1,088	7,073	18,980,724	8,591,840	Carriages and wagons and materials, 1909	119	1,441	\$4,786,321	\$2,038,810
Corporation:					Individual.....	64	253	522,717	304,702
1909.....	1,317	45,475	180,182,389	64,962,903	Firm.....	35	393	1,541,050	712,184
1904.....	1,041	34,942	110,246,585	39,785,452	Corporation.....	20	795	2,722,548	1,021,924
Other:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	371	651	13,140,543	1,320,041	Individual.....	53.8	17.6	10.9	14.9
1904.....	348	616	7,161,030	1,018,984	Firm.....	29.4	27.3	32.2	34.9
Per cent of total:					Corporation.....	16.8	55.2	50.9	50.1
1909.....	100.0	100.0	100.0	100.0	Flour-mill and gristmill products, 1909	277	647	\$12,870,603	\$1,936,825
1904.....	100.0	100.0	100.0	100.0	Individual.....	140	171	2,412,391	441,067
Individual:					Firm.....	89	125	2,547,298	446,057
1909.....	40.5	12.3	9.3	12.0	Corporation ¹	42	351	7,910,914	1,049,161
1904.....	48.2	13.8	11.3	14.4	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	52.7	26.4	18.7	22.8
1909.....	20.0	12.8	12.7	12.5	Firm.....	32.1	19.3	19.8	23.0
1904.....	22.7	14.3	11.8	14.9	Corporation.....	15.2	54.2	61.5	54.2
Corporation:					Foundry and machine-shop products, 1909	274	5,108	\$14,064,322	\$7,692,306
1909.....	23.8	73.8	73.0	73.4	Individual.....	91	563	1,510,795	893,135
1904.....	21.8	70.6	72.4	68.9	Firm.....	61	828	2,778,450	1,393,702
Other:					Corporation.....	122	3,717	9,775,137	5,495,969
1909.....	6.7	1.1	5.1	1.5	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	7.3	1.2	4.5	1.8	Individual.....	33.2	11.0	10.7	11.2
Agricultural implements, 1909.	42	1,818	\$4,757,089	\$2,585,973	Firm.....	22.3	16.2	10.8	17.3
Individual.....	8	38	102,783	44,010	Corporation.....	44.5	72.8	69.5	71.4
Firm.....	8	26	82,155	37,005	Lumber and timber products, 1909	229	4,858	\$12,659,259	\$5,518,730
Corporation.....	20	1,254	4,572,151	2,504,040	Individual.....	118	259	562,940	295,550
Per cent of total.....	100.0	100.0	100.0	100.0	Firm.....	56	413	935,924	412,496
Individual.....	19.0	2.9	2.2	1.7	Corporation.....	55	3,986	11,160,395	4,810,675
Firm.....	19.0	2.0	1.7	1.4	Per cent of total.....	100.0	100.0	100.0	100.0
Corporation.....	61.9	95.1	96.1	96.9	Individual.....	51.5	5.6	4.4	5.4
Bread and other bakery products, 1909	495	1,647	\$6,817,672	\$2,670,799	Firm.....	24.5	8.9	7.4	7.5
Individual.....	392	638	2,801,250	1,104,998	Corporation.....	24.0	85.6	88.2	87.2
Firm.....	78	240	1,011,017	356,500	Printing and publishing, 1909	1,110	4,853	\$12,128,657	\$8,841,560
Corporation ¹	25	769	2,945,396	1,140,303	Individual.....	702	1,685	3,399,193	2,610,071
Per cent of total.....	100.0	100.0	100.0	100.0	Firm.....	208	729	1,429,501	1,080,901
Individual.....	79.2	38.7	42.0	43.6	Corporation.....	170	2,367	7,066,490	4,940,244
Firm.....	15.8	14.0	14.8	13.3	Other.....	30	72	233,473	192,344
Corporation.....	5.0	40.7	43.2	43.0	Per cent of total.....	100.0	100.0	100.0	100.0
Brick and tile, 1909	285	3,158	\$4,482,767	\$3,278,327	Individual.....	63.2	34.7	28.0	26.6
Individual.....	96	492	631,546	464,805	Firm.....	13.7	15.0	11.8	12.3
Firm.....	70	691	982,025	730,845	Corporation.....	15.3	48.8	68.3	55.9
Corporation.....	69	1,075	2,869,196	2,078,677	Other.....	2.7	1.5	1.0	2.2
Per cent of total.....	100.0	100.0	100.0	100.0	Slaughtering and meat packing, 1909	33	4,144	\$59,045,232	\$6,917,856
Individual.....	40.9	15.6	14.1	14.2	Individual.....	12	94	931,307	133,513
Firm.....	29.8	21.9	21.9	22.5	Firm.....	7	1,107	11,135,090	865,977
Corporation.....	29.4	62.5	64.0	63.3	Corporation.....	7	2,943	46,978,835	4,918,306
Butter, cheese, and condensed milk, 1909	512	1,231	\$25,849,866	\$3,008,236	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	105	202	3,371,872	429,710	Individual.....	36.4	2.3	1.6	2.3
Firm.....	51	134	2,230,508	253,277	Firm.....	21.2	26.7	18.9	14.6
Corporation.....	58	407	7,737,198	1,274,469	Corporation.....	42.4	71.0	79.6	83.1
Other.....	298	488	12,500,988	1,015,750					
Per cent of total.....	100.0	100.0	100.0	100.0					
Individual.....	20.5	16.4	13.0	14.3					
Firm.....	10.0	10.9	8.7	9.6					
Corporation.....	11.3	33.1	29.9	42.4					
Other.....	58.2	39.6	48.4	33.8					

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

Little change is shown from 1904 to 1909 in the proportions of the total number of establishments under the several forms of ownership. Individual and corporate ownership each show a slight increase in their percentages of the total number of establishments, 1.3 and 2, respectively, while firm ownership and "Other" forms show decreases of 2.7 and six-tenths of 1 per cent, respectively.

For all industries combined, as measured by value of products and value added by manufacture, all forms of ownership show substantial absolute increases. The most noticeable feature of the table is the variation in the relative proportions of the different items reported for the respective forms of ownership. In 1909 establishments operated by corporations, although constituting only 23.8 per cent of the establishments engaged in all manufacturing industries, contributed 73 per cent of the total value of products, while individual ownership was credited with 49.5 per cent of the establishments and only 9.3 per cent of the total value of products.

The form of ownership prevailing in the different industries varied considerably. In all but four of the industries shown separately the most common form of ownership was the individual. The largest percentage of corporations is found in the agricultural-implement, foundry and machine-shop, and slaughtering and meat-packing industries. In the butter, cheese, and condensed-milk industry the most common form of ownership was the cooperative, classed under "Other" form of ownership in the table. These are establishments operated largely by associations which organize for the purpose of securing a steadier and better market for their milk and cream.

Size of establishments.—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 13 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 the individual industries figures are given for 1909 only.

This table shows that, in 1909, of the 5,528 establishments only 29, or five-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed a combined average of

10,394 wage earners, or 16.9 per cent of the total number in all establishments, and reported 36.9 per cent of the total value of products and 20.9 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 (41.3 per cent) of the total number of establishments, but the value of their products amounted to only 2.1 per cent of the total. The great bulk of the manufacturing was reported by establishments having a product valued at not less than \$100,000. In 1909 these establishments reported 61.4 per cent of the total wage earners and 72 per cent of the total value of products.

It will be seen from the table that during the five years from 1904 to 1909 there was a considerable increase when measured by value of products in the relative importance of the largest establishments—those reporting products of not less than \$1,000,000 in value—and a decrease in that of all other classes.

The fact that the average value of products per establishment increased from \$33,557 to \$46,895 and the value added by manufacture from \$12,064 to \$16,015 can not be taken as in itself indicating a tendency toward concentration. The increased values shown may be, and probably are, due in part to the increase that has taken place in the price of commodities. The average number of wage earners per establishment shows an increase of only one.

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 15 important industries individually, 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 5,528 establishments reported for all industries, 11.6 per cent employed no wage earners; 63.8 per cent, from 1 to 5; 14.7 per cent, 6 to 20; 5.7 per cent, 21 to 50; and 4.2 per cent more than 50. The most numerous single group consists of the 3,527 establishments employing from 1 to 5 wage earners, and the next of the 813 establishments employing from 6 to 20 wage earners. There were 102 establishments that employed over 100 wage earners; 34 employed over 250; 9 employed over 500, and only 1, which was a slaughtering and meat-packing establishment, employed over 1,000.

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.
ALL INDUSTRIES:									
1909.....	5,528	61,635	\$259,237,637	\$88,530,589	Buttons, 1909.....	70	3,178	\$4,085,428	\$2,631,787
1904.....	4,785	49,481	160,572,313	57,728,421	Less than \$5,000.....	19	42	38,202	26,380
Less than \$5,000:					\$5,000 and less than \$20,000.....	19	222	207,027	137,023
1909.....	2,281	2,639	5,437,954	3,474,403	\$20,000 and less than \$100,000.....	23	1,021	1,085,230	710,089
1904.....	2,023	2,800	4,839,841	3,174,225	\$100,000 and less than \$1,000,000.....	9	1,887	2,704,300	1,741,050
\$5,000 and less than \$20,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	1,066	6,836	16,005,804	9,175,990	Less than \$5,000.....	27.1	1.3	0.9	1.0
1904.....	1,589	0,671	16,089,197	7,574,371	\$5,000 and less than \$20,000.....	27.1	7.0	5.1	5.2
\$20,000 and less than \$100,000:					\$20,000 and less than \$100,000.....	32.9	32.2	26.9	27.3
1909.....	1,156	14,344	50,150,007	13,079,294	\$100,000 and less than \$1,000,000.....	12.9	59.5	67.0	60.4
1904.....	913	18,658	33,000,333	19,193,200	Average per establishment.....		45	\$57,049	\$37,454
\$100,000 and less than \$1,000,000:					Carriages and wagons and materials, 1909.....	119	1,441	\$4,786,321	\$3,038,810
1909.....	366	27,422	91,097,657	33,737,652	Less than \$5,000.....	47	93	139,285	87,821
1904.....	249	21,424	60,553,658	25,630,089	\$5,000 and less than \$20,000.....	40	218	410,766	256,007
\$1,000,000 and over:					\$20,000 and less than \$100,000.....	22	300	1,085,272	485,024
1909.....	29	10,394	95,585,315	13,463,340	\$100,000 and less than \$1,000,000.....	10	800	3,150,998	1,209,358
1904.....	11	4,803	41,080,284	5,255,930	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total:					Less than \$5,000.....	39.5	4.4	2.9	4.3
1909.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	33.8	15.1	8.0	12.6
1904.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	18.5	25.0	22.7	23.0
Less than \$5,000:					\$100,000 and less than \$1,000,000.....	8.4	55.5	65.8	59.3
1909.....	41.3	4.3	2.1	3.9	Average per establishment.....		12	\$40,221	\$17,133
1904.....	42.3	5.8	3.0	5.5	Flour-mill and gristmill products, 1909.....	277	647	\$12,870,803	\$1,936,535
\$5,000 and less than \$20,000:					Less than \$5,000.....	52	17	150,339	80,345
1909.....	30.7	11.1	6.5	10.4	\$5,000 and less than \$20,000.....	97	93	1,010,020	224,084
1904.....	33.2	13.5	10.0	13.1	\$20,000 and less than \$100,000.....	105	228	3,950,401	678,032
\$20,000 and less than \$100,000:					\$100,000 and less than \$1,000,000.....	23	309	7,744,343	997,764
1909.....	20.9	23.3	19.3	21.1	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	19.1	27.6	23.7	23.0	Less than \$5,000.....	18.8	2.6	1.2	1.9
\$100,000 and less than \$1,000,000:					\$5,000 and less than \$20,000.....	35.0	14.4	7.9	11.8
1909.....	0.6	44.5	35.1	43.8	\$20,000 and less than \$100,000.....	37.9	55.2	30.8	35.0
1904.....	5.2	43.3	37.7	44.2	\$100,000 and less than \$1,000,000.....	8.3	47.8	60.2	51.5
\$1,000,000 and over:					Average per establishment.....		2	\$46,404	\$0,992
1909.....	0.5	16.9	36.9	20.9	Foundry and machine-shop products, 1909.....	274	5,103	\$14,064,323	\$7,623,808
1904.....	0.2	9.8	25.0	9.1	Less than \$5,000.....	64	94	159,271	104,777
Average per establishment:					\$5,000 and less than \$20,000.....	50	410	902,053	559,189
1909.....	11	\$46,895	\$10,015	\$10,015	\$20,000 and less than \$100,000.....	84	1,300	3,625,019	2,041,203
1904.....	10	33,557	12,004	12,004	\$100,000 and less than \$1,000,000.....	39	3,325	9,389,089	4,987,677
Agricultural implements, 1909.	42	1,318	\$4,757,089	\$2,585,973	Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	8	10	22,241	13,078	Less than \$5,000.....	23.4	1.3	1.1	1.4
\$5,000 and less than \$20,000.....	14	54	132,567	75,310	\$5,000 and less than \$20,000.....	32.8	8.2	6.4	7.3
\$20,000 and less than \$100,000.....	8	146	407,992	194,950	\$20,000 and less than \$100,000.....	30.7	25.4	25.8	26.5
\$100,000 and less than \$1,000,000.....	12	1,108	4,194,589	2,302,035	\$100,000 and less than \$1,000,000.....	13.1	65.1	67.7	64.8
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....		10	\$51,330	\$28,076
Less than \$5,000.....	19.0	0.8	0.5	0.5	Lumber and timber products, 1909.....	229	4,955	\$12,659,859	\$5,613,730
\$5,000 and less than \$20,000.....	33.3	4.1	2.8	2.9	Less than \$5,000.....	124	112	254,845	149,342
\$20,000 and less than \$100,000.....	19.0	11.1	8.0	7.5	\$5,000 and less than \$20,000.....	47	177	885,294	212,302
\$100,000 and less than \$1,000,000.....	28.6	84.1	88.2	80.0	\$20,000 and less than \$100,000.....	30	621	1,984,283	610,470
Average per establishment.....		31	\$113,264	\$61,571	\$100,000 and less than \$1,000,000.....	25	2,752	7,230,278	2,006,787
Bread and other bakery products, 1909.....	495	1,647	\$6,817,672	\$2,070,799	\$1,000,000 and over.....	3	1,016	3,404,009	1,549,790
Less than \$5,000.....	211	128	676,471	250,858	Per cent of total.....	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000.....	234	490	2,157,322	884,251	Less than \$5,000.....	54.1	2.4	2.0	2.7
\$20,000 and less than \$100,000.....	40	369	1,459,180	570,757	\$5,000 and less than \$20,000.....	20.5	3.8	3.0	3.8
\$100,000 and less than \$1,000,000.....	10	660	2,624,909	958,983	\$20,000 and less than \$100,000.....	13.1	13.3	10.9	11.1
Per cent of total.....	100.0	100.0	100.0	100.0	\$100,000 and less than \$1,000,000.....	10.9	58.7	57.1	54.3
Less than \$5,000.....	42.6	7.8	8.5	9.0	\$1,000,000 and over.....	1.3	21.8	26.9	28.1
\$5,000 and less than \$20,000.....	47.3	29.8	31.6	33.1	Average per establishment.....		20	\$55,281	\$24,059
\$20,000 and less than \$100,000.....	8.1	22.4	21.4	21.4	Printing and publishing, 1909.....	1,110	4,853	\$12,123,657	\$3,841,660
\$100,000 and less than \$1,000,000.....	2.0	40.1	38.5	35.9	Less than \$5,000.....	674	937	1,654,659	1,324,435
Average per establishment.....		3	\$13,773	\$5,396	\$5,000 and less than \$20,000.....	341	1,521	2,978,787	2,313,021
Brick and tile, 1909.....	235	3,158	\$4,482,767	\$3,278,327	\$20,000 and less than \$100,000.....	71	1,232	3,148,782	2,219,854
Less than \$5,000.....	84	209	221,540	174,445	\$100,000 and less than \$1,000,000.....	24	1,163	4,840,629	2,984,250
\$5,000 and less than \$20,000.....	91	683	902,033	685,169	Per cent of total.....	100.0	100.0	100.0	100.0
\$20,000 and less than \$100,000.....	49	1,362	1,935,799	1,379,125	Less than \$5,000.....	60.7	19.3	13.6	15.0
\$100,000 and less than \$1,000,000.....	11	904	1,423,345	1,039,598	\$5,000 and less than \$20,000.....	30.7	31.3	24.0	25.2
Per cent of total.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	6.4	25.4	20.0	25.1
Less than \$5,000.....	35.7	6.6	4.9	5.3	\$100,000 and less than \$1,000,000.....	2.2	24.0	35.8	33.8
\$5,000 and less than \$20,000.....	33.7	21.6	20.1	20.9	Average per establishment.....		4	\$10,927	\$7,006
\$20,000 and less than \$100,000.....	20.9	43.1	43.2	42.1	Slaughtering and meat packing, 1909.....	33	4,144	\$59,045,332	\$5,917,856
\$100,000 and less than \$1,000,000.....	4.7	23.6	31.8	31.7	\$5,000 and less than \$20,000.....	6	8	54,893	17,002
Average per establishment.....		13	\$19,076	\$13,050	\$20,000 and less than \$100,000.....	11	54	632,289	100,179
Butter, cheese, and condensed milk, 1909.....	512	1,231	\$25,849,866	\$3,008,336	\$100,000 and less than \$1,000,000.....	8	290	3,230,188	895,910
Less than \$5,000.....	16	9	52,961	10,353	\$1,000,000 and over.....	8	3,792	55,237,862	5,404,105
\$5,000 and less than \$20,000.....	109	115	1,414,923	190,942	Per cent of total.....	100.0	100.0	100.0	100.0
\$20,000 and less than \$100,000.....	343	650	14,921,639	1,322,643	Less than \$5,000.....	18.2	0.2	0.1	0.3
\$100,000 and less than \$1,000,000.....	39	457	9,460,643	1,484,298	\$5,000 and less than \$20,000.....	33.3	1.3	0.9	1.7
Per cent of total.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	24.2	7.0	5.5	6.7
Less than \$5,000.....	3.1	0.7	0.2	0.3	\$100,000 and less than \$1,000,000.....	24.2	91.5	93.5	91.3
\$5,000 and less than \$20,000.....	21.3	9.3	5.5	6.3	Average per establishment.....		126	\$1,789,249	\$179,329
\$20,000 and less than \$100,000.....	68.0	52.8	57.7	44.0					
\$100,000 and less than \$1,000,000.....	7.6	37.1	36.6	49.3					
Average per establishment.....		2	\$50,488	\$5,875					

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

Of the total number of wage earners, 42.4 per cent were in establishments employing over 100 wage earners. The two groups having the largest number of employees were those comprising the establishments employing from 21 to 50 wage earners and from 101 to 250, each of which employed 10,228 wage earners, or 16.6 per cent of the total. The individual industries

listed in this table, but not in the preceding one, namely, the steam-railroad repair shops, breweries, the patent medicine industry, and tobacco manufacture are all industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of 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.....	5,528	642	3,527	813	313	131	68	24	9	
Agricultural implements.....	42	1	10	7	9	3	2	1		
Bread and other bakery products.....	495	93	358	34	5	1	4			
Brick and tile.....	235	3	120	73	23	14	2			
Butter, cheese, and condensed milk.....	512	29	444	31	8					
Buttons.....	70		22	18	13	8	0	3		
Carriages and wagons and materials.....	110	13	50	34	7	3	3			
Cars and general shop construction and repairs by steam-railroad companies.....	33		1	5	5	4	7	7	4	
Flour-mill and gristmill products.....	277	55	199	10	4					
Foundry and machine-shop products.....	274	16	131	78	26	12	0	3		
Liquors, malt.....	10		2	8	7	1	0			
Lumber and timber products.....	229	8	156	28	14	11	1	5		
Patent medicines and compounds and druggists' preparations.....	100	30	58	0	2					
Printing and publishing.....	1,110	158	777	135	34	3	3			
Slaughtering and meat packing.....	33		12	0	1	5	2		3	
Tobacco manufactures.....	372	93	217	49	4	7	2			
All other industries.....	1,008	143	652	276	149	50	22	5	2	
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	61,635	7,176	8,858	10,228	9,222	10,228	8,617	6,331		
Agricultural implements.....	1,318	45	75	277	224	403	294			
Bread and other bakery products.....	1,647	625	330	152	64	470				
Brick and tile.....	3,158	396	845	694	965	258				
Butter, cheese, and condensed milk.....	1,231	707	285	239						
Buttons.....	3,172	52	234	440	559	909	918			
Carriages and wagons and materials.....	1,441	150	307	280	193	435				
Cars and general shop construction and repairs by steam-railroad companies.....	6,969	2	89	145	310	989	2,540	2,894		
Flour-mill and gristmill products.....	647	330	173	144						
Foundry and machine-shop products.....	5,108	333	900	951	860	943	1,121			
Liquors, malt.....	495	7	86	206	67	129				
Lumber and timber products.....	4,658	217	320	520	760	1,016	1,825			
Patent medicines and compounds and druggists' preparations.....	358	90	73	67		128				
Printing and publishing.....	4,853	1,778	1,378	1,060	217	420				
Slaughtering and meat packing.....	4,144	21	101	36	359	318		2,234		
Tobacco manufactures.....	1,943	458	525	121	547	292				
All other industries.....	20,493	1,959	3,077	4,896	4,007	3,442	1,010	1,103		
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	11.6	14.4	16.6	15.0	16.6	14.0	10.1		
Agricultural implements.....	100.0	3.4	5.7	21.0	17.0	30.6	22.3			
Bread and other bakery products.....	100.0	37.0	26.0	9.2	3.9	28.9				
Brick and tile.....	100.0	12.5	26.8	22.0	30.6	8.2				
Butter, cheese, and condensed milk.....	100.0	57.4	23.2	10.4						
Buttons.....	100.0	1.6	7.4	13.9	17.6	30.5	28.9			
Carriages and wagons and materials.....	100.0	10.8	25.5	10.4	13.4	30.9				
Cars and general shop construction and repairs by steam-railroad companies.....	100.0	(1)	1.3	2.1	4.4	14.2	36.4	41.5		
Flour-mill and gristmill products.....	100.0	51.0	26.7	22.3						
Foundry and machine-shop products.....	100.0	6.5	17.6	18.6	16.8	18.5	21.9			
Liquors, malt.....	100.0	1.4	17.4	41.6	13.5	26.1				
Lumber and timber products.....	100.0	4.7	6.9	11.2	16.3	21.8	36.2			
Patent medicines and compounds and druggists' preparations.....	100.0	25.1	20.4	18.7		35.8				
Printing and publishing.....	100.0	36.6	28.4	21.8	4.5	8.7				
Slaughtering and meat packing.....	100.0	0.5	2.4	0.9	8.7	7.7		53.9		
Tobacco manufactures.....	100.0	23.6	27.0	6.2	28.2	15.0				
All other industries.....	100.0	9.6	15.0	23.9	20.0	16.8	9.4	5.4		

¹ Less than one-tenth of 1 per cent.

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 next 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.

This table shows that, for all industries combined, 73.2 per cent of the total expenses was incurred for materials, 18.6 per cent for services—that is, salaries and wages—and but 8.2 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The high percentage for materials shown for all industries combined is mainly caused by three important industries, namely, slaughtering and meat packing; the butter, cheese, and condensed milk industry; and the flour-mill and grist-mill products, for which the proportions are 92.3 per cent, 91.9 per cent, and 91.7 per cent, respectively. The expenses for services, however, were but 4.9 per cent of the total for slaughtering and meat packing and the butter, cheese, and condensed milk industries, and 4.7 per cent for the flour-mill and gristmill industry.

The large proportion shown for miscellaneous expenses for the malt-liquor industry is due to the inclusion of internal-revenue tax, and that for the patent-medicine industry is because of the large expenses for advertising.

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.....	6,585	3,375	4,216	155,384	118,065	108,664	100.0	100.0	100.0
Owned.....	3,574	3,375	4,216	136,466	112,435	103,499	87.8	95.2	96.9
Steam.....	2,054	2,215	3,017	121,882	100,418	91,182	78.4	85.1	85.5
Gas.....	1,336	922	921	8,025	4,486	4,524	5.2	3.8	4.2
Water wheels.....	161	208	278	0,320	0,448	7,315	4.1	5.5	6.0
Water motors.....	23	30	(²)	85	83	(²)	0.1	0.1	(²)
Other.....				147	1,000	388	0.1	0.8	0.4
Rented.....	3,011	(²)	(²)	18,919	5,630	3,255	12.2	4.8	3.1
Electric.....	3,011	(²)	(²)	18,463	5,107	2,613	11.9	4.3	2.4
Other.....				456	523	642	0.3	0.4	0.6
Electric motors	4,459	271	211	40,736	8,663	6,222	100.0	100.0	100.0
Run by current generated by establishment....	1,448	271	211	22,273	3,559	3,609	54.7	41.0	58.0
Run by rented power.....	3,011	(²)	(²)	18,463	5,107	2,613	45.3	59.0	42.0

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

The table indicates that from 1904 to 1909 there was an increase of 37,319 horsepower, or 31.6 per cent, in the total primary power used in manufactures, while from 1899 to 1904 the increase was only 11,401 horsepower, or 10.7 per cent. Of the total increase from 1904 to 1909 in power used, 21,464 horsepower, or 57.5 per cent, was in power generated by steam engines, and 13,356 horsepower, or 35.8 per cent, in rented electric power. Water power decreased from 7,315 horsepower in 1899 to 6,531 in 1904 and 6,411 in 1909. The classes of power, both owned and rented, included under the head of "Other" show a decrease from 1904 to 1909. Steam is still the predominant power, although it furnished but 78.4 per cent of the

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	4.7	13.9	73.2	8.2
Agricultural implements.....	9.4	17.8	58.6	16.2
Bread and other bakery products.....	5.0	14.5	70.8	9.8
Brick and tile.....	8.5	47.3	34.1	10.2
Butter, cheese, and condensed milk.....	1.5	3.4	91.9	3.2
Buttons.....	3.9	42.2	42.3	11.6
Carrriages and wagons and materials.....	5.6	20.1	66.6	7.7
Cars and general shop construction and repairs by steam-railroad companies.....	4.7	44.2	50.2	1.0
Flour-mill and gristmill products.....	1.5	3.2	91.7	3.6
Foundry and machine-shop products.....	8.2	26.2	54.1	11.6
Liquors, malt.....	8.9	13.3	36.2	41.5
Lumber and timber products.....	4.6	20.8	63.0	11.5
Patent medicines and compounds and druggists' preparations.....	15.6	5.0	39.6	39.8
Printing and publishing.....	10.9	27.4	34.8	20.9
Slaughtering and meat packing.....	1.1	3.8	92.3	2.7
Tobacco manufactures.....	5.8	28.4	46.0	19.8
All other industries.....	6.0	14.5	69.5	9.9

total horsepower in 1909, as compared with 85.1 per cent in 1904 and 85.5 per cent in 1899. The more general use of gas engines is shown, there being 1,336 such engines, with a total of 8,025 horsepower, reported in 1909, as against 922 engines, with 4,486 horsepower, in 1904. The figures also show that the practice of renting electric power is on the increase, 11.9 per cent of the total primary power being of this character in 1909, compared with but 4.3 per cent in 1904 and only 2.4 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be increasing, the horsepower of such motors having increased from 3,556 in 1904 to 22,273 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 consumed 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.	An-thra-cite coal (tons).	Bitumi-nous coal (tons).	Coke (tons).	Wood (cords).	Oil, in-cluding gasoline (bar-rels).	Gas (1,000 feet).
All industries ¹	8,726	1,835,448	49,584	26,195	186,885	66,505
Agricultural implements.....	28	16,139	1,154	24	1,020	166
Bread and other bakery prod-ucts.....	1,301	9,383	4,875	9,431	404	7,395
Brick and tile.....	1,500	467,742	560	1,608	201	.....
Butter, cheese, and condensed milk.....	102	66,615	168	2,312	292	.....
Buttons.....	134	18,821	12	210	659	.....
Carriages and wagons and mate-rials.....	65	12,979	587	105	1,951	545
Cars and general shop construc-tion and repairs by steam-rail-road companies.....	213	225,117	273	1,286	2,594	.....
Flour-mill and gristmill prod-ucts.....	356	50,061	2	106	1,033	3,503
Foundry and machine-shop products.....	1,225	53,402	11,043	1,693	14,743	4,752
Gas, illuminating and heating..	216	94,175	24,234	.....	138,494	2
Ice, manufactured.....	.....	22,026	.....	.....	20	.....
Liquors, malt.....	134	38,486	.....	31	7	.....
Lumber and timber products...	180	14,797	42	4	290	2
Patent medicines and com-pounds and druggists' prepa-rations.....	102	3,353	.....	11	81	794
Printing and publishing.....	400	13,048	114	242	2,756	23,165
Slaughtering and meat packing.	21	107,903	.....	1,198	205	812
Tobacco manufactures.....	386	2,008	40	47	1	217
Wall plaster.....	.....	35,050	787	.....	.....	.....
All other industries.....	2,003	516,843	5,693	7,797	22,171	25,052

¹ In addition there were 754 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 which do not appear on the general schedule. Certain data of this character for five important industries in Iowa are here presented.

Slaughtering and meat packing.—The number and cost of animals slaughtered, by kind, together with the cost of fuel and rent of power and the cost of all other materials, and the kinds, quantities, and values of products, as reported at the censuses of 1909, 1904, and 1899, are shown in the following statement:

MATERIAL OR PRODUCT.	1900	1904	1899
Materials used, total cost	\$53,127,378	\$27,243,795	\$21,604,479
Beaves slaughtered:			
Number.....	252,821	91,504	77,846
Cost.....	\$11,256,445	\$3,127,120	\$2,512,385
Calves slaughtered:			
Number.....	20,437	8,546	4,201
Cost.....	\$202,852	\$55,512	\$30,093
Sheep slaughtered:			
Number.....	40,577	13,071	13,686
Cost.....	\$223,759	\$50,249	\$60,106
Hogs slaughtered:			
Number.....	2,487,251	2,070,473	1,922,608
Cost.....	\$38,499,019	\$22,489,800	\$17,521,295
Fuel and rent of power.....	\$355,878	\$190,849	\$142,271
All other materials.....	\$2,589,423	\$1,330,205	\$1,338,329
Products, total value	\$59,045,332	\$30,132,170	\$25,762,844
Beef, fresh:			
Pounds.....	123,780,302	41,075,322	30,578,342
Value.....	\$5,854,488	\$2,844,547	\$2,125,028
Beef, salted or cured:			
Pounds.....	5,035,186	1,260,572	1,305,205
Value.....	\$441,075	\$37,054	\$84,838
Veal, fresh:			
Pounds.....	2,420,149	704,079	457,581
Value.....	\$226,921	\$62,868	\$39,972
Mutton, fresh:			
Pounds.....	1,848,011	532,745	1,159,736
Value.....	\$170,834	\$47,005	\$98,094
Pork, fresh:			
Pounds.....	100,113,200	41,260,001	31,774,211
Value.....	\$9,750,724	\$2,973,294	\$2,337,221
Pork, salted or cured:			
Pounds.....	219,106,133	215,425,256	206,036,098
Value.....	\$24,852,404	\$16,007,746	\$15,869,169
Sausage, fresh or cured.....	\$1,432,508	\$743,347	\$630,396
All other fresh meat:			
Pounds.....	3,320,807	13,509,742	6,800
Value.....	\$200,302	\$394,121	\$390
Lard:			
Pounds.....	71,084,771	65,322,473	70,441,792
Value.....	\$3,059,149	\$4,691,941	\$4,081,555
Tallow, oleo stock, and stearin:			
Pounds.....	5,722,220	(1)	(1)
Value.....	\$465,545		
Fertilizers and fertilizer materials:			
Tons.....	12,810	8,248	6,026
Value.....	\$294,072	\$168,664	\$84,279
Hides:			
Number.....	285,063	94,080	81,820
Pounds.....	14,727,015	6,562,413	4,278,686
Value.....	\$1,878,592	\$631,001	\$420,183
Pelts:			
Number.....	49,534	13,070	(1)
Value.....	\$61,386	\$10,829	
Amount received for custom or contract work.....	\$3,148	\$500	\$1,325
All other products.....	\$2,345,084	\$928,653	\$490,394

¹ Figures not available.

The number of all animals slaughtered increased from 2,018,521 in 1899 to 2,183,654 in 1904 and 2,810,086 in 1909, representing a gain of 165,133, or 8.2 per cent, from 1899 to 1904, and a gain of 626,432, or 28.7 per cent, from 1904 to 1909. The table indicates that the total number and total cost of each of the four classes of animals increased from 1904 to 1909, and, with the exception of sheep, this is true of the

period from 1899 to 1904. Hogs represented 88.5 per cent of the total number and 76.7 per cent of the total cost of the animals slaughtered in 1909, and beeves only 9 per cent of the total number and 22.4 per cent of the total cost.

Each of the products in the above table shows an increase in quantity and value from 1904 to 1909, with the single exception of the products included in the total for all other fresh meat. From 1899 to 1904, however, the quantities of salted and cured beef and of lard, and the quantity and value of fresh mutton, and the amount received for contract work decreased. In 1909 all meats, both fresh and cured, were valued at \$45,938,256, which constituted 77.8 per cent of the total value of products for the industry. The value of this group of products was \$23,720,582 in 1904 and \$20,685,108 in 1899, representing 78.7 per cent and 80.3 per cent, respectively, of the totals for the industry at the two censuses. It is noteworthy that the output of lard from 1904 to 1909 increased 8.8 per cent, whereas its value increased 71.8 per cent.

Butter, cheese, and condensed milk.—The quantity of milk used in this industry decreased from 1,586,044,620 pounds in 1899 to 994,925,394 pounds in 1904 and 474,821,988 pounds in 1909, whereas the quantity of cream increased as regularly from 45,621,241 pounds in 1899 to 110,850,356 pounds in 1904 and 243,619,568 pounds in 1909. This condition is due to the radical change which has taken place in the industry during the last decade. Formerly whole milk was brought to the creamery, while at present the cream is usually separated before leaving the farm.

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

PRODUCT.	1900	1904 ¹	1899
Total value	\$25,849,866	\$15,028,326	\$15,846,077
Butter:			
Packed solid—			
Pounds.....	75,581,191	65,095,782	74,795,240
Value.....	\$20,800,702	\$13,229,840	\$14,434,210
Prints or rolls—			
Pounds.....	13,000,996	5,185,984	2,438,024
Value.....	\$3,639,953	\$1,100,014	\$477,323
Cream sold:			
Pounds.....	1,169,943	1,741,469	785,000
Value.....	\$134,150	\$142,381	\$44,776
Cheese, full cream:			
Pounds.....	999,559	2,829,745	3,767,499
Value.....	\$148,876	\$282,078	\$369,622
All other products ²	\$1,126,119	\$273,113	\$520,140

¹ Does not include statistics for one condensed-milk establishment.
² Includes skimmed milk sold, caseln, whey, and condensed milk.

No manufacture of condensed milk was reported in the state in 1899, and only one establishment was reported as engaged in this branch of the industry in 1904 and three in 1909. The combined output of the three factories in 1909 was important, but can not be presented separately in the above table without disclosing the operations of individual establishments,

and the value therefore is included in the total for all other products.

The value of solid packed butter represented 80.5 per cent of the total value of products in 1909, 88 per cent in 1904, and 91.1 per cent in 1899. The quantity and value of cheese manufactured show a decrease from census to census, while cream showed a decrease in both respects from 1904 to 1909.

Flour-mill and gristmill products.—The following tabular statement gives the quantity and value of the principal kinds of products manufactured during the last three census years:

PRODUCT.	1900	1904	1899
Total value	\$12,870,603	\$12,099,493	\$11,012,608
Wheat flour:			
White--			
Barrels.....	1,403,203	1,680,716	2,273,924
Value.....	\$7,814,168	\$8,240,299	\$7,632,378
Graham--			
Barrels.....	30,001	27,072	(¹)
Value.....	\$144,807	\$125,317	(¹)
Corn meal and corn flour:			
Barrels.....	184,301	210,020	523,524
Value.....	\$582,328	\$453,045	\$755,132
Rye flour:			
Barrels.....	20,000	27,207	41,601
Value.....	\$95,010	\$110,796	\$114,430
Buckwheat flour:			
Barrels.....	2,870,980	3,537,300	5,075,833
Value.....	\$97,510	\$105,255	\$143,824
Hourly and grits:			
Pounds.....	10,416,130	2,399,205	1,040,000
Value.....	\$232,930	\$23,944	\$10,200
Feed:			
Tons.....	98,045	00,317	174,582
Value.....	\$2,593,020	\$1,410,725	\$1,571,214
Offal:			
Tons.....	46,014	80,547	60,728
Value.....	\$1,002,552	\$1,409,111	\$637,075
All other products.....	\$308,254	\$204,001	\$147,755

¹ Included in figures for white wheat flour.

The main part of the product of this industry was white wheat flour, the value of which constituted 60.7 per cent of the total value of products for the industry in 1909, as against 68.2 per cent in 1904 and 69.3 per cent in 1899. The quantity of this class of products has constantly decreased since 1899, whereas the value increased \$613,921 from 1899 to 1904, but decreased \$432,131 from 1904 to 1909. With the exception of Graham flour and feed, each of the different varieties of products decreased in quantity from 1904 to 1909, while the only decreases in value of products were shown for white flour, rye flour, buckwheat flour, and offal.

Printing and publishing.—The progress of the newspaper and periodical branch of the printing and publishing industry during the last decade is indicated in the following statement, which shows the number and aggregate circulation per issue of the different classes of publications for the years 1909, 1904, and 1899.

From 1899 to 1909 the aggregate circulation per issue for all publications combined more than doubled,

while there was a decrease of 80 in the number of publications. With the exception of the weeklies and semiweeklies and triweeklies, each of the several classes of publications increased in number and in circulation between 1904 and 1909. In 1909, 15 of the 68 daily papers, with an aggregate circulation of 110,794, were morning editions. All the publications were in the English language, except 2 dailies, which were in German; 8 semiweeklies, 5 of which were in German, 1 in Norwegian, 1 in Dutch, and 1 in Bohemian; 42 weeklies, 1 of which was in Bohemian, 3 in Danish, 2 in Dutch, 30 in German, 1 in German and English, 3 in Norwegian, and 2 in Swedish; 6 monthlies, 1 of which was in Dutch, 3 in German, 1 in Norwegian, and 1 in Swedish; and 1 included under the head of "All other classes," which was in German.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	1,004	1,080	1,084	3,806,253	2,747,112	1,884,874
Daily.....	68	06	65	450,910	327,211	217,580
Sunday.....	14	13	30	169,678	133,746	(¹)
Semiweekly and tri-weekly.....	54	60	65	156,926	188,630	187,500
Weekly.....	784	864	831	1,419,709	1,107,294	1,165,666
Monthly.....	60	60	64	1,400,861	846,250	591,200
All other classes.....	18	17	20	118,150	83,075	72,514

¹ Included in circulation for daily.

Agricultural implements.—Although tenth among the industries shown separately for this state, when measured by value of products, this class of manufacture is of considerable interest, owing to the importance of the state in agriculture. The next table gives in detail, by groups, the value of products manufactured during 1909 and 1904 and the total value of products for 1899.

The products included in the total for all other products represent more than half of the total value, including thousands of small implements, such as hoes and rakes.

PRODUCT.	1909	1904	1899
Total value	\$4,757,080	\$3,692,212	\$1,509,667
Implements of cultivation.....	434,837	497,435	(¹)
Harvesting implements.....	1,157,701	868,104	(¹)
Seed separators.....	55,918	277,189	(¹)
All other products.....	2,785,870	1,027,025	(¹)
Amount received for repair work.....	318,703	22,459	20,435

¹ Not reported separately.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 181 such establishments in Iowa, of which 15 were in Des Moines; 8 each in Cedar Rapids, Davenport, and Sioux City; 5 in Dubuque; 4 in Muscatine; 3 each in Burlington, Council Bluffs, Iowa City, Keokuk, and

Waterloo; and 2 each in Boone, Clinton, Fort Dodge, Marshalltown, Mason City, and Ottumwa. The following statement summarizes the statistics:

Number of establishments.....	181
Persons engaged in industry.....	2,468
Proprietors and firm members.....	206
Salaried employees.....	139
Wage earners (average number).....	2,123
Primary horsepower.....	2,941
Capital.....	\$1,261,954
Expenses.....	1,617,551
Services.....	913,989
Materials.....	428,771
Miscellaneous.....	274,791
Amount received for work done.....	2,063,451

The most common form of organization was the individual, with 122 establishments. The firm and corporate forms of ownership were represented by 39 and 20 establishments, respectively. Seventy establishments had receipts for the year's business of less than \$5,000; 82, receipts of \$5,000 but less than \$20,000; and 29, receipts of \$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.....	2,030	90.3	July.....	2,195	97.0
February.....	2,024	90.0	August.....	2,212	99.7
March.....	2,031	90.3	September.....	2,243	100.0
April.....	2,053	91.3	October.....	2,130	97.0
May.....	2,074	92.3	November.....	2,130	94.8
June.....	2,130	94.8	December.....	2,139	95.2

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.....		2,941
Owned.....	162	2,068
Steam.....	143	2,557
Gas.....	19	111
Rented—Electric.....	58	273

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	812
Bituminous coal.....	Tons.....	44,733
Coke.....	Tons.....	36
Wood.....	Cords.....	204
Oil.....	Barrels.....	710
Gas.....	1,000 feet.....	10,739

Custom saw and gristmills.—Statistics for custom saw and grist mills 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.....	117	174
Persons engaged in industry.....	284	260
Proprietors and firm members.....	148	216
Salaried employees.....	3	2
Wage earners (average number).....	133	42
Primary horsepower.....	2,232	6,043
Capital.....	\$150,765	\$540,774
Expenses.....	54,866	1,132,089
Services.....	41,349	18,214
Materials.....	2,959	1,094,809
Miscellaneous.....	10,518	18,080
Value of products.....	124,124	1,351,201

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

STATISTICS OF MANUFACTURES—IOWA.

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.	Salad-emp-ees.	Wage earners (average number).							
Expressed in thousands.													
STATE—All industries.....	1909	5,528	78,360	5,323	11,402	61,635	155,384	\$171,219	\$10,972	\$32,543	\$170,707	\$259,238	\$88,531
	1904	4,785	61,361	4,758	7,122	49,481	118,065	111,427	5,948	22,997	102,844	160,572	57,788
	1899	4,828	.....	.....	5,159	44,420	106,604	85,667	4,233	18,021	85,779	132,871	47,092
Agricultural implements.....	1909	42	1,020	29	273	1,318	2,554	5,000	360	683	2,171	4,757	2,586
	1904	30	1,277	19	231	1,027	1,741	3,319	201	470	1,357	2,092	1,335
	1899	24	814	10	154	644	1,035	1,878	123	243	670	1,509	830
Artificial stone.....	1909	308	1,219	415	74	730	1,730	1,557	48	397	632	1,569	937
	1904	27	128	42	16	70	132	176	10	34	45	120	75
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boots and shoes, including cut stock and findings.	1909	10	770	2	52	716	345	790	54	318	1,059	1,633	574
	1904	2 5	499	1	20	478	203	419	18	186	522	854	332
	1899	7	613	7	40	566	237	507	36	192	507	730	279
Boxes, cigar.....	1909	7	92	3	10	79	69	87	14	26	54	112	58
	1904	10	127	10	3	114	127	85	2	34	64	145	82
	1899	9	87	7	4	70	.....	57	4	20	50	91	41
Boxes, fancy and paper.....	1909	6	145	4	13	123	64	96	10	33	57	128	71
	1904	7	61	4	11	96	73	66	10	20	28	75	47
	1899	7	.....	.....	.....	94	.....	32	.....	20	27	60	33
Bread and other bakery products.....	1909	495	2,550	501	342	1,047	1,172	3,359	201	846	4,147	6,818	2,671
	1904	365	1,077	421	195	1,061	433	1,632	135	500	2,063	3,011	1,548
	1899	194	1,234	217	171	846	.....	1,302	112	331	1,428	2,074	1,246
Brick and tile.....	1909	235	3,054	272	224	3,158	20,782	7,327	300	1,673	1,204	4,483	3,279
	1904	302	3,154	300	155	2,633	14,045	4,801	146	1,242	838	3,362	2,521
	1899	339	2,521	441	94	1,986	8,567	3,076	65	709	460	1,076	1,616
Butter, cheese, and condensed milk.....	1909	512	2,199	212	756	1,231	8,911	4,472	377	855	22,842	25,850	3,008
	1904	565	2,323	361	802	1,190	9,944	2,919	137	687	12,896	15,028	2,132
	1899	907	2,111	565	413	1,133	11,853	3,459	81	589	13,502	15,840	2,344
Buttons.....	1909	70	3,370	82	122	3,172	2,809	2,507	130	1,412	1,414	4,035	2,621
	1904	51	2,121	69	116	1,936	1,453	1,174	75	654	534	1,591	967
	1899	53	1,505	61	42	1,402	668	324	20	458	197	867	470
Canning and preserving.....	1909	71	1,420	27	146	1,247	2,989	3,503	134	209	1,568	2,549	981
	1904	59	1,760	27	135	1,607	2,816	2,020	126	418	2,118	3,675	1,557
	1899	2 30	.....	.....	91	1,021	.....	1,497	75	254	1,181	2,121	940
Carpets, rag.....	1909	32	215	34	23	158	220	105	24	78	44	206	162
	1904	29	214	37	19	158	171	90	8	58	31	153	122
	1899	6	.....	.....	1	33	.....	13	1	10	3	21	18
Carrriages and wagons and materials.....	1909	119	1,828	158	229	1,441	2,387	4,408	232	828	2,748	4,780	2,038
	1904	113	1,032	137	197	1,293	1,915	3,392	194	602	1,084	3,371	1,687
	1899	124	.....	.....	163	1,711	.....	4,033	121	712	1,947	3,088	2,041
Cars and general shop construction and repairs by steam-railroad companies.	1909	33	7,400	.....	491	6,909	5,937	5,488	483	4,535	5,149	10,260	5,120
	1904	40	6,781	.....	409	6,372	5,192	3,028	371	3,860	3,303	7,019	4,816
	1899	58	5,775	.....	278	5,497	4,192	3,278	250	2,949	2,896	6,221	3,325
Cars and general shop construction and repairs by street-railroad companies.	1909	13	202	.....	19	183	1,273	328	14	112	96	231	135
	1904	3	125	.....	5	120	.....	193	5	64	75	150	75
	1899	8	91	.....	6	85	.....	63	8	51	37	97	60
Clothing, men's, including shirts.....	1909	28	1,072	10	182	1,480	479	1,554	153	425	1,412	2,496	1,084
	1904	2 18	1,375	11	188	1,176	240	1,325	118	335	1,142	1,920	778
	1899	2 18	1,486	8	138	1,340	200	661	102	303	910	1,535	625
Clothing, women's.....	1909	19	985	8	101	876	123	1,058	93	304	885	1,535	650
	1904	9 7	471	3	41	427	78	513	31	131	432	762	330
	1899	7	80	11	10	65	11	24	4	10	25	47	22
Coffins, burial cases, and undertakers' goods...	1909	8	296	.....	54	242	40	946	73	132	388	753	365
	1904	6	251	.....	30	221	326	694	37	105	302	607	305
	1899	5	205	.....	27	175	.....	314	27	73	226	399	173
Confectionery.....	1909	40	1,302	36	234	1,032	646	1,272	239	360	1,703	2,914	1,211
	1904	24	819	25	106	688	456	752	84	137	704	1,436	641
	1899	18	.....	.....	95	481	.....	495	88	110	610	1,043	424
Cooperage and wooden goods, not elsewhere specified.	1909	34	304	36	19	249	467	344	20	121	560	676	316
	1904	2 35	490	38	24	428	778	520	19	168	690	1,014	324
	1899	2 71	532	80	12	440	.....	326	8	166	457	720	263
Copper, tin, and sheet-iron products.....	1909	71	777	69	123	585	1,925	3,046	108	334	1,505	2,414	909
	1904	2 33	721	38	48	635	271	5,701	93	285	1,529	2,287	758
	1899	19	.....	.....	22	221	.....	387	17	67	353	629	276
Cutlery and tools, not elsewhere specified.....	1909	16	210	17	33	160	452	428	36	96	243	489	246
	1904	13	168	15	28	125	221	216	20	68	153	367	214
	1899	2 4	84	4	15	65	.....	154	11	27	192	192	97
Dairymen's, poulterers', and apiarists' supplies	1909	17	840	15	95	730	736	1,157	94	395	966	1,994	998
	1904	9	163	5	28	130	285	188	22	66	104	232	178
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flour-mill and gristmill products.....	1909	277	1,186	354	185	647	18,832	6,123	170	382	10,934	12,871	1,937
	1904	276	1,320	377	173	770	20,049	5,216	135	369	10,317	12,099	1,782
	1899	309	.....	.....	172	942	21,247	4,947	136	424	8,909	11,013	2,044

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.

STATISTICS OF MANUFACTURES—IOWA.

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

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

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.	Sal- aried em- ploy- ees.	Wage earn- ers (aver- age num- ber).							
Expressed in thousands.													
STATE—Continued.													
Foundry and machine-shop products.....	1909	274	6,289	233	948	5,108	8,402	\$12,805	\$600	\$3,085	\$0,372	\$14,004	\$7,692
	1904	211	3,913	104	498	3,221	4,591	0,450	405	1,039	2,053	6,331	3,078
	1899	220	.....	.....	203	2,894	.....	4,532	272	1,276	2,701	5,490	2,795
Fur goods.....	1909	11	110	8	35	73	91	102	20	88	105	287	182
	1904	8	80	7	14	59	60	114	11	28	98	184	80
	1899	4	.....	.....	2	24	.....	21	1	8	23	50	33
Furniture and refrigerators.....	1909	44	1,257	32	151	1,074	2,453	2,232	172	606	1,350	2,650	1,314
	1904	35	1,034	23	153	858	1,595	1,343	132	370	803	1,077	874
	1899	26	906	11	105	850	.....	1,022	85	292	747	1,420	673
Gas and electric fixtures and lamps and re- flectors.	1909	7	84	1	27	50	61	100	21	26	96	170	75
	1904	3	10	1	3	12	25	27	2	4	7	20	13
	1899	4	.....	.....	10	15	.....	20	5	4	12	27	15
Gas, illuminating and heating.....	1909	117	1,151	40	305	806	2,043	15,784	228	380	1,111	2,803	1,782
	1904	90	636	4	164	468	970	8,315	139	254	624	1,832	1,208
	1899	20	316	.....	90	220	379	4,130	70	118	204	808	604
Gloves and mittens, leather.....	1909	10	305	11	60	234	286	661	71	04	373	693	320
	1904	8	320	10	47	263	295	470	41	101	363	698	340
	1899	9	234	17	43	174	.....	277	31	57	125	284	159
Ice, manufactured.....	1909	18	190	0	30	151	2,045	620	26	101	64	290	226
	1904	4	26	.....	6	20	784	187	5	12	10	51	35
	1899	3	46	3	10	33	450	165	3	15	11	38	27
Leather goods.....	1909	67	845	60	170	600	380	2,038	162	353	1,812	2,855	1,043
	1904	35	533	25	95	413	108	953	81	196	708	1,310	542
	1899	31	.....	.....	90	445	.....	685	40	165	387	1,029	642
Liquors, malt.....	1909	19	636	4	137	495	3,434	5,603	222	332	901	3,325	2,424
	1904	19	530	7	96	427	2,815	3,085	151	270	691	2,388	1,095
	1899	21	307	18	58	321	2,202	2,421	84	100	385	1,714	1,320
Lumber and timber products.....	1909	229	5,403	243	502	4,058	16,504	12,809	526	2,356	7,141	12,659	5,518
	1904	130	5,348	140	398	4,810	17,381	13,523	457	2,297	6,730	12,153	5,414
	1899	109	.....	.....	347	5,692	.....	10,761	368	2,194	9,536	14,635	5,099
Marble and stone work.....	1909	87	504	120	69	315	514	620	55	243	616	1,338	722
	1904	36	340	60	39	241	662	487	29	162	263	630	373
	1899	41	.....	.....	28	438	.....	544	22	213	204	633	420
Mattresses and spring beds.....	1909	17	284	8	34	242	311	432	20	128	455	726	271
	1904	12	123	9	18	96	174	93	11	34	114	202	88
	1899	6	.....	.....	17	48	.....	54	11	16	87	147	60
Paper and wood pulp.....	1909	4	225	.....	20	205	1,435	673	25	81	281	437	156
	1904	4	165	.....	13	152	1,005	308	12	66	131	253	122
	1899	4	193	2	11	180	1,210	182	12	04	107	244	137
Patent medicines and compounds and drug- gists' preparations.	1909	100	887	90	439	358	503	2,361	410	133	1,065	3,401	2,330
	1904	59	528	43	225	260	195	1,571	187	99	806	2,045	1,239
	1899	36	.....	.....	368	221	.....	609	431	73	340	1,458	1,118
Pottery, terra-cotta, and fire-clay products.....	1909	10	322	5	31	280	1,147	792	36	173	180	404	284
	1904	7	94	9	7	78	280	137	8	41	29	78	49
	1899	17	264	17	13	234	704	361	13	93	57	249	192
Printing and publishing.....	1909	1,110	8,005	1,163	2,049	4,853	5,527	10,623	1,601	2,501	3,287	12,120	8,842
	1904	1,113	6,605	1,263	1,085	4,317	3,861	7,329	913	2,038	2,048	8,540	6,501
	1899	1,041	6,202	1,223	681	4,268	.....	5,719	517	1,073	1,522	6,229	4,707
Shipbuilding, including boat building.....	1909	17	109	22	11	76	220	282	8	49	85	182	97
	1904	9	136	8	10	109	248	170	13	58	93	171	108
	1899	10	54	7	7	38	116	29	5	13	13	43	30
Slaughtering and meat packing.....	1909	33	4,849	33	672	4,144	8,309	12,362	654	2,190	53,127	59,045	5,918
	1904	25	3,409	21	284	3,104	4,273	7,326	299	1,332	27,244	30,152	2,908
	1899	31	3,118	25	193	2,000	.....	6,370	197	1,215	21,604	25,763	4,150
Stoves and furnaces, including gas and oil stoves.	1909	4	432	11	60	352	484	899	76	222	362	890	528
	1904	11	185	17	34	134	112	270	26	72	126	310	184
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures.....	1909	372	2,523	423	167	1,043	55	1,821	174	856	1,386	3,423	2,037
	1904	444	2,734	506	166	2,072	50	1,599	127	847	1,280	3,359	2,079
	1899	1,408	2,440	458	126	1,850	9	1,264	117	701	949	2,576	1,627
Wall plaster.....	1909	6	577	.....	38	539	1,480	837	55	181	193	739	546
	1904	7	343	.....	26	318	2,328	1,401	20	163	121	627	506
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats	1909	8	148	5	9	134	922	519	11	54	228	350	122
	1904	10	208	5	17	240	1,101	713	16	89	305	573	208
	1899	12	293	11	26	250	485	494	17	65	175	297	122
All other industries.....	1909	491	8,537	449	1,633	6,755	22,873	30,571	1,949	3,626	28,351	42,400	14,139
	1904	407	6,269	400	746	5,073	13,433	15,036	803	2,237	16,476	23,845	7,369
	1899	459	.....	.....	684	4,454	.....	19,180	628	1,789	12,081	17,800	5,859

¹ Excluding statistics for two establishments, to avoid disclosure of individual operations.
² Excluding statistics for one establishment, to avoid disclosure of individual operations.
³ Not reported separately.

STATISTICS OF MANUFACTURES—IOWA.

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

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

INDUSTRY.	Cen- sus.	Num- ber of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Pri- mary horse- power.	Capital.	Sal- aries.	Wages.	Cost of mate- rials.	Value of prod- ucts.	Value added by manu- fac- ture.
			Total.	Pro- pri- etors and firm mem- bers.	Sal- aried em- ploy- ees.	Wage earn- ers (aver- age num- ber).							
Expressed in thousands.													
DES MOINES—All industries	1909	387	7,637	276	1,978	5,383	10,106	\$17,880	\$2,020	\$2,945	\$19,565	\$23,585	\$10,020
	1904	291	5,328	241	932	4,155		9,594	985	2,083	8,644	15,085	6,441
	1899	218			656	3,479		7,417	558	1,474	4,139	8,396	4,257
Bread and other bakery products.....	1900	32	270	37	32	201	131	980	41	106	472	793	321
	1904	20	243	39	42	192		351	35	84	404	675	271
	1899	17	136	20	26	90		130	16	42	177	333	150
Brick and tile.....	1900	11	368	0	36	323	2,454	905	46	198	189	513	324
	1904	16	476	0	30	437		704	32	238	164	527	363
	1899	14	287	10	21	250		503	21	106	70	303	233
Carriages and wagons and materials.....	1900	6	144	4	24	116	200	368	28	75	281	513	232
	1904	5	148	4	21	123		200	18	60	213	348	135
	1899	6	151	2	20	129		208	19	58	147	289	142
Cars and general shop construction and repairs by steam-railroad companies.	1900	3	194		14	180	53	62	13	110	52	182	130
	1904												
	1899	3	104		5	90		71	5	51	50	106	56
Confectionery.....	1900	7	187	6	36	145	104	161	40	60	222	514	202
	1904	4	109	3	13	93		97	12	29	152	255	103
	1899												
Copper, tin, and sheet-iron products.....	1900	10	68	7	10	51	43	108	12	40	82	173	91
	1904	5	44	4	5	35		26	4	17	54	104	50
	1899	3			3	25		22	2	9	27	89	62
Flour-mill and gristmill products.....	1900	6	63	6	15	42	271	177	21	23	653	757	104
	1904												
	1899	3			11	25		119	10	13	363	447	84
Foundry and machine-shop products.....	1900	25	515	21	159	335	798	1,453	193	218	828	1,013	785
	1904	10	254	14	35	205		448	37	121	185	456	271
	1899	16			49	253		454	44	135	336	645	309
Leather goods.....	1900	10	152	7	41	104	47	251	35	74	349	583	234
	1904	6	111	3	16	62		143	18	35	281	396	115
	1899	4			23	84		100	8	28	114	168	54
Lumber and timber products.....	1900	10	207	4	34	169	415	235	30	100	421	653	232
	1904	6	158	3	17	138		152	20	92	113	264	151
	1899	4	106	2	5	99		122	5	50	65	144	79
Patent medicines and compounds and druggists' preparations.	1900	24	392	8	188	196	211	913	200	65	326	1,028	792
	1904	16	246	8	86	152		949	88	61	380	1,066	680
	1899	17			89	110		421	64	33	143	680	537
Printing and publishing.....	1900	85	1,635	50	722	893	931	2,016	619	498	979	3,267	2,288
	1904	62	926	54	205	577		1,001	312	327	426	1,765	1,399
	1899	44	847	38	173	636		734	142	291	329	1,154	825
Tobacco manufactures.....	1900	14	140	21	12	107		83	13	49	73	178	105
	1904	14	160	12	9	129		57	11	64	61	190	129
	1899	14	176	14	16	146		115	13	67	58	190	132
All other industries.....	1900	144	3,302	96	655	2,551	4,442	10,168	723	1,323	8,638	12,818	4,380
	1904	105	2,463	88	363	2,012		5,466	398	955	6,205	9,030	2,834
	1899	83			215	1,527		4,418	209	591	2,260	3,848	1,588

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.

STATISTICS OF MANUFACTURES—IOWA.

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

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

CITY.	Cen- sus.	Num- ber 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 (ave- rage num- ber).								Expressed in thousands.					
														\$918	\$42	\$232	\$293	\$682	\$399
Boone	1909 1904 1899	34	420	38	61	330	456	\$918	\$42	\$232	\$293	\$682	\$399						
Burlington	1909 1904 1899	128 109 125	4,790 3,335	90 97	510 323	4,190 2,915	5,346	7,003 5,031 3,093	454 312 193	1,723 1,418 785	4,045 2,706 2,442	8,443 5,779 4,450	3,798 3,073 2,008						
Cedar Rapids	1909 1904 1899	153 134 80	4,520 3,782	125 92	830 431	3,565 3,250	7,224	11,481 8,697 5,759	748 409 298	1,809 1,465 986	18,650 12,280 8,163	24,824 16,280 11,135	6,174 4,000 2,972						
Clinton	1909 1904 1899	69 83 81	2,752 2,450	35 61	303 236	2,414 2,153	6,301	6,532 4,381 3,073	350 257 221	1,273 1,044 980	4,630 2,646 3,010	7,480 4,906 6,203	2,850 2,260 2,293						
Council Bluffs	1909 1904 1899	101 71 74	1,825 1,107	90 63	301 103	1,434 1,001	1,756	2,803 1,472 980	248 97 90	845 530 387	1,057 930 824	3,769 1,024 1,692	1,812 904 868						
Davenport	1909 1904 1899	232 173 103	5,302 4,517	204 144	867 533	4,231 3,840	0,100	15,306 13,064 10,210	926 547 430	2,178 1,756 1,457	11,571 8,839 6,057	18,802 13,696 9,872	7,231 4,857 3,815						
Dubuque	1909 1904 1899	156 156 101	6,063 5,043	148 123	747 446	5,168 4,274	0,023	12,269 9,437 7,507	744 588 445	2,606 1,043 1,075	9,109 4,700 5,358	15,376 9,270 9,051	6,267 4,573 4,293						
Fort Dodge	1909 1904 1899	44 42 30	1,300 1,111	30 31	161 119	1,115 961	2,204	3,093 3,701 760	190 121 59	421 477 171	1,812 1,702 679	2,675 3,026 1,006	1,163 1,321 327						
Iowa City	1909 1904 1899	44	405	60	123	282	814	746	90	143	340	805	465						
Keokuk	1909 1904 1899	91 80 88	1,872 1,777	86 76	245 168	1,541 1,533	3,219	4,334 3,148 1,956	334 152 427	776 674 480	4,684 2,234 1,591	7,399 4,226 3,048	2,715 1,092 1,457						
Marshalltown	1909 1904 1899	49 44 44	1,590 1,084	40 42	185 154	1,305 898	1,075	2,558 1,441 5,030	197 135 99	800 447 520	3,179 2,140 2,796	4,822 3,080 3,957	1,643 950 1,161						
Mason City	1909 1904 1899	49	963	25	131	807	3,720	2,156	108	470	1,796	2,881	1,085						
Muscatine	1909 1904 1899	113 107 105	3,862 3,061	122 131	244 167	3,496 2,763	4,560	6,774 4,800 3,597	244 165 120	1,575 1,114 950	2,738 3,015 3,515	6,160 5,040 5,220	3,428 2,025 1,705						
Ottumwa	1909 1904 1899	93 92 91	3,058 2,589	94 92	314 223	2,650 2,304	4,332	5,800 4,653 3,233	314 228 168	1,319 896 699	12,166 8,533 6,900	14,838 10,374 8,683	2,672 1,841 1,783						
Sioux City	1909 1904 1899	136 106 123	4,755 2,793	110 91	895 373	3,750 2,299	8,807	13,603 5,859 5,258	939 333 271	2,131 1,263 1,109	30,388 11,396 10,130	37,424 14,761 14,227	7,036 3,365 4,097						
Waterloo	1909 1904 1899	108 90 55	3,744 2,909	77 52	543 283	3,124 1,674	4,247	7,581 3,352 1,152	533 244 77	1,793 885 379	4,642 2,749 1,343	8,990 4,694 2,088	4,357 1,945 745						

1 Population less than 10,000 in 1900.

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.		Average number.	Wage earners.		Total.	10 and over.		Under 10.				
					Male.	Female.		Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	5,528	78,300	5,923	3,491	5,854	2,057	61,635	Se 68,006	Ja 55,049	(1)	(1)	(1)	(1)	(1)	155,384		
2 Agricultural implements.....	42	1,620	20	93	123	57	1,318	Ap 1,509	Se 1,158	1,369	1,278	89	2	.....	2,554	
3 Artificial stone.....	308	1,210	415	58	12	4	1,113	Sc ² 1,020	Ja 241	1,113	1,106	.....	7	.....	1,730
4 Automobiles, including bodies and parts.	11	282	6	10	13	6	248	Ap 311	Fe 104	260	258	2	.....	.....	1,249
5 Baking powders and yeast.	4	6	5	.....	.....	.....	1	Ja ³ 1	Au ³ 1	1	1	.....	.....	.....	2
6 Baskets, and rattan and willow ware.....	4	146	4	5	3	1	133	Ap 170	Se 24	136	106	30	.....	.....	.....
7 Blacking and cleansing and polishing preparations.	5	18	3	3	1	4	7	Au 11	Ja ² 5	7	2	5	.....	.....	2
8 Boots and shoes, including cut stock and findings.	10	770	2	20	20	0	716	Jy 770	Se 656	725	383	317	10	6	345		
9 Boxes, cigar.....	7	92	3	8	1	1	70	No 82	Jy 72	81	20	49	2	1	59		
10 Boxes, fancy and paper.....	6	145	4	0	2	5	123	No 146	Ja 109	143	19	105	2	17	64		
11 Bread and other bakery products.....	405	2,550	561	01	157	124	1,647	Jy ² 1,705	Ja 1,570	1,710	1,217	455	20	18	1,172		
12 Brick and tile.....	235	3,054	272	159	52	13	3,158	Je 4,093	Ja 1,504	3,707	3,678	.....	20	.....	20,752
13 Brooms.....	51	336	01	10	12	7	240	Ja 252	My 231	233	176	30	12	0	127		
14 Butter, cheese, and condensed milk.....	512	2,109	212	379	205	82	1,231	Jy 1,453	Ja 1,006	1,187	1,140	43	4	.....	8,011	
15 Buttons.....	70	3,376	82	55	34	33	3,172	Je 3,683	Au 2,067	3,099	2,611	1,062	16	70	2,890		
16 Canning and preserving.....	71	1,420	27	96	34	16	1,247	Se 5,642	Fe 217	5,583	3,105	2,150	68	251	2,080		
17 Carpets, rag.....	32	215	34	7	12	4	158	Je 185	Ja 114	148	123	25	.....	.....	220
18 Carriages and wagons and materials.....	110	1,828	158	65	120	44	1,441	Ap 1,580	No 1,283	1,349	1,326	21	2	.....	2,367	
19 Cars and general shop construction and repairs by steam-railroad companies.	33	7,400	.....	149	331	11	6,969	De 7,686	My 6,401	7,056	7,082	3	1	.....	5,937
20 Cars and general shop construction and repairs by street-railroad companies.	13	202	.....	12	7	.....	183	De 202	Fe 162	202	202	.....	.....	.....	1,273
21 Clothing, men's, including shirts.....	28	1,672	10	54	111	17	1,480	De 1,584	Ja 1,440	1,586	155	1,394	6	31	470		
22 Clothing, women's.....	19	985	8	26	52	23	876	Au 937	No 812	915	173	737	3	.....	123	
23 Collins, burial cases, and undertakers' goods.	8	200	.....	22	30	2	242	Mh 254	No ² 232	243	180	54	.....	.....	404
24 Confectionery.....	40	1,302	30	0	165	2	1,032	De 1,315	Ja 900	1,204	387	837	8	64	646		
25 Cooperage and wooden goods, not elsewhere specified.	34	304	36	9	2	20	249	Au 278	Ja 217	254	253	.....	1	.....	407
26 Copper, tin, and sheet-iron products.....	71	777	69	40	63	20	585	No 672	Au 487	732	635	87	7	3	1,925		
27 Cutlery and tools, not elsewhere specified.	10	210	17	13	15	5	160	Ja 181	My 148	162	127	34	1	.....	452	
28 Dairymen's, poultryers', and apiarists' supplies.	17	840	15	25	49	21	730	Mh 837	Jy 636	740	736	4	.....	.....	736
29 Electrical machinery, apparatus, and supplies.	9	96	4	18	4	6	64	Ap 74	Ja 42	72	64	7	1	.....	84	
30 Electroplating.....	4	10	4	.....	.....	.....	6	Ja ³ 6	Au ³ 6	6	6	.....	.....	.....	8
31 Fancy articles, not elsewhere specified.....	5	47	4	4	3	3	33	De 52	Je 22	52	24	28	.....	.....	48
32 Flour-mill and gristmill products.....	277	1,186	354	86	77	22	647	No 736	Je 577	733	717	13	3	.....	18,832	
33 Foundry and machine-shop products.....	274	6,289	233	318	444	180	5,108	De 5,602	Ja 4,377	5,673	5,400	142	20	2	8,462		
34 Fur goods.....	11	110	8	11	10	14	73	Ja 88	Se 56	89	44	45	.....	.....	91
35 Furnishing goods, men's.....	21	257	20	11	10	5	202	No 237	Ja 142	241	28	211	.....	2	102	
36 Furniture and refrigerators.....	44	1,257	32	64	68	19	1,074	De 1,130	Jy 975	1,147	1,128	14	5	.....	2,453	
37 Gas and electric fixtures and lamps and reflectors.	7	84	1	13	11	3	56	Jy ² 60	Mh 46	69	30	30	.....	.....	61
38 Gas, illuminating and heating.....	117	1,151	40	111	156	38	806	Jy 970	Ja 652	709	706	1	1	1	2,043		
39 Gloves and mittens, leather.....	10	305	11	23	20	11	234	Jy ² 290	Ja 182	220	103	116	1	.....	236	
40 Hand stamps and stencils and brands.....	6	11	7	.....	.....	.....	4	Ja ² 4	Au ² 4	4	4	.....	.....	.....	3
41 Hosiery and knit goods.....	4	279	.....	13	9	6	251	Jy 293	Oc 189	248	48	150	10	31	229	
42 Ice, manufactured.....	18	190	9	19	6	5	151	Au 237	Fe 75	121	119	2	.....	.....	2,045
43 Jewelry.....	16	123	8	0	7	4	95	De 112	Ja 70	113	90	23	.....	.....	127
44 Leather goods.....	67	845	69	37	114	25	600	De 677	Je 553	678	637	31	9	1	380		
45 Leather, tanned, curried, and finished.....	3	20	4	3	.....	.....	11	No ² 14	Au ² 8	16	13	3	.....	.....	43
46 Lime.....	4	88	2	11	2	.....	73	Je 101	Ja 26	62	62	.....	.....	.....	75
47 Liquors, malt.....	19	636	4	62	67	8	495	Au 572	De 456	458	424	29	5	.....	3,934	
48 Lumber and timber products.....	229	5,403	243	156	253	93	4,653	Jy 5,117	Ja 3,808	4,749	4,639	21	87	2	16,564		
49 Marble and stone work.....	37	504	120	14	44	11	315	My 348	Ja ² 273	320	320	.....	.....	.....	514
50 Mattresses and spring beds.....	17	284	8	10	18	6	242	Oc 257	Ja 200	262	222	35	5	.....	311	
51 Models and patterns, not including paper patterns.	11	27	13	.....	.....	.....	14	Je 17	Ja 12	16	13	2	1	.....	52
52 Musical instruments and materials, not specified.	4	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
53 Musical instruments, pianos and organs and materials.	4	68	3	4	5	.....	56	Mh 66	My 47	68	54	4	.....	.....	51
54 Optical goods.....	7	33	7	4	4	1	17	Ja ² 18	Jy ² 16	18	14	4	.....	.....	14
55 Paint and varnish.....	4	51	3	10	8	3	18	Jy ² 19	Ap ² 17	19	19	.....	.....	.....	170
56 Paper and wood pulp.....	4	225	.....	12	4	4	205	Mh 243	Jy 134	183	160	14	.....	.....	1,435
57 Patent medicines and compounds and druggists' preparations.	100	887	90	64	259	116	358	No 381	Jo 343	384	183	199	2	.....	563	
58 Pottery, terra-cotta, and fire-clay products.	10	322	5	14	15	2	286	Au 387	Ja 216	267	255	.....	2	.....	1,147
59 Printing and publishing.....	1,110	8,065	1,163	448	1,010	501	4,853	De 5,052	Jy 4,702	5,084	3,592	1,346	120	20	5,527		
60 Shipbuilding, including boat building.....	17	109	22	4	5	2	70	No 113	Fe 44	114	114	.....	.....	.....	220

¹ No figures given for reasons explained in the Introduction, page 2. See also discussion of wage earners on page 3.

STATISTICS OF MANUFACTURES—IOWA.

THE STATE, 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 \$171,318,604	\$238,368,623	\$5,065,568	\$5,906,082	\$32,541,931	\$5,344,142	\$165,462,906	\$805,212	\$1,577,755	\$968,827	\$15,791,200	\$259,237,637	\$88,530,589
2 5,060,300	3,830,487	190,241	169,601	682,604	44,735	2,120,381	3,085	10,705	30,676	502,469	4,757,089	2,585,973
3 1,550,547	1,142,108	41,583	6,153	306,772	28,133	603,425	6,147	4,940	1,375	53,571	1,599,200	937,738
4 678,060	540,925	15,976	13,124	145,329	5,708	319,984	4,677	475	.....	35,653	580,100	254,414
5 5,088	6,479	.....	.....	520	50	4,270	510	.....	.....	1,100	9,215	4,895
6 73,714	88,203	3,900	1,705	40,370	018	25,062	480	136	.....	15,842	78,172	52,402
7 20,017	38,706	6,898	1,509	3,978	448	22,637	892	08	.....	2,276	51,136	28,051
8 790,203	1,509,946	26,366	27,410	318,158	9,410	1,049,694	3,515	1,404	.....	73,971	1,632,911	573,798
9 87,032	100,707	12,600	1,700	25,701	1,340	52,638	722	056	.....	5,340	112,242	58,264
10 95,811	112,636	7,474	2,168	33,402	1,554	55,774	2,285	745	.....	9,234	127,704	70,376
11 3,358,837	5,856,401	106,133	184,470	840,470	138,009	4,008,864	93,042	17,961	807	469,645	6,817,072	2,670,790
12 7,326,525	3,536,594	260,652	39,120	1,672,547	1,038,635	165,805	4,005	24,100	5,220	320,501	4,482,767	3,278,327
13 999,930	541,066	21,430	17,283	110,749	4,484	326,827	1,962	1,800	280	56,751	649,449	318,638
14 4,471,937	24,857,702	188,278	188,314	854,577	240,476	22,595,154	10,412	23,550	41,875	709,065	25,849,806	3,008,230
15 2,660,855	3,342,822	87,247	42,324	1,411,501	56,472	1,357,199	8,492	3,896	138,563	237,128	4,035,428	2,621,757
16 3,503,214	2,232,525	88,268	45,540	208,543	24,711	1,543,178	4,000	15,202	1,700	211,281	2,540,377	981,488
17 104,882	161,232	6,965	16,892	77,774	6,330	37,659	3,901	645	2,000	9,066	205,674	161,685
18 4,468,233	4,123,887	111,875	120,089	827,785	42,272	2,705,239	24,071	31,988	15,116	244,552	4,780,321	2,038,810
19 5,487,845	10,266,950	198,009	284,703	4,535,410	272,959	4,876,470	500	21,079	.....	77,220	10,268,938	5,110,500
20 328,493	231,038	9,114	4,666	112,158	2,073	94,027	.....	5,689	.....	3,811	231,040	134,040
21 1,553,521	2,180,550	66,439	89,377	424,733	18,168	1,394,129	18,717	13,442	2,000	150,551	2,495,520	1,083,232
22 1,097,601	1,423,955	33,608	54,887	303,979	9,809	874,965	9,196	2,700	24,330	105,681	1,535,352	660,608
23 945,531	671,510	33,681	38,880	181,688	8,217	370,987	5,454	4,533	.....	69,870	753,040	305,142
24 1,272,402	2,554,741	71,168	107,969	359,595	25,245	1,678,236	29,789	6,287	400	219,102	2,913,653	1,210,172
25 343,973	730,555	14,560	6,268	120,969	7,131	553,308	993	2,202	7,039	19,175	875,600	315,221
26 3,045,740	2,124,418	51,989	55,717	234,108	14,564	1,490,917	16,754	6,454	3,000	150,915	2,413,758	998,277
27 427,554	426,499	18,409	17,333	96,099	13,397	230,090	904	1,597	665	47,969	488,522	245,029
28 1,157,011	1,707,293	51,550	42,895	304,607	21,740	944,221	1,931	2,485	.....	247,833	1,964,068	908,107
29 225,561	163,855	18,538	6,301	31,181	2,376	72,122	3,040	783	.....	30,564	199,851	125,353
30 6,050	6,746	.....	.....	3,758	799	1,367	780	22	.....	20	9,206	7,040
31 30,038	35,114	3,750	2,438	14,840	1,532	9,984	960	10	521	1,124	42,208	30,692
32 6,122,716	11,920,922	105,875	70,038	381,623	146,996	10,787,782	14,424	33,228	723	381,233	12,870,003	1,930,825
33 12,894,545	11,781,733	490,568	409,847	3,084,069	256,915	6,115,661	31,608	45,125	36,501	1,251,930	14,064,382	7,692,806
34 162,165	195,955	17,090	11,527	38,207	2,624	102,117	6,675	1,059	335	16,414	280,700	181,959
35 270,533	374,303	9,810	16,434	58,747	3,423	267,080	1,830	829	1,294	15,859	405,718	135,216
36 2,232,456	2,367,312	88,975	82,826	606,393	28,687	1,307,391	12,165	11,699	45,472	183,704	2,650,221	1,314,143
37 160,305	160,174	13,486	7,159	25,638	2,203	93,031	2,217	773	.....	15,667	160,673	74,439
38 15,733,512	2,040,600	114,660	113,462	370,738	338,656	272,626	324	105,696	30	215,408	2,892,646	1,781,304
39 601,163	627,378	34,566	30,045	93,563	4,935	308,350	5,300	1,814	.....	82,775	693,062	319,747
40 7,038	6,299	.....	.....	2,230	71	3,042	600	20	.....	240	13,072	9,959
41 420,276	304,848	18,120	6,420	78,500	6,394	149,241	958	787	.....	44,422	325,500	169,805
42 626,197	218,802	20,025	6,605	101,335	44,172	19,778	1,300	4,673	.....	21,914	239,642	225,692
43 272,289	133,195	10,223	6,090	53,046	3,476	45,332	4,325	680	687	9,330	155,284	108,976
44 2,037,845	2,510,896	51,315	110,557	352,902	12,583	1,799,519	22,770	9,956	12	150,982	2,854,572	1,042,170
45 10,829	19,325	2,160	988	6,066	525	4,361	40	71	.....	4,214	28,277	23,391
46 164,141	89,028	12,440	2,000	36,002	13,554	13,340	30	567	.....	6,035	104,553	72,659
47 5,603,493	2,485,225	141,513	80,401	331,729	89,624	811,017	240	491,700	.....	538,041	3,324,902	2,424,321
48 12,899,449	11,329,459	270,199	246,384	2,355,524	44,660	7,096,869	15,069	61,049	204,458	936,047	12,959,259	5,513,730
49 925,806	1,050,075	18,050	36,513	242,022	14,193	602,205	6,004	6,500	1,513	121,845	1,337,680	721,282
50 432,059	667,143	15,387	13,798	127,801	6,980	448,243	9,488	2,767	635	42,038	725,913	270,684
51 17,080	21,543	.....	.....	11,029	683	5,098	934	155	.....	2,730	31,748	26,962
52 3,925	1,211	.....	.....	.....	35	590	361	11	.....	214	6,234	5,609
53 126,166	111,394	7,145	5,700	34,260	2,304	49,480	2,705	32	597	9,171	93,225	41,441
54 56,553	48,535	4,058	2,328	7,600	782	25,147	4,130	285	.....	4,139	69,304	43,375
55 118,825	138,716	20,770	16,649	12,500	2,391	82,094	510	857	.....	2,336	153,782	68,697
56 673,226	425,661	21,079	2,969	81,234	48,175	232,939	.....	1,798	1,600	35,567	437,388	156,574
57 2,361,407	2,637,738	112,487	306,768	133,310	12,189	1,052,042	20,682	29,991	1,975	1,017,694	3,400,575	2,335,744
58 792,426	434,832	19,815	16,122	173,377	127,830	51,949	.....	1,772	.....	43,967	404,265	284,486
59 10,623,049	9,452,755	637,913	963,384	2,591,448	180,299	3,106,798	211,762	52,422	273,435	1,435,297	12,128,657	8,841,560
60 282,302	153,296	3,160	4,080	48,894	2,513	82,558	800	433	8,550	6,498	182,036	96,965

* Same number reported for one or more other months.

* Same number reported for the entire year.

STATISTICS OF MANUFACTURES—IOWA.

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.				Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number.		Male.		Female.	Male.	Female.				
								Maximum month.	Minimum month.									
61 Signs and advertising novelties.....	5	37	4	3	2	2	26	Se	28	Ja ¹	25	26	24	2	.....	2	
62 Slaughtering and meat packing.....	33	4,849	33	130	495	44	4,144	Ja	5,125	Oc	3,763	4,247	3,036	185	126	.....	8,309
63 Stereotyping and electrotyping.....	3	37	.....	3	7	2	25	Jy ¹	27	Fe ¹	21	26	26	.....	.....	.....	48
64 Stoves and furnaces, including gas and oil stoves.	14	432	11	25	30	14	352	Oc	452	Ja	282	408	404	.....	4	.....	484
65 Surgical appliances and artificial limbs.	3	11	5	2	1	1	2	Je ¹	2	De ¹	1	2	2	.....	.....	.....	5
66 Tobacco manufactures.....	372	2,523	423	51	92	14	1,943	No	2,011	Fe	1,886	2,043	1,152	809	44	38	55
67 Wall plaster.....	6	577	.....	12	22	4	539	Oc	592	Ja	490	540	540	.....	.....	.....	1,480
68 Woolen, worsted, and felt goods, and wool hats.	8	148	5	3	4	2	134	No	150	Mh	109	156	96	59	1	622
69 All other industries *.....	369	6,850	269	269	837	246	5,220	20,432

¹ Same number for one or more other months.
² All other industries embrace—

Awning, tents, and sails.....	10	Cordage and twine and jute and linen goods.....	1	Glass, cutting, staining, and ornamenting.....	3
Bags, paper.....	1	Dentists' materials.....	1	Glucose and starch.....	5
Beet sugar.....	1	Dyeing and finishing textiles.....	1	Gum.....	1
Bicycles, motorcycles, and parts.....	1	Engraving, wood.....	1	Gold and silver, reducing and refining, not from the ore.....	1
Brass and bronze products.....	3	Explosives.....	1	Grease and tallow.....	9
Brushes.....	3	Fertilizers.....	1	Hair work.....	1
Butter, reworking.....	4	Flags, banners, regatta, society badges and emblems.....	2	Hats, fur-felt.....	1
Cars, steam-railroad, not including operations of railroad companies.....	2	Flavoring extracts.....	6	Horseshoes, not made in steel works or rolling mills.....	1
Cement.....	1	Food preparations.....	24	House-furnishing goods, not elsewhere specified.....	3
China decorating.....	2	Foundry supplies.....	1	Instruments, professional and scientific.....	1
Coffee and spice, roasting and grinding.....	11	Furs, dressed.....	1	.....	.....

STATISTICS OF MANUFACTURES—IOWA.

THE 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.			
61	\$19,650	\$39,866	\$4,040	\$1,135	\$18,690	\$133	\$12,900	\$1,785	\$78		\$1,115	\$46,035	\$43,002
62	12,361,560	57,528,943	233,927	420,019	2,190,101	355,478	52,771,498	29,765	43,304		1,484,351	59,045,232	5,017,856
63	49,849	66,244	4,704	4,306	26,526	3,072	18,039	2,220	117		6,660	64,021	42,310
64	898,817	825,736	35,071	41,180	222,097	12,681	349,784	8,500	1,793		154,630	890,320	527,864
65	5,970	8,883	2,460	1,380	647	140	1,670	1,027	12		1,547	12,900	11,690
66	1,820,553	3,013,014	66,403	107,227	556,349	13,224	1,372,830	48,288	330,672	\$3,872	214,140	3,423,488	2,037,425
67	847,175	510,256	24,845	30,673	181,276	76,565	116,278	16,000	2,508		62,711	738,815	545,072
68	518,751	308,495	6,020	5,031	53,869	11,406	216,462		3,015		12,002	349,569	121,701
69	27,587,293	34,746,133	666,129	1,018,084	2,930,252	822,156	26,007,067	55,763	117,241	12,556	3,116,045	39,363,020	12,532,866

* All other industries embrace—Continued.

Iron and steel forgings.....	1	Photographic apparatus and materials.....	1	Steam packing.....	1
Locomotives.....	1	Photo-engraving.....	1	Toys and games.....	2
Malt.....	1	Pipes, tobacco.....	1	Umbrellas and canes.....	1
Millinery and lace goods.....	1	Pumps, not including steam pumps.....	3	Upholstering materials.....	7
Mineral and soda waters.....	99	Roofing materials.....	1	Vinegar and cider.....	6
Mirrors.....	1	Safes and vaults.....	2	Washing machines and clothes wringers.....	11
Mucilage and paste.....	3	Scales and balances.....	2	Windmills.....	2
Oil, linseed.....	2	Soap.....	9	Window shades and fixtures.....	1
Oil, not elsewhere specified.....	1	Sporting and athletic goods.....	1	Wirework, including wire rope and cable.....	13
Paper goods, not elsewhere specified.....	1	Stationery goods, not elsewhere specified.....	3	Wood carpet.....	1
Pencils, lead.....	1	Statuary and art goods.....	3	Wood, turned and carved.....	7
Pens, fountain, stylographic, and gold.....	1				

MANUFACTURES : KANSAS

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 Kansas 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 Kansas, 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 Kansas City and Wichita. 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, of 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.

INDUSTRIES IN GENERAL.

General character of the state.—Kansas, with a gross area of 82,158 square miles, of which 384 represent water surface, ranks thirteenth in size among the 49 states and territories of continental United States. Its population in 1910 was 1,690,949, as compared with 1,470,495 in 1900 and 1,428,108 in 1890. It ranked twenty-second among the states and territories as regards population both in 1910 and 1900. In 1910 the density of population for the entire state was 20.7 per square mile, the corresponding figure for 1900 being 18.

The state has two cities having a population of over 50,000—Kansas City and Wichita. There are also 10 cities having a population of over 10,000 but less than 50,000. (See table on page 9.) In 1910, 29.2 per cent of the entire population of the state resided in cities having a population of 2,500 inhabitants or over, as against 22.5 per cent in 1900.

The railway facilities of Kansas, especially in the eastern part, are exceptionally good. The state is so situated geographically that it is traversed by several important railways connecting the industrial centers of the Mississippi Valley with points in the West and Southwest. The Missouri River on the northeast boundary is the only navigable river, although the water from a number of smaller streams affords advantages for the development of power.

Importance and growth of manufactures.—Kansas is not preeminently a manufacturing state. Its manufactures have been largely the outgrowth of its extensive agricultural resources, while, in recent years, they have been further stimulated by the development of rich zinc and coal mines and by the discovery of oil and gas. Kansas was organized as a territory in 1854, and at the first census of the manufactures of the territory in 1859, the total value of all manufactured products was only \$4,357,000. Twenty years later it had increased to \$30,844,000. From that time a most rapid growth took place, and in 1899 the value of products, exclusive of those of hand trades and neighborhood industries, was \$154,009,000. In 1904 it was \$198,245,000, and in 1909, \$325,104,000.

Slaughtering and meat packing and the flour mills and gristmills are largely responsible for this rapid growth, these two industries together contributing in 1909 nearly three-fourths of the total value of prod-

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.

ucts. Other manufacturing industries, however, also show considerable growth. In 1909 Kansas ranked fourteenth, and in 1904 and 1899, sixteenth, among the states and territories in respect to the value of its manufactures, having advanced from thirty-first place in 1859.

Only a small percentage of the total population is engaged in manufactures. During 1859 an average of 1,735 wage earners, representing 1.6 per cent of the total population, were employed in manufactures, while in 1909 an average of 44,215 wage earners, or 2.6 per cent of the total population, were so engaged. During this period of 50 years the gross value of products per capita of the total population of the state increased from \$41 to \$192. From 1859 to 1909, moreover, the proportion which the value of the manufactures of the state represented of the total value of the products of manufacturing industries in the United States increased considerably. This proportion was two-tenths of 1 per cent in 1859 and 1.6 per cent in 1909.

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

In 1909 the state of Kansas had 3,435 manufacturing establishments, which gave employment to an average of 54,649 persons during the year and paid out \$33,255,000 in salaries and wages. Of the persons employed, 44,215 were wage earners. These establishments turned out products to the value of \$325,104,000, in the manufacture of which materials costing \$258,884,000 were utilized. The value added by manufacture was thus \$66,220,000, 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 Kansas as a whole showed a greater development during the more recent five-year period, 1904-1909, than during the preceding five-year period, 1899-1904. During the more recent period the number of establishments increased 38.8 per cent and the average number of wage earners 24.3 per cent, while the value of products increased 64 per cent and the value added by manufacture 58.7 per cent.

MANUFACTURES—KANSAS.

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 represent-

ing 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.....	3,435	2,475	2,299	38.8	7.7
Persons engaged in manufactures.....	54,049	42,057	(¹)	29.9	(¹)
Proprietors and firm members.....	3,571	2,766	(¹)	29.1	(¹)
Salaried employees.....	6,863	3,721	3,612	84.4	3.0
Wage earners (average number).....	44,215	35,570	27,119	24.3	31.2
Primary horsepower.....	213,141	99,441	68,242	114.3	45.7
Capital.....	\$156,090,000	\$88,680,000	\$59,458,000	76.0	49.1
Expenses.....	305,711,000	187,955,000	141,054,000	62.7	33.2
Services.....	33,255,000	22,575,000	15,925,000	47.3	41.8
Salaries.....	7,351,000	3,692,000	3,123,000	99.1	18.2
Wages.....	25,904,000	18,883,000	12,802,000	37.2	47.5
Materials.....	258,884,000	156,510,000	120,738,000	65.4	29.6
Miscellaneous.....	13,572,000	8,370,000	4,391,000	53.0	102.0
Value of products.....	325,104,000	198,245,000	154,009,000	64.0	28.7
Value added by manufacture (value of products less cost of materials).....	66,220,000	41,735,000	33,271,000	58.7	25.4

¹ Figures not available.

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

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.

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.....	3,435	44,215	100.0	\$325,104,000	100.0	\$66,220,000	100.0	64.0	28.7	58.7	25.4
Slaughtering and meat packing.....	35	10,591	24.0	165,361,000	50.9	17,715,000	26.8	71.0	24.5	57.7	18.2
Flour-mill and gristmill products.....	501	2,300	5.3	68,476,000	21.1	8,037,000	12.1	62.9	97.1	56.4	60.7
Cars and general shop construction and repairs by steam-railroad companies.....	23	7,680	17.4	11,193,000	3.4	5,074,000	0.0	-2.8	69.0	39.0	14.3
Smelting and refining, zinc.....	12	1,821	4.1	10,857,000	3.3	1,980,000	3.0	-1.3	90.0	-22.4	129.5
Printing and publishing.....	798	3,232	7.3	7,009,000	2.2	4,710,000	7.1				
Butter, cheese, and condensed milk.....	60	348	0.8	6,071,000	1.0	1,120,000	1.7	53.9	8.0	62.3	16.8
Foundry and machine-shop products.....	137	2,110	4.8	5,919,000	1.8	2,885,000	4.4	66.0	22.3	53.9	37.6
Cement.....	12	2,143	4.8	4,682,000	1.4	3,120,000	4.7	217.4		196.0	
Bread and other bakery products.....	435	900	2.0	3,433,000	1.1	1,444,000	2.2	84.4	60.2	68.5	85.0
Lumber and timber products.....	73	982	2.2	3,244,000	1.0	1,172,000	1.8	77.5	62.0	51.2	74.2
Brick and tile.....	55	1,819	4.1	2,336,000	0.7	1,805,000	2.7	22.5	103.4	23.4	157.6
Glass.....	23	1,435	3.2	2,037,000	0.6	1,365,000	2.1	112.4		126.0	
Ice, manufactured.....	86	593	1.3	1,400,000	0.4	1,118,000	1.7	149.6	198.5	181.8	217.1
Leather goods.....	74	339	0.8	1,387,000	0.4	566,000	0.9				
Salt.....	10	461	1.0	1,106,000	0.3	587,000	0.9	-1.5	56.6	-6.3	51.4
Marble and stone work.....	82	288	0.7	654,000	0.3	569,000	0.9	93.1		68.3	
Copper, tin, and sheet-iron products.....	76	222	0.5	749,000	0.2	337,000	0.5	184.8	310.9	146.0	356.7
Artificial stone.....	297	307	0.7	688,000	0.2	301,000	0.6	1,128.0		1,161.3	
Tobacco manufactures.....	141	415	0.9	682,000	0.2	420,000	0.6	-25.1	15.2	-26.2	12.4
Clothing, men's, including shirts.....	16	408	0.9	629,000	0.2	297,000	0.4	57.2	185.7	85.6	158.1
Patent medicines and compounds and druggists' preparations.....	39	63	0.1	619,000	0.2	374,000	0.6	116.4	111.0	74.0	131.2
Furniture and refrigerators.....	17	357	0.8	616,000	0.2	350,000	0.6				
Paint and varnish.....	6	104	0.2	580,000	0.2	165,000	0.2	866.7		587.5	
Carrriages and wagons and materials.....	46	246	0.6	530,000	0.2	285,000	0.4	65.1	32.1	39.7	41.7
Cooperage and wooden goods, not elsewhere specified.....	12	162	0.4	504,000	0.2	171,000	0.3	-6.0	34.3	4.0	-22.4
Mattresses and spring beds.....	14	158	0.4	462,000	0.1	244,000	0.4	71.1	83.7	63.8	161.4
Pottery, terra-cotta, and fire-clay products.....	4	228	0.5	375,000	0.1	304,000	0.5	108.8	524.1	111.1	526.1
Agricultural implements.....	18	120	0.3	369,000	0.1	207,000	0.3	-6.0	2,094.4	8.9	2,614.3
Confectionery.....	27	185	0.3	328,000	0.1	160,000	0.2	127.8	-22.2	119.7	9.2
Wall plaster.....	6	170	0.4	287,000	0.1	204,000	0.3	5.5		5.7	
Paper and wood pulp.....	3	97	0.2	218,000	0.1	98,000	0.1	7.9		-21.0	
Gas, illuminating and heating.....	12	36	0.1	208,000	0.1	161,000	0.2	-60.2	60.9	-60.0	38.5
All other industries.....	375	3,883	8.8	21,732,000	6.7	7,854,000	11.0				

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

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

Slaughtering and meat packing.—This classification includes the wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage, but not the numerous retail butcher shops which slaughter a large number of animals. It includes the manufacture of many by-products, some of which are carried to a high degree of elaboration. The industry is by far the most important one in the state. Its rapid development is due chiefly to the fact that Kansas is one of the leading stock-raising states of the country. In 1909 the state reported 12.1 per cent of the total value of the slaughtering and meat-packing products of the United States, and at each of the last three censuses only one state, Illinois, ranked ahead of Kansas in this respect. The importance of the industry is indicated by the fact that in 1909 it gave employment to 24 per cent of the average number of wage earners and reported products valued at \$165,361,000, or 50.9 per cent of the total value of products for all manufacturing industries in the state.

Flour-mill and gristmill products.—This classification includes mills manufacturing wheat, rye, buckwheat, or corn flour, corn meal, hominy, grits, and feed. It does not include mills doing custom grinding exclusively, statistics for which are presented on page 18. The flour-mill and gristmill industry is second in importance among the manufacturing industries of the state, the value of its products (\$68,476,000) forming 21.1 per cent of the total. Kansas is one of the leading wheat-growing states, and ranks third among the states of the Union when measured by the value of its flour-mill and gristmill products.

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 consists almost exclusively of repairs to the rolling stock and equipment. It does not include minor repairs made in roundhouses. From 1899 to 1904 there was a large increase in the value of work performed, but for the last five years a slight decrease is shown. Employment was given in 1909 to an average of 7,686 wage earners, the largest number reported for any industry in the state except slaughtering and meat packing, while the value of the work done was reported as \$11,193,000.

Smelting and refining, zinc.—The remarkable growth shown for this industry since 1889 has been due largely to the discovery of gas and oil and also of coal in the same locality as the zinc ore. In 1889 Kansas reported only 4 establishments in this industry, with products valued at \$964,000, whereas in 1899 there were 11 establishments, the value of whose products was \$5,790,000. From 1899 to 1904 the products increased in value 90 per cent, but for the last five years a slight de-

crease is shown. An average of 1,821 wage earners were employed in 1909, and the value of products amounted to nearly one-third of the total value of products of this industry for the entire United States. Kansas ranked first in number of establishments and in value of products for this industry in 1909.

Cement.—Although the cement industry ranks only eighth in value of products among those shown in the preceding table, Kansas ranks fourth among the states in the manufacture of this valuable building material. The output in 1909 was practically all Portland cement, and over 90 per cent was reported from five counties located in the southeastern part of the state. The value of products increased from \$1,475,000 in 1904 to \$4,682,000 in 1909, or 217.4 per cent.

Glass.—The development of the glass industry in Kansas is directly due to the discovery of large quantities of natural gas, a cheap and desirable fuel. Starting less than a decade ago in Kansas, the industry has grown so that in 1909 the state ranked eighth in the value of its glass products.

Salt.—Kansas is one of the few states engaged in the production of salt and has ranked fourth at the last three censuses in the value of this product. While showing a large increase from 1899 to 1904, the value of products of this industry decreased slightly from 1904 to 1909. Nearly one-tenth of the value of the salt products of the United States in 1909 was reported from this state.

The first three industries in the preceding table hold the same rank when measured by value added by manufacture as when measured by value of products. Considerable change, however, is noted in the order of other industries when ranked according to value added by manufacture. Printing and publishing displaces from fourth place the smelting and refining of zinc, which falls to seventh place. The cement industry and the foundry and machine shops advance to fifth and sixth places, respectively, while the butter, cheese, and condensed milk industry drops from sixth to twelfth place. In the slaughtering and meat-packing, the flour and grist mill, and the butter, cheese, and condensed-milk industries, owing to the comparatively simple processes involved 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 also the percentages of increase for these leading industries in respect to value of products and value added by manufacture where comparative statistics can be presented. Of all the industries shown separately in the table, the manufacture of artificial stone shows the greatest percentages of increase in both items from 1904 to 1909. The cement and confectionery industries, the manufacture of copper, tin, and sheet-iron products, and the glass, manufactured-ice, paint and varnish, and pottery, terra-cotta, and fire-clay products industries also show increases of over

100 per cent from 1904 to 1909 both in value of products and in value added by manufacture, while the manufacture of patent medicines and compounds shows such an increase in value of products only.

Seven of the industries given separately in the table show decreases in value of products from 1904 to 1909, while only one shows such a decrease from 1899 to 1904. Four of the above industries also show decreases in value added by manufacture from 1904 to 1909, namely, the smelting and refining of zinc, the salt industry, and the tobacco products and illuminating-gas industries. The paper and wood-pulp industry also shows a decrease from 1904 to 1909 in value added by manufacture. Only one industry, the manufacture of cooperage and wooden goods, shows a decrease from 1899 to 1904 in value added by manufacture.

The manufacture of soap is the most important industry included under the head of "All other industries," but the statistics for this industry can not be shown without disclosing the operations of individual establishments. For a similar reason petroleum refining, another important industry, is not shown separately in the preceding table, as but one establishment was reported in 1899 and one in 1904. Table II, page 22, shows that there were 18 establishments refining petroleum in 1909, which gave employment to an average of 324 wage earners and reported products valued at \$4,077,225.

Two other industries included under the head of "All other industries" had a value of products in 1909 in excess of \$1,000,000, namely, the manufacture of food preparations and the construction of steam-railroad cars other than by railroad companies. The first-named industry is of some special interest for the reason that it includes the grinding of alfalfa, which has greatly increased in importance in some of the Western states during the past few years. Thirty-six of these mills, in which the chief output was alfalfa meal, reported products valued at \$919,000. These statistics do not indicate the true extent of the industry, because alfalfa is also ground in some flour mills and gristmills.

In addition to the 32 industries reported separately and the 4 industries discussed in the two paragraphs immediately preceding, there are 25 other industries which had a value of products in 1909 in excess of \$100,000 but less than \$1,000,000. They are included in the group of "All other industries," because, in some instances, if they were shown separately, the operations of individual establishments would be disclosed; 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, while for others comparable statistics for the different census years can not be presented either because the data for prior censuses are not available or on account of changes of classification. These industries are as follows: Auto-

mobiles; awnings, tents, and sails; beet sugar; fancy and paper boxes; brass and bronze products; brooms; canning and preserving; coffins, burial cases, and undertakers' goods; coffee and spice, roasting and grinding; cotton goods; explosives; men's furnishing goods; gas and electric fixtures and lamps and reflectors; grease and tallow; mineral and soda waters; linseed oil; paper goods, not elsewhere specified; paving materials; smelting and refining lead; stoves and furnaces, including gas and oil stoves; sulphuric, nitric, and mixed acids; surgical appliances; vinegar and cider; wirework, including wire rope and cable; and wood preserving. Statistics, however, for the manufacture of brooms and for the canning and preserving industry are presented for 1909 in Table II, page 22.

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.....	54,649	50,166	4,483
Proprietors and officials.....	5,506	5,348	158
Proprietors and firm members.....	3,571	3,449	131
Salaried officers of corporations.....	559	544	15
Superintendents and managers.....	1,376	1,361	12
Clerks.....	4,928	3,970	958
Wage earners (average number).....	44,215	40,838	3,377
16 years of age and over.....	43,980	40,643	3,337
Under 16 years of age.....	235	195	40

The average number of persons engaged in manufactures during 1909 was 54,649, of whom 44,215 were wage earners. Of the remainder, 5,506 were proprietors and officials and 4,928 were clerks. Corresponding figures for individual industries will be found in Table II, page 22.

The next table 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 13 important industries individually.

Of the total number of persons engaged in all manufacturing industries, 10.1 per cent were proprietors and officials, 9 per cent clerks, and 80.9 per cent wage earners. The highest percentage of proprietors and officials shown for any individual industry, 34.9, is for the bakeries. In this industry, and also in the butter, cheese, and condensed-milk, flour-mill and gristmill, and printing and publishing industries, 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 propor-

tion of persons engaged in these industries falling into the class of proprietors and officials is very much higher than for the other industries shown in the table or for all industries combined. The smallest proportion for this class is shown for the slaughtering and meat-packing industry and is due to the large average number of wage earners to an individual establishment in this industry.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries	54,649	10.1	9.0	80.9
Bread and other bakery products.....	1,488	34.0	4.6	60.5
Brick and tile.....	1,078	5.3	2.8	92.0
Butter, cheese, and condensed milk.....	508	20.2	18.5	61.3
Cars and general shop construction and repairs by steam-railroad companies.....	8,319	3.0	4.6	92.4
Cement.....	2,365	1.0	7.4	90.6
Flour-mill and gristmill products.....	3,778	23.1	14.4	62.5
Foundry and machine-shop products.....	2,005	0.2	9.8	81.0
Glass.....	1,511	2.0	2.1	95.0
Lumber and timber products.....	1,160	10.4	4.0	84.7
Petroleum, refining.....	464	11.0	19.2	69.8
Printing and publishing.....	4,003	21.8	12.3	65.9
Slaughtering and meat packing.....	12,265	1.3	12.4	86.4
Smelting and refining, zinc.....	1,068	2.4	5.0	92.5
All other industries.....	11,277	16.5	8.4	75.1

The next 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 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	44,215	91.9	7.5	0.5
Bread and other bakery products.....	900	81.8	17.2	1.0
Brick and tile.....	1,819	99.0	.....	0.1
Butter, cheese, and condensed milk.....	348	87.4	12.4	0.8
Cars and general shop construction and repairs by steam-railroad companies.....	7,686	100.0	.....	(²)
Cement.....	2,143	100.0	.....	.....
Flour-mill and gristmill products.....	2,360	98.2	0.0	0.8
Foundry and machine-shop products.....	2,110	100.0	.....	.....
Glass.....	1,435	99.1	3.3	0.0
Lumber and timber products.....	982	97.4	0.2	2.4
Petroleum, refining.....	324	98.8	0.0	0.8
Printing and publishing.....	3,232	67.1	31.2	1.7
Slaughtering and meat packing.....	10,591	92.5	7.4	0.1
Smelting and refining, zinc.....	1,821	100.0	.....	.....
All other industries.....	8,404	83.8	15.0	1.2

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, 91.8 per cent of the average number of wage earners were males 16 years of age and over; 7.6 per cent females 16 years of age

and over; and five-tenths of 1 per cent children under the age of 16. A large proportion of the total number of female wage earners was made up of those employed in the printing and publishing industry. In this industry nearly one-third of the total number of wage earners were women 16 years of age and over. A large number of women were employed in the slaughtering and meat-packing establishments, but on account of the large number of male wage earners employed in this industry, women formed only 7.4 per cent of the total number. No industry shows any considerable proportion of wage earners under 16 years of age, the lumber and timber products industry leading with 2.4 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 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	54,649	100.0	42,057	100.0	29.0
Proprietors and firm members.....	3,571	6.5	2,706	6.6	29.1
Salaried employees.....	6,863	12.6	3,721	8.8	84.4
Wage earners (average number)....	44,215	80.0	35,570	84.6	24.3

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	44,215	100.0	35,570	100.0	27,119	100.0
16 years of age and over.....	43,980	99.5	34,841	98.0	26,323	97.1
Male.....	40,643	91.0	32,138	90.4	24,378	89.0
Female.....	3,337	7.5	2,703	7.6	1,945	7.2
Under 16 years of age....	235	0.5	729	2.0	796	2.9

This table indicates that for all industries combined there has been very little change during the 10 years in the proportions of adult male and female wage earners. In 1909 males 16 years of age and over formed 91.9 per cent of all wage earners, as compared with 90.4 per cent in 1904 and 89.9 per cent in 1899. The num-

ber and proportion of children employed show a continuous decrease.

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 also gives the percentage which the number reported for each month is of the greatest number reported for any one month. In Table II, page 22, are shown, for practically all of the important industries of 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.....	41,337	88.6	July.....	44,075	94.4
February.....	41,021	89.2	August.....	44,817	96.0
March.....	42,551	91.2	September.....	46,106	98.8
April.....	42,097	91.5	October.....	46,070	100.0
May.....	43,462	93.1	November.....	46,591	99.8
June.....	44,411	95.1	December.....	46,228	99.0

There are no important seasonal industries in Kansas, all of the more important industries showing comparatively little fluctuation in the number of wage earners

employed. The slaughtering and meat-packing industry shows very little change in the number of wage earners, considering the large number employed. From Table II, page 22, it will be seen that the smallest number of wage earners, 9,788, was employed in March, and the greatest number, 11,471, was employed in November. Among the less important industries, the manufacture of brick and tile may be mentioned as a seasonal industry. In this industry over 2,000 wage earners were employed from May to September, the greatest number, 2,175, being employed in June, while for January only 1,143, or 52.6 per cent of the number employed in June, were reported. In the glass industry, on the other hand, the summer months are the slack months, only 433 wage earners being employed in July, as compared with 2,033 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.....	44,215	4,218	3,520	6,679	3,148	20,124	4,056	975	1,495
Agricultural implements.....	126	4		3	2	117			
Artificial stone.....	307	54		81	5	167			
Bread and other bakery products.....	900	85	0	153	22	477	58	73	23
Brick and tile.....	1,819	58	62	57		1,042			
Butter, cheese, and condensed milk.....	348	15		5	1	82	217	22	6
Carriages and wagons and materials.....	246	2		76	24	144			
Cars and general shop construction and repairs by steam-railroad companies.....	7,686	336		3,003		3,519	828		
Cement.....	2,143					308	1,360		469
Clothing, men's, including shirts.....	408	151	32	82	60	77			
Confectionery.....	135	12	3	12		107	1		
Cooperage and wooden goods, not elsewhere specified.....	162	48		20	54	40			
Copper, tin, and sheet-iron products.....	222	86	4	57	23	52			
Flour-mill and gristmill products.....	2,360	131	32	17	6	1,131	282	630	122
Foundry and machine-shop products.....	2,110	12	0	620	275	1,171	23		
Furniture and refrigerators.....	357	15		22	13	307			
Glass.....	1,435	831	126	166	30	273			
Ice, manufactured.....	593	10			1	65	140	75	302
Leather goods.....	339	2		6	180	151			
Lumber and timber products.....	982	42	3	134	321	482			
Marble and stone work.....	288	54	1	41	11	181			
Mattresses and spring beds.....	158	21	2		105	30			
Paint and varnish.....	104	1		5	17	1			80
Paper and wood pulp.....	97					51		21	25
Patent medicines and compounds and druggists' preparations.....	63	14	15	10	2	13			
Pottery, terra-cotta, and fire-clay products.....	228				34	104			
Printing and publishing.....	3,232	1,204	184	720	608	442	8	5	1
Salt.....	451	13				281	40	117	
Slaughtering and meat packing.....	10,591	371	2,941	834		0,442			3
Smelting and refining, zinc.....	1,821	210			295	184	870		247
Tobacco manufactures.....	415	259	10	52	0	88			
Wall plaster.....	170					170			
All other industries.....	3,919	111	87	494	1,038	1,735	214	23	217

It is evident from these figures that for nearly half of the wage earners employed in the manufacturing industries of Kansas the usual hours of labor were

60 a week, and that in the larger number of the industries employment was confined mainly to hours ranging from 54 to 60 a week, only 17.5 per cent of the total

being employed in establishments where the prevailing hours were less than 54 a week, and 14.8 per cent in establishments where they were more than 60 a week.

It will be noted that in the butter, cheese, and condensed-milk, manufactured-ice, and cement industries the employment was mainly confined to a week of 60 to 72 hours, inclusive, while in the glass and tobacco factories the largest number of wage earners were employed in establishments in which the prevailing hours of labor were 48 or less a week.

Location of establishments.—The next table shows the extent to which the manufactures of Kansas are centralized in cities of 10,000 population or over. (See Introduction.) The comparison is confined here, as in other states, to the years 1899 and 1909, in the absence of a Federal census of population by which the grouping of cities in 1904 could be determined.

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	1,600,949	303,843	1,387,106	18.0	82.0
	1900	1,470,495	187,605	1,282,890	12.8	87.2
Number of establishments.	1909	3,435	1,043	2,392	30.4	69.6
	1899	2,299	613	1,686	26.7	73.3
Average number of wage earners.	1909	44,215	26,234	17,981	59.3	40.7
	1899	27,119	16,790	10,329	61.9	38.1
Value of products..	1909	\$325,104,002	\$228,974,952	\$96,129,050	70.4	29.6
	1899	154,008,544	100,861,326	53,147,218	65.5	34.5
Value added by manufacture.	1909	66,220,296	39,165,093	27,055,203	59.1	40.9
	1899	33,270,867	18,371,347	14,899,520	55.2	44.8

In 1909, 70.4 per cent of the total value of products was reported from cities having 10,000 inhabitants or over, and 59.3 per cent of the average number of wage earners were employed in such cities. In every item covered by the table, with the exception of average number of wage earners, this class of cities shows an increase in relative importance during the decade.

Kansas City, Wichita, Topeka, Leavenworth, Atchison, Pittsburg, Fort Scott, and Lawrence are included in the city group for each of the two censuses. Galena is included for 1899 only; Hutchinson, Coffeyville, Parsons, and Independence for 1909 only.

The population of the 13 cities which had 10,000 inhabitants or over in 1910 or 1900 is given in the following tabular statement:

CITY.	1910	1900	CITY.	1910	1900
Kansas City	82,331	51,418	Coffeyville	12,087	4,963
Wichita	52,450	24,671	Parsons	12,463	7,682
Topeka	43,684	33,008	Lawrence	12,374	10,862
Leavenworth	19,368	20,735	Independence	10,480	4,851
Atchison	10,429	15,722	Fort Scott	10,403	10,322
Hutchinson	10,864	9,379	Galena	6,090	10,165
Pittsburg	14,755	10,112			

The following statement shows general statistics for 1909 and 1899 for Galena, which had a population in 1900 in excess of 10,000, but which fell below this figure in 1910, and therefore is not included in the city group, but in the districts outside for 1909 in the preceding table.

ITEM.	1909	1899
Population	16,096	210,155
Number of establishments	19	19
Wage earners (average number)	153	114
Value of products	\$672,044	\$420,991
Value added by manufacture	217,530	104,687

¹ In 1910.

² In 1900.

While the population of Galena has decreased, the number of establishments was the same in 1909 as in 1899. The average number of wage earners, value of products, and value added by manufacture increased during the decade; the last two items more than doubled. The leading industries in 1909 were foundries and machine shops and the smelting and refining of lead.

The relative importance in manufactures of each of the 12 cities having a population of 10,000 or over in 1910 is shown in the following table, in which the value of products and the average number of wage earners are shown separately, so far as available, for 1909, 1904, and 1899:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Kansas City	12,294	10,529	9,483	\$104,080,007	\$60,473,050	\$80,023,107
Wichita	2,783	1,262	863	22,564,293	7,389,844	3,320,007
Topeka	4,244	3,953	2,374	17,829,701	14,448,860	8,350,774
Leavenworth	1,311	1,321	1,141	4,876,508	4,151,707	3,251,460
Coffeyville	1,000	(¹)	(¹)	4,761,595	(¹)	(¹)
Atchison	824	798	583	4,404,813	3,829,272	2,093,469
Hutchinson	607	510	536	3,613,950	2,031,048	1,541,148
Pittsburg	972	910	882	1,816,866	1,493,946	1,433,850
Lawrence	422	402	461	1,653,488	653,254	1,238,926
Parsons	1,130	(¹)	(¹)	1,626,272	(¹)	(¹)
Fort Scott	206	244	380	1,010,033	785,072	713,652
Independence	252	(¹)	(¹)	756,706	(¹)	(¹)

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 city.

Each city for which comparative figures are given shows an increase in value of products from 1904 to 1909, and all but Lawrence an increase from 1899 to 1904. The percentages of increase for Kansas City and Wichita were much greater from 1904 to 1909 than for the earlier period. The greatest gain, over 200 per cent, is shown for Wichita, and was largely due to the increase in the slaughtering and meat-packing, and the flour-mill and gristmill industries, though there was a general growth in most of the other industries of the city. The next largest increase, 151.2 per cent, is shown for Lawrence. The abandonment of a large flour mill was largely responsible for the decrease of 46.9 per cent from 1899 to 1904 in the value of products for

this city, but during the last five years the flour-mill and gristmill industry shows a remarkable gain, and the city an increase of 33.5 per cent for the decade.

Kansas City was the leading manufacturing city of the state in 1909, with products valued at 50.5 per cent of the state total. The products of the slaughtering and meat-packing industry alone contributed 90.5 per cent of the total value of products for this city, and 89.8 per cent of the state total for this one industry. In addition to the foundries and machine shops, statistics for which are shown separately in Table I, page 20, two other industries, the flour-mill and gristmill products industry and the manufacture of soap, are important in the city, but the statistics for them can not be shown without disclosing the operations of individual establishments. Each of these three industries had products valued at more than \$1,000,000. Kansas City had 11 industries other than those mentioned above or shown in Table I, which reported products having a value in excess of \$100,000. They are the manufacture of agricultural implements, creamery products, illuminating and heating gas, grease and tallow, ice, lumber and timber products, the refining of petroleum, steam-railroad repair shops, the construction of steam-railroad cars, other than by railroad companies, and the manufacture of cotton goods and of sulphuric, nitric, and mixed acids.

Slaughtering and meat packing was by far the most important industry in Wichita, but the figures for the industry can not be shown separately, since to do so would lead to the disclosure of individual operations. Both the number of wage earners and the value of products were practically four times as great in 1909 as in 1904. Other important industries, for which comparative figures are presented in Table I, page 21, were the flour-mill and gristmill, lumber and timber products, printing and publishing, bakery, patent medicines and compounds, and foundry and machine-shop industries, all of which, except the lumber and timber products industry, show increases of over 100 per cent from 1904 to 1909 in value of products. Some of the more important industries included under the head of "All other industries" for Wichita are the manufacture of men's clothing, copper, tin, and sheet-iron products, and food preparations.

Topeka is the only other important manufacturing city in the state, and nearly 80 per cent of its value of products in 1909 was contributed by five industries, each of which reported products valued at over \$1,000,000, namely, the creameries, the steam-railroad repair shops, the flour mills and gristmills, printing and publishing, and slaughtering and meat packing.

In most of the other cities shown in the table, the flour mills and gristmills constituted the predominating industry, contributing from one-fourth to one-half, approximately, of the total value of products in each city except Parsons and Pittsburg. The principal manufacturing industry in these two cities was the steam-railroad repair shops.

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 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 between corporate and all other forms of ownership. For all industries combined, 21 per cent of the total number of establishments were in 1909 under corporate ownership, as against 79 per cent under all other forms. The corresponding figures for 1904 were 18.3 per cent and 81.7 per cent, respectively. In respect to value of products the proportions were reversed, as in 1909 the establishments operated by corporations reported 87.9 per cent of the total value, as against 12.1 per cent for those under all other forms of ownership. In 1904 the corresponding figures were 83 per cent and 17 per cent, respectively. The greatest decrease from 1904 to 1909 in proportion of the total number of establishments is shown for those operated by firms. They formed only 19.6 per cent of the total in 1909, as compared with 23.8 per cent in 1904.

The forms of ownership prevailing in the different industries varied considerably. In six of the eight industries shown separately the most common form of ownership was the individual. The largest percentages of establishments under corporate ownership are found in the brick and tile and the slaughtering and meat-packing industries. In the foundry and machine-shop industry, 43.8 per cent of the establishments were under the individual form of ownership and 42.3 per cent under corporate ownership. Among the important industries not shown in the table, all of the establishments engaged in the manufacture of cement, in the smelting and refining of zinc, and in the refining of petroleum were under the corporate form of ownership, and all but 6 of the 23 glass factories reported were under this form of ownership.

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:					Flour-mill and gristmill products, 1909				
1909	3,435	44,215	\$325,104,002	\$66,220,206	Individual	501	2,360	\$68,476,410	\$8,037,577
1904	2,476	35,570	198,244,992	41,735,043	Individual	220	302	8,252,272	1,152,047
Individual:					Firm	138	300	10,002,932	1,355,501
1909	2,006	5,755	22,604,827	8,584,680	Corporation	134	1,576	50,174,354	5,522,140
1904	1,409	4,345	10,224,123	5,639,298	Other	3	2	40,852	7,889
Firm:					Per cent of total	100.0	100.0	100.0	100.0
1909	674	2,477	16,475,076	4,306,248	Individual	45.1	16.6	12.1	14.3
1904	588	2,819	17,218,989	4,443,501	Firm	27.5	16.5	14.0	16.9
Corporation:					Corporation	20.7	60.8	73.3	68.7
1909	723	35,938	285,637,061	53,119,860	Other	0.6	0.1	0.1	0.1
1904	454	28,348	164,563,576	31,598,380	Foundry and machine-shop products, 1909				
Other:					Individual	137	2,110	\$5,910,379	\$2,885,182
1909	32	45	207,038	119,493	Individual	60	270	590,802	355,530
1904	24	58	236,304	53,804	Firm	19	93	361,880	185,675
Per cent of total:					Corporation	58	1,738	4,900,637	2,343,971
1909	100.0	100.0	100.0	100.0	Per cent of total	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0	Individual	43.8	13.2	10.0	12.3
Individual:					Firm	13.9	4.4	6.1	6.4
1909	58.4	13.0	7.0	13.0	Corporation	42.3	82.4	83.0	81.2
1904	56.9	12.2	8.2	13.5	Lumber and timber products, 1909				
Firm:					Individual	73	982	\$3,244,265	\$1,172,499
1909	19.6	5.6	5.1	6.6	Individual	37	151	357,347	185,720
1904	23.8	7.9	8.7	10.0	Firm	24	231	560,481	281,728
Corporation:					Corporation	12	600	2,320,437	705,051
1909	21.0	81.3	87.9	80.2	Per cent of total	100.0	100.0	100.0	100.0
1904	18.3	79.7	83.0	75.7	Individual	50.7	15.4	11.0	15.8
Other:					Firm	32.9	23.5	17.5	24.0
1909	0.9	0.1	0.1	0.2	Corporation	16.4	61.1	71.5	60.1
1904	1.0	0.2	0.1	0.1	Printing and publishing, 1909				
Bread and other bakery products, 1909					Individual	798	3,232	\$7,008,865	\$4,710,050
Individual	435	900	\$3,432,564	\$1,443,401	Individual	590	1,908	4,077,396	2,658,120
Individual	356	571	2,318,619	1,001,746	Firm	110	361	658,390	400,308
Firm	73	144	582,332	248,505	Corporation	69	933	2,180,168	1,480,928
Firm	6	185	531,613	193,180	Other	23	30	92,007	80,703
Corporation	6	185	531,613	193,180	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	73.9	59.0	58.2	56.4
Individual	81.8	63.4	67.5	63.4	Firm	14.5	11.2	9.4	10.0
Individual	16.8	16.0	17.0	17.2	Corporation	8.6	28.9	31.1	31.4
Firm	1.4	20.6	15.5	13.4	Other	2.9	0.9	1.3	1.7
Corporation	1.4	20.6	15.5	13.4	Slaughtering and meat packing, 1909				
Brick and tile, 1909					Individual	35	10,591	\$165,360,516	\$17,714,526
Individual	55	1,819	\$2,336,438	\$1,805,633	Individual	12	94	608,127	104,867
Individual	5	17	24,380	17,093	Firm	5	15	311,802	60,652
Firm	8	50	63,040	57,525	Corporation	18	10,512	104,440,587	17,549,007
Firm	42	1,743	2,248,418	1,730,505	Per cent of total	100.0	100.0	100.0	100.0
Corporation	42	1,743	2,248,418	1,730,505	Individual	34.3	0.6	0.4	0.6
Per cent of total	100.0	100.0	100.0	100.0	Firm	14.3	0.1	0.2	0.3
Individual	0.1	0.9	1.0	1.0	Corporation	51.4	99.3	99.4	99.1
Individual	14.5	3.2	2.7	3.2	Butter, cheese, and condensed milk, 1909				
Firm	76.4	95.8	96.2	95.8	Individual	60	348	\$6,070,634	\$1,120,121
Corporation	76.4	95.8	96.2	95.8	Individual	22	39	545,853	88,706
Butter, cheese, and condensed milk, 1909					Firm	14	23	501,260	70,421
Individual	60	348	\$6,070,634	\$1,120,121	Corporation	19	274	4,860,992	930,258
Individual	22	39	545,853	88,706	Other	5	13	156,529	30,676
Individual	14	23	501,260	70,421	Per cent of total	100.0	100.0	100.0	100.0
Firm	19	274	4,860,992	930,258	Individual	30.7	11.2	9.0	7.9
Corporation	5	13	156,529	30,676	Firm	23.3	6.3	8.3	6.3
Other	5	13	156,529	30,676	Corporation	31.7	78.7	80.2	83.0
Per cent of total	100.0	100.0	100.0	100.0	Other	8.3	3.7	2.6	2.7
Individual	30.7	11.2	9.0	7.9					
Individual	23.3	6.3	8.3	6.3					
Firm	31.7	78.7	80.2	83.0					
Corporation	31.7	78.7	80.2	83.0					
Other	8.3	3.7	2.6	2.7					

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 next 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 certain 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 individual industries figures are given for 1909 only.

This table shows that, in 1909, of the 3,435 manu-

facturing establishments in the state, only 34, or 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 16,220 wage earners, or 36.7 per cent of the total number in all establishments, and reported 62.9 per cent of the total value of products and 40 per cent of the total value added by manufacture. The comparatively low proportion of the total value added by manufacture reported is due to the fact that these establishments are largely slaughtering and meat-packing establishments and flour mills and grist-mills, whose value added by manufacture, as already stated, is not commensurate with their gross value of products.

MANUFACTURES—KANSAS.

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.
ALL INDUSTRIES:					Flour-mill and gristmill products, 1909	501	2,360	\$68,476,410	\$8,037,577
1909.....	3,435	44,215	\$325,104,002	\$68,220,296	Less than \$5,000.....	110	37	287,371	65,994
1904.....	2,475	35,570	198,244,992	41,735,043	\$5,000 and less than \$20,000.....	144	127	1,542,628	300,015
Less than \$5,000:					\$20,000 and less than \$100,000.....	118	290	5,240,286	784,359
1909.....	1,645	1,084	3,867,954	2,386,459	\$100,000 and less than \$1,000,000.....	118	1,436	43,267,098	5,090,267
1904.....	1,211	1,569	2,741,307	1,795,911	\$1,000,000 and over.....	11	470	18,139,027	1,796,942
\$5,000 and less than \$20,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	1,002	3,425	9,809,793	5,083,622	Less than \$5,000.....	22.0	1.6	0.4	0.8
1904.....	650	2,056	6,347,304	3,368,497	\$5,000 and less than \$20,000.....	28.7	5.4	2.3	3.7
\$20,000 and less than \$100,000:					\$20,000 and less than \$100,000.....	23.6	12.3	7.7	9.8
1909.....	491	7,411	21,493,918	9,596,074	\$100,000 and less than \$1,000,000.....	23.6	60.8	63.2	63.3
1904.....	403	6,240	17,441,913	7,259,125	\$1,000,000 and over.....	2.2	19.9	26.5	23.4
\$100,000 and less than \$1,000,000:					Average per establishment.....	5		\$136,670	\$10,043
1909.....	263	15,475	85,547,057	22,639,748	Foundry and machine-shop products, 1909	137	2,110	\$5,919,379	\$2,885,182
1904.....	190	11,818	57,537,181	14,551,481	Less than \$5,000.....	53	56	122,314	77,388
\$1,000,000 and over:					\$5,000 and less than \$20,000.....	31	148	300,599	197,750
1909.....	34	16,220	204,385,280	20,514,393	\$20,000 and less than \$100,000.....	42	848	2,100,084	1,184,370
1904.....	21	12,987	114,177,287	14,762,029	\$100,000 and less than \$1,000,000.....	11	1,098	3,398,382	1,425,608
Per cent of total:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	38.7	2.7	2.1	2.7
1904.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	22.6	7.0	5.1	6.9
Less than \$5,000:					\$20,000 and less than \$100,000.....	30.7	30.7	35.5	41.0
1909.....	47.9	3.8	1.2	3.6	\$100,000 and less than \$1,000,000.....	8.0	50.6	57.4	49.4
1904.....	48.9	4.4	1.4	4.3	Average per establishment.....	15		\$43,207	\$21,060
\$5,000 and less than \$20,000:					Lumber and timber products, 1909	73	982	\$3,244,265	\$1,172,499
1909.....	29.2	7.7	3.0	7.7	Less than \$5,000.....	26	20	60,552	39,455
1904.....	20.3	8.3	3.2	8.1	\$5,000 and less than \$20,000.....	26	117	280,595	140,704
\$20,000 and less than \$100,000:					\$20,000 and less than \$100,000.....	14	235	600,058	295,941
1909.....	14.3	16.8	6.6	14.5	\$100,000 and less than \$1,000,000.....	7	604	2,201,060	606,399
1904.....	10.3	17.5	8.8	17.4	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000:					Less than \$5,000.....	35.6	2.6	2.1	3.4
1909.....	7.7	35.0	26.3	34.2	\$5,000 and less than \$20,000.....	35.6	11.9	8.6	12.0
1904.....	7.7	33.2	29.0	34.9	\$20,000 and less than \$100,000.....	19.2	23.9	18.7	25.2
\$1,000,000 and over:					\$100,000 and less than \$1,000,000.....	9.6	61.5	70.0	69.4
1909.....	1.0	36.7	62.9	40.0	Average per establishment.....	13		\$44,442	\$16,062
1904.....	0.8	36.5	57.6	35.4	Printing and publishing, 1909	798	3,232	\$7,008,805	\$4,719,059
Average per establishment:					Less than \$5,000.....	580	705	1,326,582	1,000,250
1909.....		13	\$94,645	\$19,278	\$5,000 and less than \$20,000.....	107	853	1,470,956	1,167,573
1904.....		14	80,999	16,803	\$20,000 and less than \$100,000.....	42	741	1,555,717	1,055,809
Bread and other bakery products, 1909	435	900	\$3,432,504	\$1,443,491	\$100,000 and less than \$1,000,000 ²	9	873	2,056,010	1,435,727
Less than \$5,000.....	222	134	609,041	271,972	Per cent of total.....	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000.....	191	420	1,736,384	751,354	Less than \$5,000.....	72.7	23.7	18.0	22.5
\$20,000 and less than \$100,000.....	22	340	1,080,539	420,165	\$5,000 and less than \$20,000.....	20.9	26.4	21.0	24.7
Per cent of total.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	5.3	22.9	22.2	22.4
Less than \$5,000.....	51.0	14.9	17.8	18.8	\$100,000 and less than \$1,000,000 ²	1.1	27.0	37.9	36.4
\$5,000 and less than \$20,000.....	43.9	47.3	50.6	52.1	Average per establishment.....	4		\$8,783	\$5,914
\$20,000 and less than \$100,000 ¹	5.1	37.8	31.7	29.1	Slaughtering and meatpacking, 1909	35	10,591	\$165,360,516	\$17,714,526
Average per establishment.....		2	\$7,891	\$3,318	\$5,000 and less than \$20,000 ³	5	3	40,817	6,490
Brick and tile, 1909	55	1,819	\$2,336,438	\$1,805,033	\$20,000 and less than \$100,000.....	14	47	677,531	117,706
Less than \$5,000.....	8	17	12,856	6,763	\$100,000 and less than \$1,000,000.....	6	207	2,434,032	560,803
\$5,000 and less than \$20,000.....	9	80	60,739	40,095	\$1,000,000 and over.....	10	10,334	162,208,136	17,029,527
\$20,000 and less than \$100,000.....	34	1,372	1,068,020	1,304,597	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000.....	4	350	585,214	445,184	Less than \$5,000.....	14.3	(*)	(*)	(*)
Per cent of total.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	40.0	9.4	0.4	0.7
Less than \$5,000.....	14.5	0.9	0.6	0.5	\$100,000 and less than \$1,000,000.....	17.1	2.0	1.5	3.2
\$5,000 and less than \$20,000.....	16.4	4.4	3.0	2.6	\$1,000,000 and over.....	28.6	97.6	98.1	96.1
\$20,000 and less than \$100,000.....	61.8	75.4	71.4	72.3	Average per establishment.....	303		\$4,724,580	\$506,129
\$100,000 and less than \$1,000,000.....	7.3	16.2	25.0	24.7	Butter, cheese, and condensed milk, 1909	60	348	\$6,070,634	\$1,120,121
Average per establishment.....		33	\$42,481	\$32,830	Less than \$5,000.....	4	1	9,000	2,331
Butter, cheese, and condensed milk, 1909	60	348	\$6,070,634	\$1,120,121	\$5,000 and less than \$20,000.....	23	24	207,293	52,483
Less than \$5,000.....	4	1	9,000	2,331	\$20,000 and less than \$100,000.....	21	83	804,251	155,215
\$5,000 and less than \$20,000.....	23	24	207,293	52,483	\$100,000 and less than \$1,000,000 ²	12	240	4,929,391	910,092
\$20,000 and less than \$100,000.....	21	83	804,251	155,215	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000 ²	12	240	4,929,391	910,092	Less than \$5,000.....	6.7	0.3	0.2	0.2
Per cent of total.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	38.3	0.9	4.4	4.7
Less than \$5,000.....	6.7	0.3	0.2	0.2	\$20,000 and less than \$100,000.....	35.0	23.8	14.2	13.9
\$5,000 and less than \$20,000.....	38.3	0.9	4.4	4.7	\$100,000 and less than \$1,000,000 ²	20.0	69.0	81.2	81.2
\$20,000 and less than \$100,000.....	35.0	23.8	14.2	13.9	Average per establishment.....		0	\$101,177	\$18,669
\$100,000 and less than \$1,000,000 ²	20.0	69.0	81.2	81.2					
Average per establishment.....		0	\$101,177	\$18,669					

¹ Includes the group "\$100,000 and less than \$1,000,000."
² Includes the group "\$1,000,000 and over."

³ Includes the group "Less than \$5,000."
⁴ Less than one-tenth of 1 per cent.

On the other hand, the very small establishments—that is, those having a value of products of less than \$5,000—constituted a considerable portion (47.9 per cent) of the total number of establishments, but the value of their products amounted to only 1.2 per cent of the total. The great bulk of the manufacturing was carried on in establishments having products valued at not less than \$100,000. 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 of not less than \$1,000,000 in value—and a correspond-

ing decrease for the other classes, the largest relative decrease being shown for the establishments reporting products valued at \$100,000 but less than \$1,000,000.

The fact that between 1904 and 1909 the average value of products per establishment increased from \$80,099 to \$94,645, and the average value added by manufacture from \$16,863 to \$19,278, can not be taken as the result of concentration alone. The increased values shown 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 14 to 13.

In all the industries shown separately in the table, with the exception of the bakeries and the brick and tile and printing and publishing establishments, the bulk of the value of products was contributed by the establishments having a value of products in excess of \$100,000.

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 13 important industries individually, and gives not only the number of establishments 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.....	3,435	546	2,152	440	160	70	41	14	7	5
Bread and other bakery products.....	435	97	311	24	2	12	1			
Brick and tile.....	55		10	8	25					
Butter, cheese, and condensed milk.....	60	5	41	11	2	1				
Cars and general shop construction and repairs by steam-railroad companies.....	23			2	2	2	7	6	3	1
Cement.....	12			1	1	3	3	3	1	
Flour-mill and gristmill products.....	501	97	283	87	21	3				
Foundry and machine-shop products.....	137	18	55	39	15	4	6			
Glass.....	23		3	1	7	7	6			
Lumber and timber products.....	73	7	38	18	5	3	2			
Petroleum, refining.....	18		7	4	6	1				
Printing and publishing.....	798	154	544	70	14	6		1		
Slaughtering and meat packing.....	36	1	10	3	5		2	1	3	4
Smelting and refining, zinc.....	12				2	2		1		
All other industries.....	1,253	107	834	163	53	26	8	2		
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	44,215	4,275	4,731	5,033	4,798	6,374	4,820	5,072	9,112	1,845
Bread and other bakery products.....	900	524	198	75	75	103				
Brick and tile.....	1,819	23	84	861	851					
Butter, cheese, and condensed milk.....	348	81	122	68	87					
Cars and general shop construction and repairs by steam-railroad companies.....	7,686		24	73	130	1,090	2,393	2,116	1,845	
Cement.....	2,143		15	26	222	511	810	550		
Flour-mill and gristmill products.....	2,360	541	1,065	612	202					
Foundry and machine-shop products.....	2,110	108	443	450	244	856				
Glass.....	1,435	5	0	240	532	652				
Lumber and timber products.....	882	87	107	150	184	355				
Petroleum, refining.....	324	21	48	101	94					
Printing and publishing.....	3,232	1,195	790	432	410		393			
Slaughtering and meat packing.....	10,591	37	21	198	70	297	365	2,406	7,247	
Smelting and refining, zinc.....	1,821			70	160	1,290	295			
All other industries.....	8,404	1,653	1,772	1,603	1,697	1,214	555			
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	9.7	10.7	11.4	10.9	14.4	10.9	11.5	20.6	20.6
Bread and other bakery products.....	100.0	58.2	22.0	8.3		11.4				
Brick and tile.....	100.0	1.3	4.0	47.3	40.8					
Butter, cheese, and condensed milk.....	100.0	23.3	35.1	10.7	25.0					
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		0.3	0.9	1.8	14.3	31.1	27.5	24.0	
Cement.....	100.0		0.7	1.2	10.4	23.8	38.2	25.7		
Flour-mill and gristmill products.....	100.0	22.9	42.6	25.9	8.6					
Foundry and machine-shop products.....	100.0	5.1	21.0	21.8	11.6	40.6				
Glass.....	100.0	0.3	0.4	16.7	37.1	45.4				
Lumber and timber products.....	100.0	8.9	20.1	16.2	18.7	36.2				
Petroleum, refining.....	100.0	0.5	14.8	49.7	20.0					
Printing and publishing.....	100.0	37.0	24.6	13.4	12.9		12.2			
Slaughtering and meat packing.....	100.0	0.3	0.2	1.9		2.8	3.4	22.7	68.6	
Smelting and refining, zinc.....	100.0			4.2	8.8	70.8	16.2			
All other industries.....	100.0	19.5	20.9	18.9	19.7	14.3	6.6			

Of the 3,435 establishments reported for all industries, 15.9 per cent employed no wage earners; 62.6 per cent, from 1 to 5; 12.8 per cent, from 6 to 20; and 4.7 per cent, from 21 to 50. The most numerous single group consists of the 2,152 establishments employing from 1 to 5 wage earners, and the next of the 546 establishments employing no wage earners. There were 26 establishments that employed over 250 wage earners each; 12 of these employed over 500 each, and 5 of them, 4 of which were engaged in slaughtering and meat packing, employed over 1,000 each.

Of the total number of wage earners, 43 per cent were in establishments employing over 250 wage earners each. The single group having the largest number of wage earners was the group comprising the establishments employing over 1,000 wage earners. This group employed 9,112 wage earners, or 20.6 per cent of the total. Three of the industries listed in this table but not in the preceding one, namely, steam-railroad repair shops, the cement industry, and the smelting and refining of zinc, are industries in which comparatively large establishments did most of the business, as appears

from the classification according to the number of wage earners.

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, page 22.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	2.4	8.5	84.7	4.4
Bread and other bakery products.....	1.9	17.6	72.6	7.9
Brick and tile.....	7.5	48.7	28.4	15.5
Butter, cheese, and condensed milk.....	2.6	3.7	87.1	6.5
Cars and general shop construction and repairs by steam-railroad companies.....	5.5	46.2	46.7	1.7
Cement.....	8.3	35.1	40.2	16.5
Flour-mill and gristmill products.....	1.5	2.2	93.5	2.8
Foundry and machine-shop products.....	7.8	25.4	57.5	9.2
Glass.....	3.6	53.6	36.5	6.4
Lumber and timber products.....	4.3	18.3	70.2	7.2
Petroleum, refining.....	4.3	5.5	83.4	6.8
Printing and publishing.....	12.6	30.0	41.6	15.9
Slaughtering and meat packing.....	1.1	3.7	92.3	2.9
Smelting and refining, zinc.....	2.7	10.8	84.5	2.0
All other industries.....	6.1	17.6	63.9	12.4

The table shows that, for all industries combined, 84.7 per cent of the total expense was incurred for materials, 10.9 per cent for services—that is, salaries and wages—and but 4.4 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries.

Engines and power.—The next 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 total primary power increased 113,700 horsepower, or 114.3 per cent, from 1904 to 1909, as compared with an increase of 31,199 horsepower, or 45.7 per cent, from 1899 to 1904.

Of the total increase in primary power during the decade, 114,089 horsepower, or 78.7 per cent, was in that generated by steam. The more general use of gas engines is shown, the number of such engines reported increasing from 347 in 1899 to 1,080 in 1909,

and the horsepower from 2,530 to 22,580. The figures show that the practice of renting power is on the increase. Rented electric power increased from 1,420 horsepower in 1899 to 11,809 in 1909. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly increasing, the horsepower of such motors increased from 2,006 in 1899 to 7,842 in 1904 and 35,112 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 ¹
Primary power, total	4,036	1,745	1,838	213,141	99,441	68,242	100.0	100.0	100.0
Owned.....	2,433	1,745	1,838	200,579	96,601	66,659	94.1	97.1	97.7
Steam.....	1,244	1,098	1,301	169,607	83,039	55,518	70.6	83.5	81.4
Gas.....	1,080	510	347	22,580	6,923	2,530	10.6	7.0	3.7
Water wheels.....	89	110	100	7,484	6,200	7,521	3.5	6.3	11.0
Water motors.....	20	27	(?)	222	254	(?)	0.1	0.3	(?)
Other.....				686	95	1,090	0.3	0.1	1.6
Rented.....	1,603	(?)	(?)	12,562	2,840	1,583	5.9	2.9	2.3
Electric.....	1,603	(?)	(?)	11,800	2,484	1,420	5.5	2.5	2.1
Other.....				753	356	163	0.4	0.4	0.2
Electric motors	3,384	379	105	46,921	10,326	3,426	100.0	100.0	100.0
Run by current generated by establishment.....	1,781	379	105	35,112	7,842	2,006	74.8	75.9	58.6
Run by rented power.....	1,603	(?)	(?)	11,809	2,484	1,420	25.2	24.1	41.4

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

Fuel.—Closely related to the 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).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries ¹	38,472	959,771	22,737	1,240,959	35,789,687
Bread and other bakery products.....	348	2,923	22	220	147,342
Brick and tile.....		45,800	90	35,468	6,425,747
Butter, cheese, and condensed milk.....		9,335		1,883	118,413
Cars and general shop construction and repairs by steam-railroad companies.....	120	283,122	412	35,953	473,472
Cement.....	1,786	2,000			204,129
Flour mill and gristmill products.....	5,655	121,324	9	101,832	918,260
Foundry and machine-shop products.....	304	9,631	12,477	6,391	143,341
Glass.....				1,020	2,289,780
Ice, manufactured.....	4,721	57,443	125	15,208	1,366,227
Lumber and timber products.....	98	3,800		103	21,575
Petroleum, refining.....				68,426	1,414,995
Printing and publishing.....	93	3,405	6	1,138	71,269
Salt.....		23,030			47,885
Slaughtering and meat packing.....		203,730			517,451
Smelting and refining, zinc.....	25,318	94,512	7,462	41,460	7,056,571
All other industries.....	29	99,611	2,134	162,392	685,298

¹ In addition there were 6,248 cords of wood reported, of which 3,716 cords were used in the "Bread and other bakery products" industry. There were also 1,308 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 seven important industries in Kansas are here presented.

Slaughtering and meat packing.—The following tabular statement gives the quantity and cost of the different materials used and the quantity and value of the various products of the slaughtering and meat-packing establishments of the state at the censuses of 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	1909	1904 ¹	1899
Materials used, total cost.....	\$147,645,900	\$85,145,905	\$67,908,960
Beeves slaughtered:			
Number.....	1,362,572	1,019,553	927,389
Cost.....	\$63,452,976	\$38,106,588	\$38,165,053
Calves slaughtered:			
Number.....	209,357	92,751	36,720
Cost.....	\$2,202,053	\$732,227	\$294,454
Sheep slaughtered:			
Number.....	1,136,027	771,818	636,832
Cost.....	\$5,186,825	\$2,826,354	\$2,297,746
Hogs slaughtered:			
Number.....	4,191,927	3,089,611	2,840,648
Cost.....	\$57,042,048	\$33,696,168	\$23,530,278
Dressed meat purchased.....	4,695,324	5,013,185	683,879
Fuel and rent of power.....	764,087	667,683	338,767
All other materials.....	14,301,177	4,103,700	2,598,783
Products, total value.....	\$105,360,516	\$96,375,639	\$77,411,883
Beef, fresh:			
Pounds.....	686,615,803	509,978,750	451,975,433
Value.....	\$52,129,824	\$30,631,565	\$31,039,090
Beef, salted or cured:			
Pounds.....	7,318,000	11,144,301	8,067,600
Value.....	\$401,880	\$473,901	\$540,990
Veal, fresh:			
Pounds.....	25,731,826	9,737,824	3,869,293
Value.....	\$2,343,974	\$647,788	\$282,081
Mutton, fresh:			
Pounds.....	43,884,755	30,246,603	24,369,545
Value.....	\$4,448,000	\$2,167,136	\$1,894,220
Pork, fresh:			
Pounds.....	150,199,802	81,016,571	86,242,483
Value.....	\$13,767,043	\$6,782,159	\$5,069,007
Pork, salted or cured:			
Pounds.....	304,098,556	303,954,794	275,366,897
Value.....	\$40,924,190	\$27,763,228	\$19,411,940
Sausages, fresh or cured.....	\$2,863,461	\$1,814,777	\$1,469,400
All other fresh meat:			
Pounds.....	8,465,481	5,343,167	6,489,044
Value.....	\$583,181	\$200,693	\$412,267
Canned goods:			
Pounds.....	17,891,713	(2)	14,034,995
Value.....	\$1,879,568	\$2,153,360	\$1,341,215
Lard:			
Pounds.....	148,408,252	132,557,007	116,093,884
Value.....	\$10,748,155	\$9,591,473	\$9,225,499
Tallow and oleo stook:			
Pounds.....	21,794,761	(2)	(2)
Value.....	\$1,659,288	(2)	(2)
Oleo oil:			
Gallons.....	3,590,372	1,611,428	1,928,813
Value.....	\$2,996,210	\$869,645	\$1,204,905
Oleo margarine:			
Pounds.....	9,094,584	(2)	(2)
Value.....	\$1,187,779	(2)	(2)
Stearine:			
Pounds.....	7,528,030	(2)	(2)
Value.....	\$1,043,574	(2)	(2)
Fertilizers and fertilizer materials:			
Tons.....	62,515	22,721	26,118
Value.....	\$1,383,390	\$538,174	\$504,080
Hides:			
Number.....	1,440,584	1,063,512	909,732
Pounds.....	79,719,102	58,853,924	50,421,335
Value.....	\$10,904,415	\$5,828,092	\$5,550,195
Feet:			
Number.....	1,117,653	751,595	(2)
Value.....	\$1,334,782	\$729,496	(2)
All other products, including custom or contract work.....	\$8,084,512	\$7,313,192	\$2,469,112

¹ Excluding statistics for two establishments, to avoid disclosure of individual operations.
² Figures not available.

There were 343,019, or 33.6 per cent, more beeves slaughtered in 1909 than in 1904; 116,606, or 125.7

per cent, more calves; 364,209, or 47.2 per cent, more sheep; and 1,102,316, or 35.7 per cent, more hogs. The average cost per head for each was higher in 1909 than in 1904. The amount of beef sold fresh increased 176,637,053 pounds, or 34.6 per cent, from 1904 to 1909, as compared with 58,003,317 pounds, or 12.8 per cent, from 1899 to 1904. The amount of pork sold fresh increased 69,183,231 pounds, or 85.4 per cent, from 1904 to 1909, but decreased 5,225,912 pounds, or 6.1 per cent, from 1899 to 1904, while the amount of salt pork and cured pork increased 61,043,762 pounds, or 20.1 per cent, from 1904 to 1909, as compared with 28,587,897 pounds, or 10.4 per cent, from 1899 to 1904. Mutton and veal also show large increases both in quantity and value from 1904 to 1909.

Flour-mill and gristmill products.—In the value of the products of its flour mills and gristmills Kansas advanced from tenth place in 1899 to third place in 1904 and 1909. In both 1909 and 1904 the state ranked second in the quantity and value of wheat flour produced, Minnesota ranking first. The rapid development of the industry in the state is shown in the following tabular statement, which gives the quantity and value of the different products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$68,476,410	\$42,034,019	\$21,328,747
Wheat flour:			
White—			
Barrels.....	10,858,060	7,609,605	5,008,764
Value.....	\$52,457,409	\$32,532,016	\$15,015,978
Graham—			
Barrels.....	28,784	23,810	(1)
Value.....	\$132,504	\$95,340	(1)
Corn meal and corn flour:			
Pounds.....	576,941	605,413	1,131,395
Value.....	\$1,767,903	\$1,292,243	\$1,574,810
Rye flour:			
Barrels.....	5,745	14,604	17,041
Value.....	\$25,038	\$54,900	\$44,720
Buckwheat flour:			
Pounds.....	407,855	770,982	706,019
Value.....	\$11,768	\$21,478	\$26,245
Barley meal:			
Pounds.....	43,000	480,000	10,800
Value.....	\$626	\$3,840	\$134
Hominy and grits:			
Pounds.....	22,900,795	9,582,080	4,671,000
Value.....	\$332,836	\$118,146	\$37,904
Feed:			
Tons.....	239,392	179,451	251,809
Value.....	\$5,093,072	\$3,196,104	\$3,178,466
Offal:			
Tons.....	381,554	323,642	175,131
Value.....	\$7,753,222	\$4,682,886	\$1,440,861
All other products.....	\$300,532	\$37,057	\$9,590

¹ Not reported separately.

Of the total value of products reported for this industry in 1909, the value of white flour, amounting to \$52,457,409, formed 76.6 per cent, and the value of offal, the principal part of which is the by-product in the manufacture of wheat flour, 11.3 per cent. The value of feed amounted to \$5,693,672, or 8.3 per cent of the total, and that of corn meal and corn flour to \$1,767,903, or 2.6 per cent of the total.

During the earlier period, 1899–1904, the output of white flour increased 2,600,841 barrels, or 51.9 per cent, and its value increased \$17,516,038, or 116.6

per cent. From 1904 to 1909 the output increased 3,249,355 barrels, or 42.7 per cent, while its value increased \$19,925,393, or 61.2 per cent. It may be seen, therefore, that the remarkable increases in value are due not altogether to the greater production of wheat flour in the state but partly to a general advance in prices. Oatmeal has more than doubled in quantity during the decade, while its value in 1909 was more than five times that reported for 1899. Feed, ground largely from corn, shows a slight decrease in quantity during the decade as a whole, but a considerable increase in value. Corn meal and corn flour shows a decrease in quantity for each of the five-year periods and a decrease in value for the first five-year period. Hominy and grits show the greatest percentage of increase for the decade of any of the grain products shown separately, both in quantity and in value.

In 1909 the mills were equipped with 4,066 pairs of rolls, 253 runs of stone, and nine attrition mills. There were eight establishments which manufactured barrels, and four establishments which manufactured sacks.

Printing and publishing.—While the newspaper and periodical branch of the printing and publishing industry in Kansas does not show much growth during the last decade when measured by the number of publications, there was a very decided gain when the industry is measured by the aggregate circulation per issue, as shown by the following table:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1900	1904	1899	1900	1904	1899
Total.....	736	727	692	2,703,594	1,613,758	1,144,320
Daily.....	73	65	53	250,050	155,208	105,348
Sunday.....	0	5	8	38,044	60,500	0
Semiweekly and triweekly	11	16	4	15,155	42,524	20,840
Weekly.....	605	600	563	1,403,032	1,015,144	653,507
Monthly.....	30	35	51	932,288	310,425	321,050
All other classes.....	6	6	13	15,025	20,795	43,575

¹ Included in circulation for daily.

The daily, weekly, and Sunday publications show increases in number from 1904 to 1909, while the semiweeklies and triweeklies and the monthlies show decreases. Semiweekly and triweekly publications constitute the only class, other than those included under the head of "All other classes," which shows a decrease in the aggregate circulation per issue since 1904. The aggregate circulation per issue for all newspapers and periodicals published was 2,703,594 in 1909, as compared with 1,613,758 in 1904, an increase of 1,089,836, or 67.5 per cent. The circulation of the daily publications increased 94,682, or 60.9 per cent; that of the Sunday publications, 27,544, or 45.5 per cent; that of the weeklies, 387,886, or 38.2 per cent; and that of the monthlies, 612,863, or 191.9 per cent, while the circulation of the semiweeklies and triweeklies decreased 27,369, or 64.4 per cent. It will be noted

that the weeklies have over one-half of the aggregate circulation per issue for the state.

The 78 daily and 6 Sunday papers were all printed in English. Of the weeklies, 7 were printed in German, 2 in German and English, 1 in Italian, and 1 in Swedish. One monthly was published in Russian and 1 quarterly in German.

Butter, cheese, and condensed milk.—The number of establishments engaged in the manufacture of butter, cheese, and condensed milk decreased from 171 in 1899 to 60 in 1909. This decrease is due to the discontinuance of cheese factories and also to a change in the manner of conducting the butter industry. Many of the small local creameries which were in operation in 1899 have been abandoned and central plants established in the large places. This decrease in the number of establishments, however, has been accompanied by large increases in the quantity and value of creamery products. The following table presents the statistics for the products of the industry for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$6,070,634	\$3,946,349	\$3,682,530
Butter:			
Packed solid—			
Pounds.....	10,650,510	8,728,210	15,209,548
Value.....	\$2,700,381	\$1,731,584	\$2,050,731
Prints and rolls—			
Pounds.....	8,053,058	7,759,915	2,806,935
Value.....	\$2,198,522	\$1,024,180	\$674,587
Cream sold:			
Pounds.....	520,802	168,302	920,138
Value.....	\$83,233	\$13,374	\$53,395
All other products ¹	\$980,498	\$577,211	\$373,817

¹ Includes value of cheese and condensed milk, to avoid disclosure of individual operations.

The value of all creamery products increased \$2,124,285, or 53.8 per cent, from 1904 to 1909, as compared with \$293,819, or 8 per cent, from 1899 to 1904. As in many other industries, the increases in value were much greater than those in quantity. From 1904 to 1909 butter packed solid increased 22.1 per cent in quantity and 61.7 per cent in value; butter in prints and rolls increased 3.8 per cent in quantity and 35.4 per cent in value; and cream sold increased more than 200 per cent in quantity and more than 500 per cent in value. A much larger quantity of butter was made into prints and rolls in 1909 and 1904 than in 1899. The value of butter in prints and rolls represented 44 per cent of the total value of the butter product in 1909, 48.4 per cent in 1904, and 17.8 per cent in 1899, while solid packed butter represented 56 per cent in 1909, 51.6 per cent in 1904, and 82.2 per cent in 1899. Under "All other products" are included not only the products of the one cheese factory and the one condensed-milk factory reporting, but also such items as casein, whey, buttermilk, and skim milk. In 1909 only 26 cream separators were reported, as compared with 133 in 1904 and 474 in 1899.

Petroleum, refining.—The following tabular statement shows the quantity of crude petroleum used and the quantities of the principal products for 1909:

MATERIAL OR PRODUCT.	1909
Crude petroleum used (barrels, 42 gallons)	4,063,270
Oils:	
Illuminating (barrels, 50 gallons)	704,845
Fuel (barrels, 50 gallons)	2,071,210
Lubricating (barrels, 50 gallons)	82,500
Greases, lubricating, etc. (barrels, 50 gallons)	1,945
Naphtha and gasoline (barrels, 50 gallons)	387,874
Paraffin wax (barrels, 50 gallons)	3,171

Kansas ranked tenth among the states in this industry in 1909. Establishments which purchase refined or partly refined petroleum products and mix or compound them with vegetable, animal, or mineral oils or other substances in order to produce a special composition, are not included in this classification. While in commerce crude petroleum is measured by barrels of 42 United States (Winchester) gallons, refined petroleum is measured by barrels of 50 United States gallons.

Glass.—This industry was not reported for the state at the census of 1899, but in 1904 products valued at \$958,720 were reported and Kansas held tenth place in this respect. In 1909 products to the value of \$2,036,573 were reported and the state had advanced to the eighth place.

The following tabular statement gives the value of the different classes of products, together with the principal forms of equipment, as reported at the censuses of 1909 and 1904:

PRODUCT OR EQUIPMENT.	1909	1904
Product, total value	\$2,036,573	\$958,720
Building glass	1,131,808	381,084
Pressed and blown glass	202,696	64,697
Bottles and jars	651,376	407,808
All other products	60,693	105,071
Equipment:		
Pot furnaces:		
Number	17	5
Pots, number	100	30
Tanks:		
Continuous—		
Number	19	7
Rings, number	276	64
Intermittent or day tanks—		
Number	6	.....
Capacity, tons	19	.....

In total value of products there was an increase during the five-year period amounting to \$1,077,853, or 112.4 per cent, due principally to the increase in the output of building glass. There were 4 establishments manufacturing building glass in 1904, with products valued at \$381,084, while in 1909 there were 11 establishments whose products were valued at \$1,131,808, an increase of \$750,724, or 197 per cent. In the output of building glass, as measured by value, the state rose from seventh place in 1904 to fourth place in 1909. The term "building glass" includes common window glass, plate glass, and all varieties of cast and rolled sheet glass, but in Kansas only com-

mon window glass was manufactured in 1909. Bottles and jars formed the most important class of products in 1904, and while the value of products increased from \$407,868 to \$651,376, or 59.7 per cent, in the five-year period, the proportion which it formed of the total for the industry fell from 42.5 per cent to 32 per cent. The value of pressed and blown glass increased \$137,999, or 213.3 per cent, from 1904 to 1909.

The cost of materials increased from \$355,093 in 1904 to \$671,744 in 1909. In the latter year 30,171 tons of glass sand, 4,248 tons of soda ash, 4,897 tons of salt cake, 5,672 tons of limestone, and 29,627 bushels of lime were used. The quantity of arsenic reported used was 43,190 pounds; manganese, 34,260 pounds; litharge and red lead, 52,600 pounds; and potash, or pearl ash, 26,256 pounds.

The number of furnaces reported in 1909 was 17, as compared with 5 in 1904. Nineteen continuous tank furnaces, with 276 rings, were reported in 1909, as compared with 7 tanks, with 64 rings, in 1904. There were no intermittent or day tank furnaces reported in 1904, but 6 tanks, with a capacity of 19 tons, were reported in 1909.

Cement.—There were 12 establishments in Kansas reported as engaged in the manufacture of cement in 1909, as compared with 4 in 1904. The following tabular statement presents the quantity and value of products as reported for the industry at the census of 1909:

PRODUCT.	1909
Total value	\$4,681,625
Portland cement:	
Barrels	5,334,299
Value	\$3,792,764
All other products, including natural cement	\$888,861

The total value of all products in 1909 was \$4,681,625. Portland cement, of which 5,334,299 barrels were reported, was the most important product, and the value, \$3,792,764, formed 81 per cent of the total value of products reported for the industry. The other products include lime, limestone, and crushed rock sold by the concerns engaged primarily in the manufacture of cement, and also the comparatively small quantity of natural cement manufactured, as well as the value of barrels and bags used as containers.

The kilns were nearly all of the rotary type, there being 82 of this kind, with a total daily capacity of 28,300 barrels, as compared with 6 of the vertical type, having a daily capacity of 600 barrels. Only one establishment used coal for fuel, all the others using natural gas or oil.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 138 such establishments in the state of Kansas in 1909, 11 of which were in Wichita, 7 in Topeka, 6 in Kansas City, and 24 others

in cities having a population of over 10,000. The following statement summarizes the statistics:

Number of establishments.....	138
Persons engaged in the industry.....	1,751
Proprietors and firm members.....	168
Salaried employees.....	93
Wage earners (average number).....	1,490
Primary horsepower.....	1,958
Capital.....	\$1,026,904
Expenses.....	1,105,239
Services.....	633,752
Materials.....	285,734
Miscellaneous.....	185,753
Amount received for work done.....	1,485,967

The most common form of ownership was the individual, with 96 establishments. The firm and corporate forms of ownership were represented by 34 and 8 establishments, respectively. Forty-eight establishments had receipts for the year's business of less than \$5,000; 73, receipts of \$5,000 but less than \$20,000; and 17, receipts of \$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.....	1,388	88.9	July.....	1,549	99.2
February.....	1,388	88.9	August.....	1,558	99.7
March.....	1,401	89.7	September.....	1,562	100.0
April.....	1,440	92.2	October.....	1,551	99.3
May.....	1,439	92.8	November.....	1,556	99.6
June.....	1,499	96.0	December.....	1,539	98.5

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

KIND.	Number of engines or motors.	Horse-power.
Primary power, total.....		1,958
Owned:		
Steam.....	107	1,525
Gas.....	27	250
Rented:		
Electric.....	21	107
Other.....		70
Electric motors:		
Run by current generated by establishment.....	5	43
Run by rented power.....	21	107

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

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	12,180
Oil.....	Barrels.....	1,566
Gas.....	1,000 feet.....	364,702

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries. The statistics for custom gristmills are presented in the following summary. There was one small custom sawmill reported, but the statistics for it are omitted, in order not to disclose individual operations.

Number of establishments.....	39
Persons engaged in the industry.....	170
Proprietors and firm members.....	161
Wage earners (average number).....	9
Primary horsepower.....	911
Capital.....	\$129,366
Expenses.....	152,091
Services.....	3,046
Materials.....	146,087
Miscellaneous.....	2,958
Value of products.....	180,117

¹ Includes estimate of all grain ground.

MANUFACTURES—KANSAS.

19

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.	Salaries employed.	Wage earners (average number).							
			Expressed in thousands.										
STATE—All industries	1909	3,435	54,649	3,571	6,863	44,215	213,141	\$156,090	\$7,351	\$25,004	\$258,884	\$325,104	\$66,220
	1904	2,475	42,057	2,766	3,721	35,570	99,441	88,680	3,692	18,883	156,510	198,245	41,735
	1899	2,299			3,612	27,119	68,242	58,458	3,123	12,802	120,738	154,009	33,271
Agricultural implements	1909	18	181	13	42	126	431	563	44	74	162	369	207
	1904	7	146	0	32	105	255	620	36	52	205	395	190
	1899	4	27	10	6	11	22	20	1	2	11	18	7
Artificial stone	1909	207	584	258	10	307	349	413	15	102	297	688	391
	1904	23	87	42	5	40	47	63	2	18	25	56	31
	1899												
Bread and other bakery products	1909	435	1,488	508	80	900	598	1,306	51	483	1,089	3,433	1,444
	1904	268	974	310	38	626	318	752	37	304	1,005	1,862	857
	1899	174	609	187	42	380		325	16	130	518	979	461
Brick and tile	1909	55	1,978	28	131	1,810	9,827	3,030	140	911	531	2,336	1,805
	1904	65	1,974	65	109	1,800	7,240	3,473	117	841	444	1,907	1,463
	1899	57	1,021	67	49	905	2,274	755	29	314	156	724	568
Butter, cheese, and condensed milk	1909	60	598	55	105	348	2,544	1,776	151	211	4,951	6,071	1,120
	1904	90	604	88	102	414	2,531	1,993	75	188	3,256	3,946	690
	1899	171	598	106	97	365	3,302	1,140	41	167	3,062	3,653	591
Carriages and wagons and materials	1909	46	322	59	17	246	266	439	15	134	245	530	285
	1904	38	270	53	12	214	96	324	9	105	117	321	204
	1899	31			18	161		173	10	68	90	243	144
Cars and general shop construction and repairs by steam-railroad companies	1909	23	8,319		633	7,686	10,390	9,607	614	5,173	5,219	11,193	5,974
	1904	23	6,449		263	6,186	2,748	3,612	230	3,030	7,241	11,521	4,280
	1899	37	5,707		175	5,532	2,840	2,932	168	3,476	3,071	6,817	3,746
Cement	1909	12	2,365		222	2,143	61,754	16,387	320	1,359	1,656	4,682	3,126
	1904	4	776		62	714	5,750	3,616	83	402	410	1,475	1,056
	1899												
Clothing, men's, including shirts	1909	16	480	12	60	408	130	354	46	118	332	620	297
	1904	9	264	5	27	232	29	219	10	67	240	400	160
	1899	7	13	11	13	189		135	7	33	78	140	62
Confectionery	1909	27	198	31	32	135	84	275	20	52	172	328	156
	1904	18	93	10	10	64	30	95	7	21	73	144	71
	1899	7			11	68		30	16	19	120	185	65
Cooperage and wooden goods, not elsewhere specified	1909	12	185	11	12	162	447	385	13	78	333	504	171
	1904	12	240	21	12	207	300	278	10	95	373	530	193
	1899	9			8	222		180	5	95	189	399	210
Copper, tin, and sheet-iron products	1909	76	348	97	29	222	98	381	21	151	412	749	337
	1904	20	140	31	13	96	44	126	8	60	126	293	137
	1899	6			35			28		18	34	64	30
Flour-mill and gristmill products	1909	501	3,778	568	850	2,390	46,218	22,741	946	1,448	60,430	68,476	8,037
	1904	354	2,713	420	453	1,831	34,655	13,817	452	1,021	36,895	42,034	5,139
	1899	357			278	1,405	27,691	8,016	266	726	18,131	21,320	3,108
Foundry and machine-shop products	1909	137	2,605	107	348	2,110	4,364	6,791	413	1,343	3,634	5,919	2,885
	1904	90	1,820	107	140	1,567	2,348	2,806	153	929	1,614	3,489	1,875
	1899	101			118	1,276		2,484	133	731	1,480	2,852	1,363
Furniture and refrigerators	1909	17	415	10	48	357	960	527	53	215	236	616	380
	1904	12	298	11	22	265	636	306	25	111	181	426	245
	1899	10	260	10	30	220	506	243	22	73	142	302	160
Gas, illuminating and heating	1909	12	50	8	6	36	275	257	6	22	57	208	151
	1904	22	291	10	63	218	1,727	2,022	45	95	221	523	302
	1899	17	135		50	85	154	1,415	26	49	107	325	218
Glass	1909	23	1,511	7	60	1,435	1,031	1,769	65	986	672	2,037	1,365
	1904	9	745		27	718	452	591	29	447	355	959	604
	1899												
Ice, manufactured	1909	86	789	45	151	593	14,636	4,299	129	380	342	1,460	1,118
	1904	44	337	33	67	237	5,569	1,373	55	145	141	585	444
	1899	19	152	18	20	114	2,142	425	13	55	56	196	140
Leather goods	1909	74	493	90	64	330	175	1,105	63	204	821	1,387	566
	1904	24	301	30	36	235	65	628	31	124	363	720	336
	1899	11			20	151		277	17	65	205	345	140
Lumber and timber products	1909	73	1,160	89	89	982	2,947	2,159	127	540	2,072	3,244	1,172
	1904	39	866	44	75	747	1,860	1,180	84	369	1,953	1,828	775
	1899	63			36	680		602	26	245	679	1,124	445
Marble and stone work	1909	82	477	123	66	288	570	535	56	184	385	654	560
	1904	26	309	40	36	233	296	308	29	120	156	494	358
	1899												
Mattresses and spring beds	1909	14	209	17	34	158	297	345	35	70	218	462	244
	1904	12	154	13	17	124	245	187	12	48	121	270	149
	1899	8			10	70		55	6	28	90	147	57

¹ Not reported separately.
² Excluding statistics for two establishments, to avoid disclosure of individual operations.
³ Excluding statistics for one establishment, to avoid disclosure of individual operations.
⁴ Figures not comparable.

MANUFACTURES—KANSAS.

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

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Census.	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.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
STATE—Continued.													
Paint and varnish.....	1909 1904 1899	6 3	127 15	2 2	21 2	104 11	621 51	\$848 28	\$27 2	\$56 5	\$415 36	\$580 60	\$165 24
Paper and wood pulp.....	1909 1904 1899	3 3	109 105	1 6	11 8	97 91	920 1,078	330 132	14 8	46 40	120 78	218 202	98 124
Patent medicines and compounds and druggists' preparations.	1909 1904 1899	30 31 26	150 108	27 35	60 18 45	63 55 72	96 16	348 157 61	77 16 12	34 10 19	245 71 42	619 280 135	374 215 93
Pottery, terra-cotta, and fire-clay products...	1909 1904 1899	4 4 3	250 146 26	..... .....	31 15 1	228 181 22	715 560 112	455 235 20	40 18 1	135 50 12	74 37 6	378 181 29	304 144 23
Printing and publishing.....	1909 1904 1899	798 * 724 605	4,903 3,744	879 849	792 419 212	3,232 2,470 2,101	4,868 1,556	6,053 3,577 2,528	693 319 146	1,050 1,002 818	2,200 1,055 797	7,009 4,130 3,028	4,710 3,084 2,231
Salt.....	1909 1904 1899	10 10 8	505 500 484	3 2 2	51 38 32	451 520 450	3,387 2,314 2,130	2,544 1,036 901	80 45 36	188 230 108	519 534 328	1,100 1,123 717	587 589 389
Slaughtering and meat packing.....	1909 1904 1899	35 * 22 14	12,265 10,394 9,067	23 19 9	1,651 983 1,841	10,591 9,392 8,117	24,500 13,738 11,212	37,800 25,332 10,480	1,797 984 1,032	5,802 4,836 3,575	147,046 85,140 67,900	105,361 98,376 77,412	17,715 11,230 9,503
Smelting and refining, zinc.....	1909 1904 1899	12 13 11	1,968 2,048 1,529	..... .....	147 141 40	1,821 2,507 1,487	5,298 5,739 2,300	9,057 10,003 5,219	280 247 61	1,136 1,570 706	8,877 8,440 4,679	10,857 10,999 5,790	1,980 2,550 1,111
Tobacco manufactures.....	1909 1904 1899	141 * 172 109	601 823 700	160 205 191	26 23 14	415 594 495	30 17 18	383 512 408	24 17 10	180 238 191	292 341 284	692 910 790	420 569 566
Wall plaster.....	1909 1904 * 1899	6 8	191 150	..... .....	21 27	170 132	1,030 950	656 620	23 22	118 66	83 79	287 272	204 193
All other industries.....	1909 1904 1899	375 276 314	5,050 3,459	340 287	836 430 446	3,883 2,772 2,388	13,216 0,180	21,293 7,060 14,534	944 466 423	2,192 1,235 1,010	13,878 6,030 18,466	21,732 9,534 26,200	7,854 3,504 7,810

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

KANSAS CITY—All industries.....	1909 1904 1899	165 100 114	14,333 11,781	142 82	1,897 1,150 2,063	12,294 10,528 9,483	31,885	\$42,817 27,773 18,236	\$2,136 1,216 1,911	\$7,027 5,440 4,259	\$144,390 83,883 68,876	\$164,081 96,473 80,023	\$19,691 12,590 11,148
Bread and other bakery products.....	1909 1904 1899	33 14 19	105 62 58	40 15 19	..... .....	65 47 33	23	76 42 20	..... .....	30 31 16	143 84 55	245 147 105	102 63 50
Carriages and wagons and materials.....	1909 1904 1899	8 5 4	81 31	11 8	9	61 23 17	138	166 22 17	0	38 12 10	105 21 17	183 51 35	78 30 18
Cooperage and wooden goods, not elsewhere specified.	1909 1904 1899	4 3 4	135 157 209	2 4 3	11 7 8	122 146 198	390	348 197 147	12 7 5	65 64 87	209 243 155	443 351 340	144 108 104
Foundry and machine-shop products.....	1909 1904 1899	17 6 * 6	705 474 315	11 4 4	121 28 21	573 442 200	1,345	2,331 684 688	125 31 20	347 285 223	1,095 540 415	1,881 1,087 776	786 541 361
Printing and publishing.....	1909 1904 1899	18 13 10	103 79 67	14 12 18	17 6 6	72 61 43	100	117 92 40	16 4	40 28 19	58 33 23	174 101 77	116 68 54
Slaughtering and meat packing.....	1909 1904 1899	14 11 8	10,656 9,038 9,487	5 7 3	1,390 873 1,771	9,261 8,758 7,713	21,589	32,667 25,324 15,115	1,527 808 1,579	5,107 4,537 3,382	133,554 79,708 65,083	148,459 89,976 73,788	14,905 10,258 8,705
All other industries.....	1909 1904 1899	71 48 57	2,548 1,320	59 32	340 236 251	2,140 1,062 1,189	8,300	7,112 4,412 2,203	449 304 302	1,322 492 522	9,136 3,248 3,127	12,666 4,760 4,893	3,560 1,512 1,706

1 Figures can not be shown without disclosing individual operations.

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

3 Not reported separately.

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

MANUFACTURES—KANSAS.

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.	Salaries employees.	Wage earners (average number).							
Expressed in thousands.													
WICHITA—All industries.....	1909	225	3,699	198	718	2,783	6,908	\$9,849	\$745	\$1,466	\$16,985	\$22,564	\$5,579
	1904	110	1,599	110	227	1,262		4,135	239	607	5,427	7,390	1,963
	1899	103			121	863		1,665	98	370	2,355	3,320	974
Bread and other bakery products.....	1909	20	238	31	14	193	158	320	16	88	384	624	240
	1904	9	120	10	16	100		110	21	30	100	252	162
	1899	10	47	11	4	32		17	1	8	65	101	36
Flour-mill and gristmill products.....	1909	15	181	17	40	115	1,838	1,075	58	73	3,388	3,801	413
	1904	10	80	11	10	50		313	22	34	1,177	1,347	170
	1899	9			10	33		143	7	17	381	440	59
Foundry and machine-shop products.....	1909	15	183	13	34	136	240	577	34	91	160	402	242
	1904	14	60	3	0	48		114	6	22	18	60	51
	1899	10			6	60		90	3	28	48	120	72
Ice, manufactured.....	1909	5	96	1	18	77	1,140	502	23	51	49	212	166
	1904	3	43		16	27		176	18	20	14	74	60
	1899												
Leather goods.....	1909	5	57	4	12	41	14	138	13	24	120	205	85
	1904	3	62	4	5	53		91	7	32	61	161	100
	1899	3			15	64		114	12	33	98	164	66
Lumber and timber products.....	1909	8	247	5	30	212	300	766	57	106	785	1,124	349
	1904	3	150	2	24	130		448	35	67	422	617	165
	1899	3	43	3	1	39		45	2	18	42	70	37
Patent medicines and compounds and druggists' preparations.....	1909	16	50	9	48	32	15	191	05	10	165	456	201
	1904	7	38	7	10	21		44	11	7	31	142	111
	1899												
Printing and publishing.....	1909	39	544	34	105	345	273	763	140	185	297	663	666
	1904	25	247	24	29	194		296	20	111	121	425	304
	1899	21			10	211		177	14	101	80	280	200
All other industries.....	1909	96	2,004	84	348	1,632	2,843	5,448	333	620	11,040	14,767	3,127
	1904	46	781	40	90	633		2,537	98	278	3,453	4,273	820
	1899	47			69	424		1,079	60	174	1,041	2,145	604

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

Atchison.....	1909	68	1,044	67	153	824	2,720	\$2,183	\$147	\$468	\$3,137	\$4,405	\$1,268
	1904	60	901	61	102	798		1,873	79	308	2,056	3,829	873
	1899	39			41	583		989	30	280	1,502	2,093	591
Coffeyville.....	1909	47	1,240	31	140	1,060	3,375	3,740	153	603	3,401	4,762	1,261
	1904												
	1899												
Fort Scott.....	1909	36	359	34	59	266	657	626	49	130	670	1,010	340
	1904	46	333	51	38	244		660	30	127	463	780	323
	1899	32			29	389		578	26	108	379	714	335
Hutchinson.....	1909	67	876	68	141	667	3,306	3,270	140	320	2,673	3,614	941
	1904	44	633	44	79	510		1,363	63	266	1,387	2,031	644
	1899	42			46	536		1,020	35	210	1,038	1,541	503
Independence.....	1909	31	328	30	46	252	945	793	42	148	392	757	365
	1904												
	1899												
Lawrence.....	1909	49	535	45	68	422	2,540	814	62	195	1,155	1,653	498
	1904	39	477	37	38	402		730	30	172	317	668	341
	1899	30			44	461		697	30	158	892	1,239	347
Leavenworth.....	1909	79	1,644	77	256	1,311	3,005	3,111	205	702	3,198	4,876	1,678
	1904	89	1,619	88	210	1,321		2,961	201	600	2,588	4,152	1,564
	1899	89			194	1,141		2,705	177	520	1,981	3,251	1,270
Parsons.....	1909	25	1,200	29	41	1,130	2,093	1,530	49	722	735	1,026	891
	1904												
	1899												
Pittsburg.....	1909	49	1,152	50	130	972	2,268	1,786	154	633	724	1,817	1,093
	1904	34	1,045	32	94	919		1,306	95	522	646	1,494	848
	1899	33			28	882		750	27	423	911	1,434	523
Topeka.....	1909	202	5,230	202	784	4,244	9,435	10,748	755	2,521	12,259	17,821	5,562
	1904	154	4,513	174	386	3,953		6,597	385	2,140	10,233	14,449	4,216
	1899	145			280	2,874		3,304	215	1,705	5,278	8,357	3,079

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.
² Figures can not be shown without disclosing individual operations.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁴ 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.
⁵ Figures not available.

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.			Total.	10 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	3,435	54,649	3,671	1,935	3,970	968	44,215	Oct 46,676	Jan 41,337	(1)	(1)	(1)	(1)	(1)	213,141		
2 Agricultural implements.....	18	181	13	16	17	9	126	Se 141	Jy 110	108	108				434		
3 Artificial stone.....	207	584	258	14	3	2	307	My 414	Ja 108	416	413		3		349		
4 Bluing.....	3	5	2				3	Ja ² 3	Jy ² 3	3	1		2				
5 Bread and other bakery products.....	435	1,488	508	12	18	60	900	De 957	Mh ³ 843	986	806		170	9	1		
6 Brick and tile.....	55	1,978	28	70	41	14	1,810	Je 2,175	Ja 1,143	1,953	1,951		2		9,827		
7 Brooms.....	45	179	44	6	12	1	116	De 151	My 86	163	142		15	6	276		
8 Butter, cheese, and condensed milk.....	60	568	55	60	60	45	348	Au 433	Ja 270	331	289		41	1	2,545		
9 Canning and preserving.....	8	149	4	6	17	2	120	Au 274	Ap ³ 49	186	81		72	17	170		
10 Carpets, rag.....	10	58	12				45	Je ³ 50	Ja ² 30	43	30		4		41		
11 Carriages and wagons and materials.....	46	322	59	6	6	5	246	Je 269	De 218	223	221		1		266		
12 Cars and general shop construction and repairs by steam-railroad companies.....	23	8,310		253	371	9	7,686	Au 8,191	Ja 7,219	8,207	8,206			1	10,390		
13 Cars and general shop construction and repairs by street-railroad companies.....	5	49		2	1		46	De 53	Au 40	53	53				80		
14 Cement.....	12	2,365		46	143	33	2,143	Au 2,346	Fe 1,913	2,209	2,209				61,754		
15 Clothing, men's, including shirts.....	16	480	12	17	28	16	408	No 441	Ja 372	432	48		384		130		
16 Confectionery.....	27	198	31	5	19	8	135	No 171	Mh 116	163	60		92	2	84		
17 Cooperage and wooden goods, not elsewhere specified.....	12	185	11	5	4	3	162	Au 202	No 129	163	163				447		
18 Copper, tin, and sheet-iron products.....	76	348	97	10	8	11	222	Au 254	Ja 189	222	220			2	98		
19 Cutlery and tools, not elsewhere specified.....	3	6	3				2	Ja ³ 2	Je ³ 1	3	3				10		
20 Dairymen's, poulterers', and apjarists' supplies.....	5	23	4	3	1	1	14	Ja 24	Au 6	12	12				74		
21 Flour-mill and gristmill products.....	501	3,778	508	305	461	84	2,380	Oct 2,604	Je 2,024	2,522	2,477		24	21	46,218		
22 Foundry and machine-shop products.....	137	2,605	107	132	211	45	2,110	De 2,256	Ja 2,020	2,345	2,345				4,364		
23 Furniture and refrigerators.....	17	415	10	20	22	6	357	Je 379	Ja 321	382	378		2	2	980		
24 Gas and electric fixtures and lamps and reflectors.....	3	74		5	11	7	51	Je 66	Jy ³ 40	66	50		16		39		
25 Gas, illuminating and heating.....	12	50	8	4	1	1	36	Ap 38	Au ³ 35	37	37				275		
26 Glass.....	23	1,511	7	37	19	13	1,435	De 2,033	Jy 433	2,317	2,227		76	14	1,631		
27 Hand stamps and stencils and brands.....	3	10	4				5	Ja ² 5	Je ² 5	5	5				1		
28 Ice, manufactured.....	86	789	45	98	33	20	593	Au 920	Ja 350	491	487		2	2	14,636		
29 Jewelry.....	3	5	3				2	Ja ² 2	Je ² 2	2	2				4		
30 Leather goods.....	74	493	90	23	33	8	339	My 348	Ja 324	343	324		12	7	173		
31 Lumber and timber products.....	73	1,160	89	32	47	10	982	Au 1,032	Fe 891	1,010	989		2	25	2,947		
32 Marble and stone work.....	82	477	123	14	48	4	288	Oct 326	Ja 227	333	332			1	576		
33 Mattresses and spring beds.....	14	209	17	11	19	4	158	Au 164	Ja 148	154	128		20		207		
34 Paint and varnish.....	6	127	2	8	9	4	104	My 151	Au 43	43	40		3		621		
35 Paper and wood pulp.....	3	109	1	6	3	2	97	Fe 133	Au 42	100	87		10		920		
36 Patent medicines and compounds and druggists' preparations.....	39	159	27	22	29	18	63	Mh 68	Au ³ 59	69	39		28	1	96		
37 Petroleum, refining.....	18	464		51	69	29	324	No 348	Ja 300	300	356		3	1	1,150		
38 Photo-engraving.....	3	9	3				5	Ja ² 5	Je ² 5	5	4		1		4		
39 Pottery, terra-cotta, and fire-clay products.....	4	259		13	14	4	228	Se 269	Ja 155	251	250			1	715		
40 Printing and publishing.....	798	4,903	879	191	351	250	3,232	De 3,413	Jy 3,135	3,428	2,209		1,072	40	11		
41 Salt.....	10	505	3	19	25	7	451	Oct 400	Ja 387	462	443		10		3,387		
42 Signs and advertising novelties.....	4	25	6	1	2	2	14	Je 17	My ³ 13	16	10		6		13		
43 Slaughtering and meat packing.....	35	12,265	23	134	1,384	133	10,501	No 11,471	Mh 9,788	11,059	10,230		818	10	1		
44 Smelting and refining, zinc.....	12	1,908		48	83	16	1,821	De 2,023	Je 1,627	2,023	2,023				5,298		
45 Tobacco manufactures.....	141	601	160	5	17	4	415	Oct 444	Ja 372	430	246		186	4	30		
46 Wall plaster.....	6	191		5	12	4	170	Je 208	Fe 128	140	140				1,030		
47 All other industries.....	262	4,003	255	213	317	82	3,136								11,351		

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 throughout the year.

³ Same number reported for one or more other months.

⁴ All other industries embrace—

Automobiles, including bodies and parts.....	4	Chemicals.....	1	Glass, cutting, staining, and ornamenting.....	1
Awning, tents, and sails.....	8	Clothing, women's.....	2	Glu.....	1
Bags, other than paper.....	1	Coffee and spice, roasting and grinding.....	2	Grease and tallow.....	1
Baking powders and yeast.....	3	Coffins, burial cases, and undertakers' goods.....	1	Hosiery and knit goods.....	1
Baskets, and rattan and willow ware.....	3	Cotton goods, including cotton small wares.....	1	House-furnishing goods, not elsewhere specified.....	1
Beet sugar.....	1	Electrical machinery, apparatus, and supplies.....	1	Instruments, professional and scientific.....	1
Blackening and cleansing and polishing preparations.....	2	Explosives.....	2	Lard, refined, not made in slaughtering and meat-packing establishments.....	1
Boxes, cigar.....	1	Fertilizers.....	1	Lime.....	3
Boxes, fancy and paper.....	2	Flavoring extracts.....	2	Liquors, malt.....	1
Brass and bronze products.....	2	Food preparations.....	46	Looking-glass and picture frames.....	2
Cars, steam-railroad, not including operations of railroad companies.....	3	Furnishing goods, men's.....	6	Millinery and lace goods.....	2
		Furs, dressed.....	1		

MANUFACTURES—KANSAS.

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	\$156,090,067	\$305,711,359	\$3,158,224	\$4,103,124	\$25,003,060	\$4,080,748	\$254,202,958	\$384,503	\$1,171,428	\$310,603	\$11,705,751	\$325,104,002	\$66,220,296
2	562,944	322,395	21,414	23,073	73,796	7,286	154,634	580	5,832	400	35,371	368,779	206,859
3	412,789	503,783	12,432	2,450	101,602	3,512	293,317	4,237	3,001	1,000	22,172	687,529	390,700
4	3,875	6,150	.....	.....	300	18	5,140	241	30	.....	331	5,500	3,342
5	1,306,092	2,740,366	15,518	35,537	482,756	72,485	1,010,588	70,404	11,991	1,254	133,833	3,432,604	1,443,491
6	3,930,102	1,871,108	101,820	38,539	910,734	447,827	82,078	2,080	18,587	17,642	250,001	2,336,438	1,805,633
7	189,386	250,041	3,918	8,422	57,917	2,750	162,384	1,040	1,575	640	16,495	315,575	150,441
8	1,775,918	5,681,301	83,554	67,000	211,368	43,756	4,900,757	7,592	18,501	250	342,514	6,070,634	1,120,121
9	282,386	286,034	7,425	14,480	46,243	3,830	181,356	420	1,421	.....	36,859	285,532	100,340
10	18,856	30,169	.....	520	21,404	1,204	2,744	1,450	139	.....	2,708	42,610	38,668
11	438,815	447,561	6,900	7,884	133,863	5,496	239,338	5,605	4,319	375	43,781	530,483	285,649
12	9,606,828	11,193,106	321,358	292,547	5,173,019	200,081	5,010,010	.....	68,687	.....	128,395	11,193,106	5,974,006
13	40,775	70,442	2,370	720	33,024	1,313	30,276	.....	516	580	1,643	70,442	38,853
14	16,386,566	3,875,492	165,424	154,382	1,358,926	701,377	854,868	1,500	50,728	.....	588,287	4,681,625	3,125,380
15	353,990	550,381	20,472	25,090	117,855	5,717	326,408	6,770	10,949	6,542	30,497	628,887	290,672
16	274,643	272,798	6,534	13,334	52,123	4,479	167,612	0,445	2,009	.....	20,202	327,748	155,657
17	385,049	448,784	6,350	6,372	78,414	2,157	330,481	3,600	2,479	.....	18,871	503,800	171,171
18	381,217	627,272	10,340	10,807	150,750	2,864	409,475	10,241	2,487	.....	30,248	748,737	330,398
19	3,441	3,733	.....	390	1,248	70	1,005	180	81	.....	153	5,680	3,005
20	52,313	39,185	2,500	840	7,443	1,118	21,116	1,380	375	.....	3,800	44,856	22,621
21	22,740,766	64,631,564	447,288	498,780	1,448,022	502,519	59,630,314	14,621	103,029	38,306	1,582,625	68,470,410	8,037,577
22	6,791,130	5,276,242	222,362	191,010	1,342,571	140,228	2,893,969	10,650	39,558	50,230	376,658	5,919,379	2,885,182
23	527,350	554,020	35,841	17,398	215,907	9,495	220,090	1,010	6,444	.....	42,735	610,218	380,633
24	115,348	155,114	6,840	11,100	24,700	777	83,800	1,345	847	.....	26,945	177,902	93,265
25	257,064	88,411	4,770	1,080	22,969	40,888	15,761	.....	1,046	576	2,221	207,586	150,937
26	1,769,326	1,840,346	44,153	21,211	985,189	85,523	586,221	2,400	13,093	.....	101,556	2,030,573	1,364,829
27	2,700	6,991	1,200	.....	2,620	120	2,094	600	40	.....	317	10,067	7,853
28	4,208,797	1,000,309	102,343	20,418	379,704	248,224	93,514	203	34,704	1,725	173,474	1,450,842	1,118,104
29	2,170	2,779	.....	.....	1,386	60	506	480	25	.....	322	4,850	4,284
30	1,104,870	1,190,659	31,470	31,510	203,844	6,083	814,743	22,323	9,889	61	70,140	1,380,824	565,998
31	2,159,007	2,951,532	71,608	55,725	539,622	19,701	2,052,065	6,395	16,370	649	189,337	3,244,265	1,172,499
32	534,824	708,512	14,967	41,490	183,698	8,906	376,516	9,385	4,658	3,216	65,667	954,266	568,844
33	344,951	385,932	14,300	21,104	78,690	4,302	214,131	2,250	2,689	.....	48,466	401,647	243,214
34	847,023	556,686	13,925	13,140	55,941	3,521	411,104	1,686	1,034	.....	55,435	579,674	165,619
35	329,513	219,375	10,698	3,712	46,430	13,697	107,300	.....	2,430	.....	36,299	217,982	97,576
36	347,732	488,144	25,675	51,194	33,615	2,044	242,929	5,559	2,807	1,300	122,951	618,730	373,757
37	5,020,705	3,379,341	83,602	61,639	186,463	111,703	2,704,917	264	20,598	.....	210,695	4,077,225	1,260,515
38	6,145	4,002	.....	208	1,612	293	1,020	414	33	.....	422	8,875	7,562
39	454,724	297,728	27,523	21,320	135,018	33,202	41,151	.....	2,280	.....	37,234	378,175	303,822
40	6,053,359	5,504,868	279,599	413,161	1,649,580	82,618	2,207,188	109,795	39,706	109,428	613,763	7,008,865	4,710,059
41	2,544,199	926,008	49,940	30,366	188,123	170,092	340,102	.....	13,547	17,801	106,977	1,105,020	580,066
42	34,113	47,748	3,936	3,600	8,805	509	27,409	1,740	108	100	4,901	61,943	34,385
43	37,869,081	159,989,169	319,343	1,477,714	5,862,083	764,087	140,881,903	2,175	415,956	10,077	4,255,831	165,360,516	17,714,526
44	9,957,062	10,502,869	171,713	108,135	1,135,922	607,962	8,269,536	.....	35,904	20,000	153,687	10,857,250	1,979,752
45	382,682	578,696	4,676	19,338	180,277	3,201	258,769	15,610	65,834	23	30,908	681,683	419,653
46	656,267	257,738	8,228	14,863	118,257	37,313	45,595	.....	2,648	.....	30,834	286,814	203,306
47	15,522,222	14,881,015	377,435	355,437	1,800,777	276,760	10,253,386	41,008	81,463	27,819	1,666,630	16,621,082	6,690,336

* All other industries embrace—Continued.

Mineral and soda waters.....	92	Paving materials.....	2	Vinegar and cider.....	9
Models and patterns, not including paper patterns.....	1	Scales and balances.....	2	Washing machines and clothes wringers.....	4
Musical instruments, pianos and organs and materials.....	1	Smelting and refining, lead.....	1	Wheelbarrows.....	1
Oil, cottonseed, and cake.....	1	Soap.....	6	Windmills.....	3
Oil, linseed.....	1	Stoves and furnaces, including gas and oil stoves.....	4	Wirework, including wire rope and cable.....	7
Optical goods.....	2	Sulphuric, nitric, and mixed acids.....	1	Wood preserving.....	1
Paper goods, not elsewhere specified.....	1	Surgical appliances and artificial limbs.....	4	Wood, turned and carved.....	2
Paper patterns.....	1	Toys and games.....	1	Woolen, worsted, and felt goods, and wool hats.....	2
		Upholstering materials.....	1		

MANUFACTURES : KENTUCKY

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 Kentucky 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 Kentucky, 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 Louisville and Covington. It also gives the same items for all industries combined for every city and town 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 indus-

tries. 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 different 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.—Kentucky, with a gross area of 40,598 square miles, of which 417 represent water surface, ranks thirty-sixth in size among the states and territories of continental United States. Its population in 1910 was 2,289,905, as compared with 2,147,174 in 1900 and 1,858,635 in 1890. It ranked fourteenth among the 49 states and territories as regards population in 1910 and twelfth in 1900. In 1910 the density of population for the entire state was 57 per square mile, the corresponding figure for 1900 being 53.4.

Louisville, with a population of 223,928, and Covington, with 53,270, are the only cities in the state having a population of over 50,000. There are, however, six other cities having a population of over 10,000. These eight cities—Covington, Frankfort, Henderson, Lexington, Louisville, Newport, Owensboro, and Paducah—contain 17.6 per cent of the total population of the state, and were credited with 59.8 per cent of the total value of its manufactures in 1909. Twenty-four and three-tenths per cent of the entire population of the state resided in 1910 in cities and incorporated towns having a population of 2,500 or over, as against 21.8 per cent in 1900.

The rapidly improving railway systems of the state, with the Mississippi, Ohio, Cumberland, and Tennessee Rivers, and a number of smaller navigable rivers, together furnish excellent transportation facilities for the greater part of the state.

Importance and growth of manufactures.—The value of the manufactured products of Kentucky has steadily increased at each census from 1849-50 to 1909. In 1849 the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to only \$21,710,000, while in 1909, exclusive of the products of the neighborhood and hand industries, it was more than ten times as great, amounting to \$223,754,000. During 1849 an average of 21,476 wage earners, representing 2.2 per cent of the total population, were engaged in manufactures, and in 1909 an average of 65,400 wage earners, or 2.9 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 \$22 to \$98.

From 1849 to 1909, however, the proportion which the manufactures of the state represent of the total value of the products of manufacturing industries in the United States decreased somewhat. This proportion was 2.1 per cent in 1849 and but 1.1 per cent in 1909. In 1899 and in 1904 Kentucky ranked nineteenth among the states in gross value of manufactured products, but in 1909 it occupied twentieth place.

The following table 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:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	4,776	3,734	3,648	27.9	2.4
Persons engaged in manufactures.....	79,060	69,755	(¹)	13.3	(¹)
Proprietors and firm members.....	5,050	4,108	(¹)	22.9	(¹)
Salaried employees.....	8,610	5,853	4,356	47.1	34.4
Wage earners (average number).....	65,400	59,794	51,735	9.4	15.6
Primary horsepower.....	230,224	174,625	144,161	31.8	21.1
Capital.....	\$172,779,000	\$147,282,000	\$87,990,000	17.3	67.4
Expenses.....	201,163,000	137,386,000	108,160,000	46.4	27.0
Services.....	37,491,000	30,310,000	22,639,000	23.7	33.9
Salaries.....	9,603,000	5,871,000	4,185,000	63.6	40.3
Wages.....	27,888,000	24,439,000	18,454,000	14.1	32.4
Materials.....	111,779,000	86,545,000	67,406,000	29.2	28.4
Miscellaneous.....	51,893,000	20,531,000	18,115,000	152.8	13.3
Value of products.....	223,754,000	159,754,000	126,509,000	40.1	26.3
Value added by manufacture (value of products less cost of materials).....	111,975,000	73,209,000	59,103,000	53.0	23.9

¹ Figures not available.

In 1909 Kentucky had 4,776 manufacturing establishments, which gave employment to an average of 79,060 persons during the year and paid out \$37,491,000

in salaries and wages. Of the persons employed, 65,400 were wage earners. These establishments turned out products to the value of \$223,754,000,

MANUFACTURES—KENTUCKY.

in the manufacture of which materials costing \$111,779,000 were utilized. The value added by manufacture was thus \$111,975,000, 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 Kentucky as a whole showed a much greater development during the more recent five-year period, 1904-1909, than during the preceding five-year period, 1899-1904. During the later period the number of establishments increased 27.9 per cent, the average number of wage earners 9.4

per cent, and the amount paid in wages 14.1 per cent, while the value of products increased 40.1 per cent and the value added by manufacture 53 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 representing values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

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	4,776	65,400	100.0	\$223,754,000	100.0	\$111,975,000	100.0	40.1	26.3	53.0	23.9
Liquors, distilled.....	206	2,530	3.9	44,360,000	19.8	35,750,000	31.9	295.9	14.5	456.4	4.0
Flour-mill and gristmill products.....	440	1,401	2.1	22,365,000	10.0	3,701,000	3.3	24.2	38.3	27.2	31.0
Lumber and timber products.....	1,592	13,042	19.9	21,381,000	9.6	10,925,000	9.8	4.0	29.2	-7.2	39.9
Tobacco manufactures.....	226	3,973	6.1	18,598,000	8.3	10,173,000	9.1	24.7	-0.4	13.0	-16.0
Foundry and machine-shop products.....	129	4,479	6.9	9,027,000	4.3	4,892,000	4.4	80.0	-7.3	74.2	-10.3
Iron and steel, steel works and rolling mills.....	7	2,372	3.6	7,779,000	3.5	2,218,000	2.0	26.1	23.2	13.7	3.3
Slaughtering and meat packing.....	37	354	0.5	6,568,000	2.9	822,000	0.7	15.3	10.0	-25.2	50.1
Cars and general shop construction and repairs by steam-railroad companies.....	24	5,605	8.6	6,535,000	2.9	3,635,000	3.3	13.0	35.1	30.0	40.6
Printing and publishing.....	431	3,135	4.8	6,454,000	2.9	4,809,000	4.3	46.6	40.6	.....	47.8
Clothing, men's, including shirts.....	123	3,840	5.9	6,062,000	2.7	2,770,000	2.5	-5.9	83.4	-0.0	89.0
Carriages and wagons and materials.....	101	2,777	4.2	5,141,000	2.3	2,428,000	2.2	-6.0	50.2	-0.8	54.5
Liquors, malt.....	19	1,012	1.5	4,940,000	2.2	3,678,000	3.3	34.7	15.3	32.5	8.0
Leather, tanned, curried, and finished.....	18	630	1.0	4,241,000	1.9	1,017,000	0.9	7.3	5.2	-11.2	30.9
Bread and other bakery products.....	286	985	1.5	3,338,000	1.5	1,392,000	1.2	50.0	35.3	08.7	2.4
Boots and shoes, including cut stock and findings.....	13	420	0.7	3,248,000	1.5	804,000	0.7	08.3	.....	41.1	.....
Cooperage and wooden goods, not elsewhere specified.....	49	878	1.3	2,648,000	1.2	945,000	0.8	-10.9	102.1	7.4	43.8
Leather goods.....	33	814	1.2	2,373,000	1.1	940,000	0.9	14.0	10.3	-5.2	27.1
Confectionery.....	24	685	1.0	2,267,000	1.0	970,000	0.9	55.2	46.9	45.9	30.2
Copper, tin, and sheet-iron products.....	50	464	0.7	2,243,000	1.0	558,000	0.5	208.1	8.8	32.9	32.1
Patent medicines and compounds and druggists' preparations.....	40	280	0.4	2,123,000	0.9	1,367,000	1.2	10.9	.....	10.2	.....
Paint and varnish.....	17	146	0.2	1,962,000	0.9	740,000	0.7	91.8	47.4	63.5	104.5
Cotton goods, including cotton small wares.....	4	1,044	1.6	1,902,000	0.9	714,000	0.6	21.5	-6.0	78.5	-42.2
Canning and preserving.....	36	653	1.0	1,857,000	0.8	764,000	0.7	69.4	114.1	95.9	68.8
Furniture and refrigerators.....	32	1,095	1.8	1,671,000	0.7	801,000	0.8	11.7	-0.5	7.6	-2.2
Pottery, terra-cotta, and fire-clay products.....	19	1,319	2.0	1,470,000	0.7	1,088,000	1.0	17.0	72.2	20.9	71.4
Woolen, worsted, and felt goods, and wool hats.....	14	818	1.3	1,278,000	0.6	420,000	0.4	0.4	.....	-15.7	.....
Ice, manufactured.....	78	472	0.7	1,135,000	0.5	828,000	0.7	61.4	54.8	46.8	51.0
Cordage and twine and jute and linen goods.....	6	751	1.2	1,080,000	0.5	371,000	0.3	80.6	.....	27.5	.....
Marble and stone work.....	75	510	0.8	1,060,000	0.5	710,000	0.6	44.4	30.4	41.4	54.5
Brick and tile.....	82	1,125	1.7	1,015,000	0.5	781,000	0.7	14.4	46.6	0.8	41.4
Gas, illuminating and heating.....	15	386	0.6	1,004,000	0.4	680,000	0.6	4.5	43.2	-1.1	31.0
Stoves and furnaces, including gas and oil stoves.....	8	564	0.9	827,000	0.4	574,000	0.5	14.9	.....	10.8	.....
Clothing, women's.....	15	392	0.6	772,000	0.3	330,000	0.3	(2)	480.3	1.5	530.2
Musical instruments, pianos and organs, and materials.....	6	343	0.5	588,000	0.3	310,000	0.3	10.4	350.9	21.1	536.6
Mirrors.....	4	130	0.2	482,000	0.2	158,000	0.1	-0.2	.....	8.2	.....
Cars and general shop construction and repairs by street-railroad companies.....	7	217	0.3	276,000	0.1	134,000	0.1	122.0	.....	119.7	.....
Butter, cheese, and condensed milk.....	13	56	0.1	275,000	0.1	80,000	0.1	227.4	9.1	122.2	63.6
Shipbuilding, including boat building.....	10	157	0.2	271,000	0.1	116,000	0.1	79.5	55.7	12.6	35.5
All other industries.....	418	5,522	8.4	22,540,000	10.1	8,422,000	7.5	.....	.....	.....	.....

¹ Percentages are based on figures in Table I, and a minus sign (-) denotes a decrease. Where the 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.

Although a few industries greatly predominate in importance, it will be seen from Table II, page 22, that there is considerable diversity in the manufacturing

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

Liquors, distilled.—In 1909 Kentucky was the second state in the Union in the manufacture of distilled liquors, having advanced from fourth place since 1904. In 1909 the value of products for the industry

was \$44,360,000, or 21.7 per cent of the total reported for the entire country. The enormous increases shown in the value of products and in value added by manufacture are due mainly to the fact that in 1909 the internal-revenue tax was included in the value of the products whether paid or not, whereas in 1904 this tax was imperfectly reported and included only when it was actually paid and reported by the manufacturer. In 1909 this tax constituted approximately three-fourths of the total value of products reported for the industry.

Flour-mill and gristmill products.—The value of flour-mill and gristmill products shows an increase of 71.8 per cent for the decade 1899–1909. With the exception of the lumber industry, there were more establishments engaged in the manufacture of flour-mill and gristmill products in 1909 than in any other industry in the state. Statistics for mills which do only custom grinding for local consumption are not included in the general tables or in the totals for manufacturing industries. Separate statistics for such mills are given on page 17.

Lumber and timber products.—This industry includes the logging plants, the chief products of which are logs and bolts; the sawmills, shingle mills, and planing mills, producing rough lumber, shingles, lath, cooperage stock, sash, doors, blinds, interior finish, and other millwork; and the wooden packing-box factories. The greater part of the value of products was reported by the logging plants and sawmills. The importance of the industry is indicated by the fact that it gave employment in 1909 to more than twice as many wage earners as any other industry in the state. The percentage of increase in value of products was considerably less from 1904 to 1909 than from 1899 to 1904. A decrease in the value added by manufacture is shown from 1904 to 1909.

Tobacco manufactures.—The statistics for this industry include those for establishments engaged in the manufacture of cigars, cigarettes, chewing and smoking tobacco, and snuff. The factories in Kentucky are engaged chiefly in the manufacture of chewing and smoking tobacco and snuff. Kentucky is the leading tobacco-growing state in the Union, and was one of the first states to engage in tobacco manufactures on a factory basis. From 1899 to 1904 the industry showed decreases both in value of products and in value added by manufacture, but from 1904 to 1909 there was an increase of 24.7 per cent in value of products and of 13 per cent in value added by manufacture.

Foundry and machine-shop products.—This industry embraces not only establishments engaged in the manufacture and repair of machinery, but also those which manufacture structural ironwork; plumbers' supplies; hardware; iron and steel pipe, cast; and steam fittings and heating apparatus. The industry was really of greater importance in the state than is indicated by the

statistics, as some machine shops manufacture distinctive products and were assigned to other classifications. A marked development has taken place in this industry during the last five years.

Iron and steel.—Because of the extensive iron-ore deposits which exist in about one-fourth of the counties of the state, the manufacture of iron and steel was one of the first industries to be developed in Kentucky. The combined value of products for the iron and steel industry, including blast furnaces and steel works and rolling mills, amounted to \$9,258,000 in 1909. Comparative statistics for the blast-furnace branch of the industry for 1904 can not be shown, since to do so would disclose the operations of the one mill reporting. The statistics for the four furnaces in operation in 1909 are given in Table II, page 22. There were seven steel works and rolling mills in the state in 1909 and six in 1899. The value of their products increased 55.4 per cent during the decade.

Slaughtering and meat packing.—This classification includes wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage. The increase in value of products since 1899 has been small, 10 per cent from 1899 to 1904, and 15.3 per cent from 1904 to 1909, and may be accounted for entirely by the general advance in prices.

Cars and general shop construction and repairs by steam-railroad companies.—This industry represents the work done in the car shops of steam-railroad companies, and is practically confined to repairs to the rolling stock and equipment of their own roads. The work is exclusive of minor repairs in roundhouses. This industry in 1909 gave employment to an average of 5,605 wage earners, being exceeded in this respect only by the lumber industry.

Printing and publishing.—The establishments classified under this head include those publishing newspapers, books, and periodicals, establishments engaged in job printing, bookbinding and blank-book making, and lithographing and engraving establishments. The total value of products for the entire industry has about doubled during the last 10 years.

Measured by the value added by manufacture, only seven of the industries presented in the preceding table held the same rank as when measured by value of products. The flour mills and gristmills and the steel works and rolling mills, ranking second and sixth, respectively, in value of products, become sixth and eleventh in importance when ranked according to the value added by manufacture. The slaughtering and meat-packing industry drops from seventh place in value of products to twenty-first place in value added by manufacture, while the manufacture of pottery, terra-cotta, and fire-clay products, which ranked twenty-fifth in value of products, occupies fourteenth place in value added by manufacture. Owing to the comparatively simple processes involved in the flour-mill and gristmill products and in the slaughtering and meat-packing indus-

tries, together with the extent to which the manufacturing processes are carried on by machinery in the former industry, the value added by manufacture in these industries is not commensurate with the gross value of products.

This table shows also the percentages of increase which the leading industries show in value of products and in value added by manufacture where comparative statistics can be presented. From 1904 to 1909, with the exception of the distilleries, the manufacture of butter, cheese, and condensed milk shows the largest relative increase in value of products and in value added by manufacture, namely, 227.4 per cent and 122.2 per cent, respectively. From 1899 to 1904 the women's clothing industry showed the highest percentage of increase in value of products, and the manufacture of pianos and organs showed the highest percentage of increase in value added by manufacture. In value of products the men's clothing industry, the carriage and wagon industry, the cooperage and wooden-goods industry, and the manufacture of mirrors each shows a decrease during the period from 1904 to 1909, while the tobacco manufactures, foundry and machine-shop products, the cotton-goods industry, and the manufacture of furniture and refrigerators each shows a decrease during the period from 1899 to 1904.

In addition to the 38 industries presented separately, there are 12 other important industries each of which had a value of products in 1909 in excess of \$600,000. They are included under the head of "All other industries" in the table, because in some cases the operations of individual establishments would be disclosed if they were shown separately, and 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. These industries or products are: Agricultural implements; clocks and watches, including cases and materials; coffee and spice, roasting and grinding; fertilizers; food preparations; iron and steel, blast furnaces; mineral and soda waters; oil, cottonseed, and cake; petroleum, refining; soap; wire; and wood, turned and carved. Statistics, however, for blast furnaces and cottonseed-oil mills for 1909 are presented in Table II, page 22.

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.

The average number of persons engaged in manufactures during 1909 was 79,060, of whom 65,400 were wage earners. Of the remainder, 7,979 were proprietors and officials, and 5,681 were clerks. Correspond-

ing figures for individual industries will be found in Table II, page 22.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	79,060	67,860	11,200
Proprietors and officials.....	7,979	7,781	198
Proprietors and firm members.....	5,050	4,893	157
Salaried officers of corporations.....	1,304	1,274	30
Superintendents and managers.....	1,625	1,614	11
Clerks.....	5,681	4,443	1,238
Wage earners (average number).....	65,400	55,636	9,764
16 years of age and over.....	64,567	55,072	9,495
Under 16 years of age.....	833	564	269

The following table 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 15 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	79,060	10.1	7.2	82.7
Boots and shoes, including cut stock and findings.....	570	9.1	16.1	74.7
Bread and other bakery products.....	1,433	22.9	8.4	68.7
Carriages and wagons and materials.....	3,233	9.2	5.7	85.1
Cars and general shop construction and repairs by steam-railroad companies.....	5,887	1.8	3.0	95.2
Clothing, men's, including shirts.....	4,399	4.5	8.0	87.5
Flour-mill and gristmill products.....	2,426	31.7	10.6	57.7
Foundry and machine-shop products.....	5,174	5.0	7.5	86.6
Iron and steel, steel works and rolling mills.....	2,437	1.1	1.0	97.3
Leather, tanned, curried, and finished.....	724	6.5	6.5	87.0
Liquors, distilled.....	3,158	10.8	8.8	80.4
Liquors, malt.....	1,282	5.5	15.6	78.9
Lumber and timber products.....	15,800	14.8	2.6	82.5
Printing and publishing.....	4,577	15.1	16.4	68.5
Slaughtering and meat packing.....	440	13.0	7.6	79.4
Tobacco manufactures.....	4,877	7.4	11.2	81.5
All other industries.....	22,607	8.8	8.0	83.3

Of the total number of persons engaged in all manufacturing industries, 10.1 per cent were proprietors and officials, 7.2 per cent clerks, and 82.7 per cent wage earners. In the flour-mill and gristmill products 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 this industry falling into 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 bakery, the printing and publishing, and the lumber industries, where proprietors and officials formed 22.9 per cent, 15.1 per cent, and 14.8 per cent, respectively, of the total number of persons engaged in manufactures. The smallest proportions for this class are shown for the steel works and rolling mills and the steam-railroad repair shops, where the average number of wage earners per establishment is very large.

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 number employed for the year in all industries 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.....	65,400	84.2	14.5	1.3
Boots and shoes, including cut stock and findings.....	426	55.6	40.1	4.2
Bread and other bakery products.....	985	85.2	13.4	1.4
Carriages and wagons and materials.....	2,777	95.8	3.8	0.4
Cars and general shop construction and repairs by steam-railroad companies.....	5,605	100.0		
Clothing, men's, including shirts.....	3,849	19.6	77.3	3.1
Flour-mill and gristmill products.....	1,491	98.4	1.6	
Foundry and machine-shop products.....	4,479	97.9	1.2	0.9
Iron and steel, steel works and rolling mills.....	2,372	100.0		
Leather, tanned, curried, and finished.....	630	99.8		0.2
Liquors, distilled.....	2,539	77.2	22.7	0.1
Liquors, malt.....	1,012	97.0	0.4	2.6
Lumber and timber products.....	13,042	99.1	0.3	0.6
Printing and publishing.....	3,135	80.2	17.2	2.6
Slaughtering and meat packing.....	354	99.7	0.3	
Tobacco manufactures.....	3,973	58.7	39.3	2.0
All other industries.....	18,821	80.5	17.6	1.9

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, 84.2 per cent of the average number of wage earners were males 16 years of age and over; 14.5 per cent, females 16 years of age and over; and 1.3 per cent, children under the age of 16. The larger part of the female wage earners are employed in the men's clothing industry, the distilleries, the printing and publishing industry, and the manufacture of tobacco products. Nearly one-third of all the adult women wage earners in the state are employed in the men's clothing industry. The large percentage of female wage earners in boot and shoe factories but slightly affects the totals for the state, since the number of all wage earners in the industry is small.

The number of children employed in all industries in the state was very small, but of the industries presented separately in the above table the greatest numbers were employed in the men's clothing, printing and publishing, and tobacco-products industries.

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.

Comparable figures are not obtainable for 1899. The table shows that the greatest percentage of increase

was for salaried employees. The proportion of proprietors and firm members and of salaried employees was greater in 1909 than in 1904, while that of wage earners was less.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				Per cent of increase, 1904-1909.
	1909		1904		
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	79,060	100.0	69,755	100.0	13.3
Proprietors and firm members.....	5,059	6.4	4,108	5.9	22.0
Salaried employees.....	8,610	10.9	5,853	8.4	47.1
Wage earners (average number).....	65,400	82.7	59,794	85.7	9.4

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.....	65,400	100.0	59,794	100.0	51,785	100.0
16 years of age and over.....	64,507	98.7	57,831	96.7	49,583	95.8
Male.....	55,072	84.2	49,508	82.8	43,500	84.1
Female.....	9,435	14.5	8,323	13.9	6,083	11.8
Under 16 years of age.....	893	1.3	1,063	1.8	2,152	4.2

The table indicates that for all industries combined there has not been much change during the 10 years in the relative importance of the different classes, although the actual number of male and female wage earners has increased substantially. In 1909 males 16 years of age and over constituted 84.2 per cent of all wage earners, as compared with 82.8 per cent in 1904 and 84.1 per cent in 1899. There has been both a proportional and an actual decrease during this period in the employment of children under 16 years of age.

Wage earners employed by months.—The next 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, canning and preserving, and lumber industries, 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. The wage earners for the lumber industry are presented so as to show separately the number engaged in the mills and the number engaged in logging operations. In Table II, page 22, 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.

The lumber industry gives employment to a larger number of wage earners than any other industry and therefore practically determines the movement of employment throughout the year. The difference between the number reported for the months of maximum and of minimum employment for all industries combined was 8,357, and the variations shown for the

lumber industry during the same period account for more than half of this difference.

The manufacture of brick and tile and canning and preserving are both seasonal industries, but the number of wage earners employed in them was not sufficiently large to materially affect the totals for all industries combined.

MONTH.	NUMBER OF WAGE EARNERS.													
	All industries.		Brick and tile.		Canning and preserving.		Lumber and timber products.						All other industries.	
	Number.	Percent of maximum.	Number.	Percent of maximum.	Number.	Percent of maximum.	Total.		In mills.		In logging operations.		Number.	Percent of maximum.
							Number.	Percent of maximum.	Number.	Percent of maximum.	Number.	Percent of maximum.		
January.....	61,110	88.0	356	21.2	262	14.7	10,839	70.9	8,881	72.8	1,958	63.1	49,602	93.6
February.....	62,345	89.7	350	21.4	260	15.1	11,244	73.5	9,223	75.6	2,021	65.2	50,473	95.2
March.....	63,728	91.7	623	37.1	274	15.4	12,260	80.1	9,955	81.6	2,305	74.0	50,581	95.4
April.....	64,826	93.3	1,196	71.1	208	16.8	13,056	85.3	10,712	87.8	2,344	75.6	50,276	94.8
May.....	64,754	93.2	1,528	90.9	203	16.5	12,817	83.8	10,606	87.0	2,211	71.3	50,116	94.5
June.....	63,767	91.8	1,609	95.7	345	19.4	12,217	79.9	10,180	83.5	2,037	65.7	49,596	93.5
July.....	63,144	90.9	1,665	99.0	447	25.1	12,141	79.4	10,219	83.8	1,922	62.0	48,891	92.2
August.....	65,853	94.8	1,681	100.0	1,730	97.3	12,701	83.0	10,414	85.4	2,287	73.7	49,741	93.8
September.....	68,637	98.8	1,622	96.5	1,778	100.0	14,307	93.5	11,460	94.0	2,838	91.5	50,930	96.0
October.....	69,476	100.0	1,307	83.1	1,183	66.5	15,297	100.0	12,195	100.0	3,102	100.0	51,590	97.3
November.....	68,639	98.8	881	52.4	515	29.0	15,174	99.2	12,004	99.2	3,080	99.3	52,069	98.2
December.....	68,510	98.6	579	34.4	437	24.6	14,461	94.5	11,662	95.6	2,799	90.2	51,033	100.0

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 1909 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.....	65,400	9,420	3,364	10,472	9,180	28,692	1,627	1,232	1,413
Boots and shoes, including cut stock and findings.....	426	3	3	58	10	352			
Bread and other bakery products.....	985	63	7	47	78	544	167	25	54
Brick and tile.....	1,425	119	25	126	47	756	52		
Brooms.....	86	17		7	29	33			
Butter, cheese, and condensed milk.....	56	45				5	1	4	
Canning and preserving.....	653	58		67	95	419	14		
Carriages and wagons and materials.....	2,777	697	37	508	678	886	1		
Cars and general shop construction and repairs by steam-railroad companies.....	5,605	2,495		2,208	131	207	564		
Cars and general shop construction and repairs by street-railroad companies.....	217	24		113		40	40		
Clothing, men's, including shirts.....	3,840	11	240	1,233	1,230	1,115			
Confectionery.....	685	7	34	114	448	69	13		
Cooperage and wooden goods, not elsewhere specified.....	878	56	21	114	108	579			
Copper, tin, and sheet-iron products.....	464	101	57	106	50	150			
Cordage and twine and jute and linen goods.....	751	5				746			
Cotton goods, including cotton small wares.....	1,044					858	186		
Flour-mill and gristmill products.....	1,401	245	180	8	30	470	142	317	
Foundry and machine-shop products.....	4,479	9	364	1,692	742	1,653	18	1	
Furniture and refrigerators.....	1,695	5	0	69	11	1,001			
Gas, illuminating and heating.....	386				1	62	2	16	305
Ice, manufactured.....	472			9	3	23	22	53	392
Iron and steel, steel works and rolling mills.....	2,372	1,446			256	180		400	
Leather goods.....	814	2		96	370	335	2		
Leather, tanned, curried, and finished.....	630		163	109	54	214			
Liquors, distilled.....	2,539	207	79	223	150	1,729	56	95	
Liquors, malt.....	1,012	669		171	86		86		
Lumber and timber products.....	13,042	643	893	880	670	9,761	161	55	
Marble and stone work.....	510	76	3	122	38	237		34	
Mirrors.....	130	2				128			
Musical instruments, pianos and organs, and materials.....	343		14		150	173			
Paint and varnish.....	146	11		9		126			
Patent medicines and compounds and druggists' preparations.....	280	101	51	42	2	82		2	
Pottery, terra-cotta, and fire-clay products.....	1,319	378		68	290	574			
Printing and publishing.....	3,135	1,074	804	776	180	283	5	10	
Shipbuilding, including boat building.....	157	1	2	142		12			
Slaughtering and meat packing.....	354	20	4	178	14	134	4		
Tobacco manufactures.....	3,073	536	76	234	2,093	1,034			
Woolen, worsted, and felt goods, and wool hats.....	818		0			738	70	1	
All other industries.....	6,392	324	310	820	1,112	2,984	21	129	692

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Kentucky the prevailing hours of labor range from 54 to 60 a week, inclusive, 19.5 per cent of the total being employed in establishments where less than 54 hours a week prevail, and 6.5 per cent in establishments where more than 60 hours a week prevail. There were 32,964 wage earners, or more than one-half of the total for all industries, who worked 60 hours or over per week.

It will be noted that employment in a large number of industries is mainly on the basis of 60 hours a week. The major portion of the wage earners in steam-railroad repair shops, steel works and rolling

mills, and printing and publishing offices are employed 54 hours or less per week. The longest hours are found in bakeries, gas plants, and ice factories, and the most important industries in which the hours of labor are 48 and under per week are the steam-railroad repair shops and the steel works and rolling mills.

Location of establishments.—The next table shows the extent to which the manufactures of Kentucky are centralized in cities of 10,000 population or over. (See Introduction.) The statistics for 1904 are omitted from this table, because there was no Federal census of population for that year from which to determine the cities that came within the group having 10,000 inhabitants or over.

ITEM.	Year.	Aggregate.	CITIES HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES 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.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.	Number or amount.	Percent of total.
Population.....	1910	2,289,005	403,204	17.6	60,688	2.7	118,678	5.2	223,028	9.8	1,886,611	82.4
	1900	2,147,174	345,246	16.1	42,907	2.0	97,608	4.5	204,731	9.5	1,801,928	83.9
Number of establishments.....	1909	4,776	1,562	32.7	234	4.9	425	8.9	903	18.9	3,214	67.3
	1899	3,648	1,433	39.3	147	4.0	426	11.7	860	23.6	2,215	60.7
Average number of wage earners..	1909	65,400	39,931	61.1	5,302	8.1	7,606	11.6	27,023	41.3	25,460	38.9
	1899	51,735	32,320	62.5	3,303	6.4	5,964	11.5	23,002	44.6	19,466	37.5
Value of products.....	1909	\$223,754,407	\$133,824,503	59.8	\$14,480,808	6.5	\$18,053,650	8.1	\$101,283,055	45.3	\$89,020,094	40.2
	1899	126,508,060	82,774,847	65.4	5,748,807	4.5	10,915,500	8.6	66,110,474	52.3	43,733,813	34.6
Value added by manufacture.....	1909	111,975,180	62,321,114	55.7	6,196,940	5.5	8,067,798	8.0	47,156,376	42.1	40,054,066	44.3
	1899	59,102,458	40,091,739	67.8	2,918,120	4.9	5,939,082	10.0	31,234,537	52.8	19,010,719	32.2

Although the cities of 10,000 inhabitants or over contained only 17.6 per cent of the total population and 32.7 per cent of all manufacturing establishments of the state in 1909, the establishments located in such cities gave employment to 61.1 per cent of all wage earners and reported 59.8 per cent of the total value of products for the state. These figures, however, represent a decrease in the relative industrial importance of this class of cities, as compared with the remainder of the state, the proportion of the total value of products of the state reported by establishments located outside of such cities having increased from 34.6 per cent in 1899 to 40.2 per cent in 1909. It should be noted in connection with the gain made by the outside districts that Frankfort, which reported products valued at \$3,083,000 in 1909, was included in the group of cities in that year, while in 1899 it was included in the districts outside, because in 1900 the population of the city was less than 10,000.

Each of the three groups of cities shows an actual increase in the average number of wage earners and in the total value of products from 1899 to 1909. The cities having from 10,000 to 25,000 inhabitants reported 6.5 per cent of the total value of the manufactured products of the state in 1909, as compared with 4.5 per cent in 1899; the cities having between 25,000 and 100,000 inhabitants reported 8.1 per cent of the total in 1909, as compared with 8.6 per cent in 1899; and Louisville, the only city having over 100,000

inhabitants, reported only 45.3 per cent of the total in 1909, as compared with 52.3 per cent in 1899.

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

CITY.	1910	1900
Louisville.....	223,028	204,731
Covington.....	53,270	42,938
Lexington.....	35,009	26,369
Newport.....	30,309	28,301
Paducah.....	22,700	19,446
Owensboro.....	16,011	13,189
Henderson.....	11,452	10,272
Frankfort.....	10,465	9,487

The relative importance in manufacturing industry of each of these eight cities is shown in the table on the following page, in which the value of products and average number of wage earners are shown separately for 1909, 1904, and 1899.

With the exception of Paducah, Owensboro, and Lexington, which show decreases from 1904 to 1909 in the average number of wage earners, each of the cities included in this table shows an increase both in average number of wage earners and in value of products from 1904 to 1909 as well as from 1899 to 1904. Measured by value of products, each city held the same relative rank at each of the three censuses, except that Lexington, which ranked fifth in 1899, dropped to sixth place in 1904 and to eighth in 1909.

Louisville, the leading manufacturing city in the state and the largest city, shows a rapid growth during each of the five-year periods. It owes its importance in manufactures to a wide diversity of industries, foremost among which are tobacco manufactures, 87.5 per cent of the total value of products for this industry in the state being reported from Louisville; and to liquors, distilled; foundry and machine-shop products; flour-mill and gristmill products; slaughtering and meat packing; and clothing, men's.

In Covington the leading industries or products are foundry and machine-shop products and tobacco manufactures; in Newport, iron and steel, steel works and rolling mills, and liquors, malt; in Owensboro, carriages and wagons and materials and food preparations; in Paducah, lumber and timber products, and cars and general shop construction and repairs by steam-railroad companies; in Frankfort, boots and shoes, including cut stock and findings, and lumber and timber products; in Henderson, cotton goods, including cotton small wares, and carriages and wagons and materials; and in Lexington, flour-mill and gristmill products and printing and publishing.

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Louisville.....	27,023	24,985	23,062	\$101,283,955	\$83,204,125	\$66,110,474
Covington.....	3,942	3,703	3,212	8,711,929	6,090,715	5,478,764
Newport.....	2,632	1,958	1,955	6,490,590	5,231,084	3,547,657
Paducah.....	2,613	2,841	2,001	4,966,988	4,443,223	2,976,931
Owensboro ¹	1,064	1,302	890	3,505,525	3,319,190	1,740,128
Frankfort.....	637	625	281	3,082,746	1,747,338	1,327,342
Henderson.....	1,038	469	352	2,931,639	1,305,120	1,031,808
Lexington.....	1,032	1,114	797	2,851,125	2,774,329	1,880,075

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.

Character of ownership.—The table on the next page has for its purpose the presentation of conditions in respect to the character of ownership, or legal organiza-

tion, 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 on page 12.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 24 per cent of the total number of establishments were in 1909 under corporate ownership, as against 76 per cent under all other forms. The corresponding figures for 1904 were 23.1 per cent and 76.9 per cent, respectively. In respect to value of products the corresponding proportions are reversed. In 1909 the establishments operated by corporations reported 79.8 per cent of the total value, as against 20.2 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 73.3 per cent and 26.7 per cent, respectively. The number of establishments operated by firms increased, but they constituted only 22.7 per cent of the total in 1909 as compared with 25.7 per cent in 1904, and the value of their products formed only 8.5 per cent of the total in 1909 as against 13.5 per cent in 1904. Establishments operated by individuals showed a large increase in number from 1904 to 1909, but a decrease in the proportion that they contributed to the total value of products.

Establishments under individual ownership predominate in number in all of the industries enumerated separately in the table except in the manufacture of boots and shoes, foundry and machine-shop products, and malt liquors, while establishments under corporate ownership lead in average number of wage earners and in value of products in all except the bakery 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.....	4,776	65,400	\$223,754,497	\$111,975,180	Foundry and machine-shop products, 1909.....	129	4,479	\$9,626,686	\$4,991,874
1904.....	3,734	59,794	169,753,998	73,208,504	Individual.....	41	238	351,446	212,009
Individual:					Firm.....	25	108	318,570	198,273
1909.....	2,521	10,244	25,835,192	13,054,241	Corporation.....	63	4,133	8,956,670	4,481,592
1904.....	1,907	9,761	21,116,481	10,495,278	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	31.8	5.3	3.6	4.3
1909.....	1,084	6,521	19,047,042	7,756,319	Firm.....	19.4	2.4	3.3	4.1
1904.....	958	6,979	21,554,160	8,416,038	Corporation.....	48.8	92.3	93.0	91.6
Corporation:					Liquors, distilled, 1909.....	206	2,539	\$44,360,104	\$36,758,686
1909.....	1,147	48,500	178,650,245	90,425,693	Individual.....	93	231	5,091,624	4,220,859
1904.....	802	43,041	117,046,720	54,272,889	Firm.....	24	66	783,465	659,015
Other:					Corporation.....	80	2,252	38,485,015	30,878,812
1909.....	24	45	222,018	138,927	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	7	13	36,601	24,299	Individual.....	45.1	0.1	11.5	11.8
Per cent of total:					Firm.....	11.7	2.2	1.8	1.8
1909.....	100.0	100.0	100.0	100.0	Corporation.....	43.2	88.7	80.8	86.4
1904.....	100.0	100.0	100.0	100.0	Liquors, malt, 1909.....	19	1,012	\$4,949,047	\$3,677,550
Individual:					Individual.....	4	29	140,100	108,125
1909.....	52.8	15.7	11.5	12.2	Firm.....	3	35	170,036	124,126
1904.....	51.1	16.3	13.2	14.3	Corporation.....	12	948	4,638,902	3,445,299
Firm:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	22.7	10.0	8.5	6.9	Individual.....	21.0	2.9	2.8	2.9
1904.....	25.7	11.7	13.5	11.5	Firm.....	18.8	3.5	3.4	3.4
Corporation:					Corporation.....	60.2	93.7	93.7	93.7
1909.....	24.0	74.3	79.8	80.8	Lumber and timber products, 1909.....	1,592	13,042	\$21,380,564	\$10,924,276
1904.....	23.1	72.0	73.3	74.2	Individual.....	980	4,518	4,880,993	3,030,786
Other:					Firm.....	444	2,677	3,899,107	2,366,750
1909.....	0.5	0.1	0.1	(1)	Corporation.....	168	5,847	12,600,494	5,517,740
1904.....	0.2	(1)	(1)	(1)	Per cent of total.....	100.0	100.0	100.0	100.0
Boots and shoes, including cut stock and findings, 1909.....	13	426	\$3,247,825	\$803,488	Individual.....	61.6	34.6	22.8	27.8
Individual.....	5	78	109,749	41,296	Firm.....	27.9	20.5	18.2	21.7
Corporation ²	8	348	3,138,076	762,192	Corporation.....	10.6	44.8	58.0	50.5
Per cent of total.....	100.0	100.0	100.0	100.0	Printing and publishing, 1909.....	431	3,135	\$6,453,842	\$4,808,658
Individual.....	38.5	18.3	3.4	5.1	Individual.....	230	697	1,199,130	900,977
Corporation ²	61.5	81.7	96.6	94.9	Firm.....	66	223	384,040	287,955
Bread and other bakery products, 1909.....	286	985	\$3,337,848	\$1,391,478	Corporation.....	120	2,183	4,735,010	3,504,518
Individual.....	251	563	1,824,068	709,885	Other.....	15	32	135,047	115,208
Firm.....	27	71	239,190	107,447	Per cent of total.....	100.0	100.0	100.0	100.0
Corporation.....	8	351	1,274,590	514,146	Individual.....	53.4	22.2	18.0	18.7
Per cent of total.....	100.0	100.0	100.0	100.0	Firm.....	15.3	7.1	6.0	6.0
Individual.....	87.8	57.2	54.6	55.3	Corporation.....	27.8	69.6	73.4	72.9
Firm.....	9.4	7.2	7.2	7.7	Other.....	3.5	1.0	2.1	2.4
Corporation.....	2.8	35.6	38.2	36.9	Slaughtering and meat packing, 1909.....	37	354	\$6,568,077	\$822,219
Carriages and wagons and materials, 1909.....	161	2,777	\$5,141,107	\$2,428,001	Individual.....	24	50	1,256,728	158,290
Individual.....	80	376	639,403	335,009	Firm.....	9	25	467,395	63,376
Firm.....	41	338	656,126	292,871	Corporation.....	4	279	4,843,954	600,554
Corporation.....	40	2,063	3,945,578	1,800,721	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.....	64.9	14.1	19.1	19.3
Individual.....	49.7	13.5	12.4	13.8	Firm.....	24.3	7.1	7.1	7.7
Firm.....	25.5	12.2	10.8	12.1	Corporation.....	10.8	78.8	73.7	73.0
Corporation.....	24.8	74.3	76.7	74.1	Tobacco manufactures, 1909.....	226	3,973	\$18,597,786	\$10,172,424
Clothing, men's, including shirts, 1909.....	123	3,849	\$6,052,081	\$2,776,314	Individual.....	162	562	1,306,618	631,555
Individual.....	87	906	418,047	408,230	Firm.....	30	169	263,654	101,300
Firm.....	14	370	483,906	209,960	Corporation.....	34	3,302	17,027,514	9,379,569
Corporation.....	22	2,513	5,150,128	2,074,124	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.....	71.7	12.6	7.0	6.2
Individual.....	70.7	25.1	6.9	14.7	Firm.....	13.3	4.3	1.4	1.6
Firm.....	11.4	9.6	8.0	10.6	Corporation.....	15.0	83.1	91.6	92.2
Corporation.....	17.0	65.3	85.1	74.7	Flour - mill and gristmill products, 1909.....	440	1,401	\$22,364,950	\$3,700,767
Flour - mill and gristmill products, 1909.....	440	1,401	\$22,364,950	\$3,700,767	Individual.....	192	373	4,472,500	829,637
Individual.....	192	373	4,472,500	829,637	Firm.....	183	466	6,026,657	1,217,938
Firm.....	183	466	6,026,657	1,217,938	Corporation.....	65	572	11,265,733	1,659,182
Corporation.....	65	572	11,265,733	1,659,182	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.....	43.6	26.6	20.0	22.2
Individual.....	43.6	26.6	20.0	22.2	Firm.....	41.6	32.5	29.6	32.9
Firm.....	41.6	32.5	29.6	32.9	Corporation.....	14.8	40.8	50.4	44.8
Corporation.....	14.8	40.8	50.4	44.8					

¹ Less than one-tenth of 1 per cent.

² Includes the group "Firm," 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 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 certain important industries separately as measured by the number of wage earners, value of products, and the 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.

MANUFACTURES—KENTUCKY.

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.
ALL INDUSTRIES:					Flour-mill and gristmill products, 1909—Continued.				
1909.....	4,776	65,400	\$223,754,497	\$11,976,190	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	3,734	69,794	169,753,968	78,208,504	Less than \$5,000.....	16.4	3.1	0.8	0.9
Less than \$5,000:					\$5,000 and less than \$20,000.....	30.2	12.1	6.7	8.3
1909.....	2,290	4,856	5,170,841	3,387,013	\$20,000 and less than \$100,000.....	45.2	45.6	37.3	43.1
1904.....	1,453	2,765	3,530,973	2,427,807	\$100,000 and less than \$1,000,000 ²	8.2	39.3	55.2	47.7
\$5,000 and less than \$20,000:					Average per establishment.....		3	\$50,829	\$8,411
1909.....	1,290	7,253	12,796,373	7,165,457	Foundry and machine-shop products, 1909.	129	4,479	\$9,626,086	\$4,691,874
1904.....	1,172	6,715	11,506,502	6,620,052	Less than \$5,000.....	41	61	109,679	79,350
\$20,000 and less than \$100,000:					\$5,000 and less than \$20,000.....	43	285	425,002	266,597
1909.....	781	13,810	35,218,448	16,769,584	\$20,000 and less than \$100,000.....	26	615	1,262,051	692,390
1904.....	800	14,424	35,207,472	15,865,728	\$100,000 and less than \$1,000,000 ²	19	3,518	7,829,954	3,853,627
\$100,000 and less than \$1,000,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	386	29,106	108,403,915	56,024,930	Less than \$5,000.....	31.8	1.4	4.1	1.6
1904.....	286	26,291	70,918,685	32,506,060	\$5,000 and less than \$20,000.....	33.3	6.4	4.4	5.4
\$1,000,000 and over:					\$20,000 and less than \$100,000.....	26.2	13.7	13.1	14.2
1909.....	29	10,375	62,164,920	29,628,196	\$100,000 and less than \$1,000,000 ²	14.7	78.5	81.3	78.8
1904.....	17	9,599	38,590,330	15,778,951	Average per establishment.....		35	\$71,625	\$37,922
Per cent of total:					Liquors, distilled, 1909.	206	2,639	\$44,360,104	\$35,758,686
1909.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	65	33	137,165	111,267
1904.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	31	35	264,406	269,424
Less than \$5,000:					\$20,000 and less than \$100,000.....	18	107	1,037,676	834,740
1909.....	47.9	7.4	2.3	3.0	\$100,000 and less than \$1,000,000.....	84	1,755	27,060,433	22,880,346
1904.....	38.9	4.6	2.2	3.3	\$1,000,000 and over.....	8	600	14,960,334	11,710,904
\$5,000 and less than \$20,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	27.0	11.1	5.7	6.4	Less than \$5,000.....	31.6	1.3	0.3	0.3
1904.....	31.4	11.2	7.2	9.1	\$5,000 and less than \$20,000.....	15.0	1.4	0.6	0.6
\$20,000 and less than \$100,000:					\$20,000 and less than \$100,000.....	8.7	4.2	2.3	2.3
1909.....	16.4	21.1	15.7	14.1	\$100,000 and less than \$1,000,000.....	40.8	60.1	63.0	61.0
1904.....	21.6	24.1	22.0	21.7	\$1,000,000 and over.....	3.9	24.0	33.7	32.7
\$100,000 and less than \$1,000,000:					Average per establishment.....		12	\$215,340	\$173,586
1909.....	8.1	44.5	48.4	50.0	Liquors, malt, 1909.	19	1,012	\$4,940,047	\$3,677,550
1904.....	7.7	44.0	44.4	44.4	\$20,000 and less than \$100,000.....	7	60	202,630	211,825
\$1,000,000 and over:					\$100,000 and less than \$1,000,000 ²	12	952	4,656,417	3,465,725
1909.....	0.6	15.9	27.8	26.4	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	0.5	16.1	24.2	21.6	Less than \$5,000.....	36.8	5.9	5.9	5.8
Average per establishment:					\$20,000 and less than \$100,000.....	63.2	94.1	91.1	91.2
1909.....		14	\$46,850	\$23,445	Average per establishment.....		53	\$200,470	\$193,555
1904.....		16	42,784	19,606	Lumber and timber products, 1909.	1,592	13,042	\$21,380,584	\$10,924,276
Boots and shoes, including outstock and findings, 1909.	13	426	\$3,247,825	\$803,488	Less than \$5,000.....	1,061	3,058	2,255,061	1,407,203
Less than \$5,000.....	4	14	10,705	6,600	\$5,000 and less than \$20,000.....	336	2,572	3,136,617	1,918,983
\$5,000 and less than \$20,000.....	4	102	149,412	62,435	\$20,000 and less than \$100,000.....	151	3,439	6,663,450	3,276,517
\$20,000 and less than \$100,000.....	5	310	3,087,708	734,453	\$100,000 and less than \$1,000,000 ²	41	3,973	9,384,847	4,201,573
\$100,000 and less than \$1,000,000 ²					Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	66.6	23.4	10.6	13.7
Less than \$5,000.....	30.8	3.3	0.3	0.8	\$5,000 and less than \$20,000.....	21.1	19.7	14.7	17.8
\$5,000 and less than \$20,000.....	30.8	23.9	4.6	7.8	\$20,000 and less than \$100,000.....	9.7	26.4	30.9	30.0
\$20,000 and less than \$100,000.....	38.5	72.8	95.1	91.4	\$100,000 and less than \$1,000,000 ²	2.6	30.5	43.9	38.5
\$100,000 and less than \$1,000,000 ²					Average per establishment.....		8	\$13,430	\$6,892
Average per establishment.....		33	\$240,833	\$61,807	Printing and publishing, 1909.	431	3,135	\$6,453,842	\$4,808,658
Bread and other bakery products, 1909.	286	985	\$3,337,848	\$1,391,478	Less than \$5,000.....	255	386	606,383	488,290
Less than \$5,000.....	143	87	410,463	176,342	\$5,000 and less than \$20,000.....	127	604	1,164,800	904,900
\$5,000 and less than \$20,000.....	124	366	1,158,286	508,201	\$20,000 and less than \$100,000.....	41	813	1,853,000	1,372,514
\$20,000 and less than \$100,000.....	13	134	419,367	148,041	\$100,000 and less than \$1,000,000 ²	10	1,332	2,828,659	2,042,804
\$100,000 and less than \$1,000,000.....	0	308	1,349,732	558,294	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	58.7	12.3	9.4	10.2
Less than \$5,000.....	50.0	8.8	12.3	12.7	\$5,000 and less than \$20,000.....	29.5	19.3	19.0	18.8
\$5,000 and less than \$20,000.....	43.4	37.2	34.7	36.5	\$20,000 and less than \$100,000.....	9.5	25.9	28.7	28.5
\$20,000 and less than \$100,000.....	4.5	13.6	12.6	10.7	\$100,000 and less than \$1,000,000 ²	2.3	42.5	43.8	42.5
\$100,000 and less than \$1,000,000.....	2.1	40.4	40.4	40.1	Average per establishment.....		7	\$14,974	\$11,157
Average per establishment.....		3	\$11,671	\$4,865	Slaughtering and meat packing, 1909.	37	354	\$6,568,077	\$822,219
Carriages and wagons and materials, 1909.	161	2,777	\$5,141,107	\$2,428,601	\$5,000 and less than \$20,000.....	8	4	109,858	17,515
Less than \$5,000.....	58	87	137,541	87,073	\$20,000 and less than \$100,000.....	23	61	1,206,700	155,151
\$5,000 and less than \$20,000.....	64	492	640,020	283,481	\$100,000 and less than \$1,000,000 ²	6	289	5,251,513	649,553
\$20,000 and less than \$100,000.....	30	635	1,427,454	620,731	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000.....	9	1,453	2,035,480	1,337,316	Less than \$5,000.....	58.7	12.3	9.4	10.2
Per cent of total.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	29.5	19.3	19.0	18.8
Less than \$5,000.....	36.0	3.1	2.7	3.6	\$20,000 and less than \$100,000.....	9.5	25.9	28.7	28.5
\$5,000 and less than \$20,000.....	39.8	14.5	12.5	15.8	\$100,000 and less than \$1,000,000 ²	2.3	42.5	43.8	42.5
\$20,000 and less than \$100,000.....	18.6	30.1	27.8	25.6	Average per establishment.....		7	\$14,974	\$11,157
\$100,000 and less than \$1,000,000.....	6.6	52.3	57.1	55.1	Tobacco manufactures, 1909.	226	3,973	\$18,597,786	\$10,172,424
Average per establishment.....		17	\$31,932	\$15,094	Less than \$5,000.....	149	101	249,288	158,474
Clothing, men's, including shirts, 1909.	123	3,849	\$6,052,081	\$2,776,314	\$5,000 and less than \$20,000.....	44	261	304,991	228,080
Less than \$5,000.....	71	356	171,716	100,861	\$20,000 and less than \$100,000.....	17	565	630,537	511,492
\$5,000 and less than \$20,000.....	25	506	244,308	226,442	\$100,000 and less than \$1,000,000 ²	16	3,046	17,056,980	9,274,372
\$20,000 and less than \$100,000.....	12	581	573,077	288,013	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000.....	15	2,406	5,062,890	2,094,998	Less than \$5,000.....	65.9	2.5	1.3	1.6
Per cent of total.....	100.0	100.0	100.0	100.0	\$5,000 and less than \$20,000.....	19.5	6.6	2.0	2.2
Less than \$5,000.....	57.7	9.2	2.8	6.0	\$20,000 and less than \$100,000.....	7.5	14.2	5.0	5.0
\$5,000 and less than \$20,000.....	20.3	13.1	4.0	8.2	\$100,000 and less than \$1,000,000 ²	7.1	70.7	91.7	91.2
\$20,000 and less than \$100,000.....	9.8	15.1	9.5	10.4	Average per establishment.....		18	\$82,291	\$45,011
\$100,000 and less than \$1,000,000.....	12.2	62.5	83.7	75.5	Flour-mill and gristmill products, 1909.	440	1,401	\$22,364,950	\$3,700,707
Average per establishment.....		31	\$49,204	\$22,572	Less than \$5,000.....	72	43	173,023	33,057
Flour-mill and gristmill products, 1909.					\$5,000 and less than \$20,000.....	133	160	1,460,553	306,207
Less than \$5,000.....	72	43	173,023	33,057	\$20,000 and less than \$100,000.....	199	630	8,343,876	1,594,920
\$5,000 and less than \$20,000.....	133	160	1,460,553	306,207	\$100,000 and less than \$1,000,000 ²	36	550	12,348,498	1,705,533
\$20,000 and less than \$100,000.....	199	630	8,343,876	1,594,920	Per cent of total.....	100.0	100.0	100.0	100.0
\$100,000 and less than \$1,000,000 ²	36	550	12,348,498	1,705,533	Less than \$5,000.....	65.9	2.5	1.3	1.6
Per cent of total.....					\$5,000 and less than \$20,000.....	19.5	6.6	2.0	2.2
Less than \$5,000.....	57.7	9.2	2.8	6.0	\$20,000 and less than \$100,000.....	7.5	14.2	5.0	5.0
\$5,000 and less than \$20,000.....	20.3	13.1	4.0	8.2	\$100,000 and less than \$1,000,000 ²	7.1	70.7	91.7	91.2
\$20,000 and less than \$100,000.....	9.8	15.1	9.5	10.4	Average per establishment.....		18	\$82,291	\$45,011
\$100,000 and less than \$1,000,000.....	12.2	62.5	83.7	75.5					
Average per establishment.....		31	\$49,204	\$22,572					

¹ Includes the group "\$5,000 and less than \$20,000."

² Includes the group "\$1,000,000 and over."

³ Includes the group "Less than \$5,000."

This table shows that, in 1909, of the 4,776 manufacturing establishments in the state only 29, or six-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 10,375 wage earners, or 15.9 per cent of the total number in all establishments, and reported 27.8 per cent of the total value of products and 26.4 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 (47.9 per cent) of the total number of establishments, but the value of their products amounted to only 2.3 per cent of the total. The great bulk of the manufacturing was reported by establishments having a product valued at not less than \$100,000.

It will be seen from the preceding table that during the five years from 1904 to 1909 there was an increase as measured by value of products in the relative importance of the largest establishments—those reporting products valued at not less than \$100,000. The relative importance of the very small establishments—those reporting products valued at less than \$5,000—remained practically unchanged. The other two classes show decreases in this respect.

The fact that from 1904 to 1909 the average value of products per establishment increased from \$42,784 to \$46,850 and the average value added by manufacture from \$19,606 to \$23,445 can not be taken as in itself indicating a tendency toward concentration. The increased values shown 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 16 to 14.

The table shows further that when the average size of establishments is measured by value of product the bakery, lumber and timber products, and printing and publishing industries are conducted chiefly in rather small establishments, while the distillery, brewery,

and boot and shoe industries are usually carried on in comparatively large establishments.

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 15 important industries individually, and gives not only the number of establishments falling into each group but also the average number of wage earners employed.

Of the 4,776 establishments reported for all industries, 8.4 per cent employed no wage earners; 59.9 per cent, from 1 to 5; 19.7 per cent, from 6 to 20; and 6.5 per cent, from 21 to 50. The most numerous single group consists of the 2,860 establishments employing from 1 to 5 wage earners each, and the next of the 941 establishments employing from 6 to 20 wage earners each. There were only 33 establishments that employed over 250 wage earners; 3 of these—a steam-railroad repair shop, a machine shop, and an establishment engaged in the manufacture of tobacco—employed over 1,000 wage earners each.

Of the total number of wage earners, 24.5 per cent were in establishments employing over 250 wage earners. The single group having the largest number of wage earners was the one employing from 101 to 250 each. This group employed 11,851 wage earners, or 18.1 per cent of the total. The individual industries listed in this table, but not in the preceding one, namely, steam-railroad repair shops; iron and steel, steel works and rolling mills; and the tanning, currying, and finishing of leather, are all industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners employed.

MANUFACTURES—KENTUCKY.

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	4,776	403	2,860	941	309	153	77	25	5	3
Boots and shoes, including cut stock and findings.....	13	1	4	2	1	5				
Bread and other bakery products.....	286	68	194	17	3	4				
Carriages and wagons and materials.....	161	4	87	40	11	7	5		1	
Cars and general shop construction and repairs by steam-railroad companies.....	24		3	3	2	6	4	4	1	1
Clothing, men's, including shirts.....	123		39	47	17	6	9	3		
Flour-mill and gristmill products.....	440	63	333	40	2	1	5			
Foundry and machine-shop products.....	129	11	53	30	16	11	2	2		1
Iron and steel, steel works and rolling mills.....	7					1	2	3	1	
Leather, tanned, curried, and finished.....	18		2	7	5	3	1			
Liquors, distilled.....	206		118	45	32	9	2			
Liquors, malt.....	19		2	6	5	4		2		
Lumber and timber products.....	1,592	17	1,097	374	67	28	6		1	
Printing and publishing.....	431	90	257	59	13	6	5	1		
Slaughtering and meat packing.....	37	4	26	4	1	1	6			
Tobacco manufactures.....	226	74	101	23	12	7	4	2		1
All other industries.....	1,064	69	544	238	122	54	30	0	1	
AVERAGE NUMBER OF WAGE EARNERS.										
All industries	65,400		6,875	9,849	9,700	11,080	11,851	7,979	3,152	4,014
Boots and shoes, including cut stock and findings.....	426		10	14	30	372				
Bread and other bakery products.....	985		403	162	95	325				
Carriages and wagons and materials.....	2,777		213	479	395	423	750		517	
Cars and general shop construction and repairs by steam-railroad companies.....	5,605		9	31	56	454	612	1,297	712	2,491
Clothing, men's, including shirts.....	3,849		90	485	531	471	1,495	768		
Flour-mill and gristmill products.....	1,401		735	349	51	85	150			
Foundry and machine-shop products.....	4,479		135	300	505	710	833	636		1,360
Iron and steel, steel works and rolling mills.....	2,372					55	336	1,100	791	
Leather, tanned, curried, and finished.....	2,530		3	97	163	243	124			
Liquors, distilled.....	2,539		158	531	923	620	307			
Liquors, malt.....	1,012		8	74	155	262		513		
Lumber and timber products.....	13,042		2,832	3,852	2,235	2,018	844	797	554	
Printing and publishing.....	3,135		659	639	379	452	720	286		
Slaughtering and meat packing.....	354		55	31	42	98	128			
Tobacco manufactures.....	3,973		187	244	394	535	1,013	540		1,060
All other industries.....	18,821		1,338	2,501	3,746	3,957	4,530	2,102	578	
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries	100.0		10.6	15.1	14.8	16.9	18.1	12.2	4.8	7.5
Boots and shoes, including cut stock and findings.....	100.0		2.3	3.3	7.0	87.3				
Bread and other bakery products.....	100.0		40.9	18.4	9.6	33.0				
Carriages and wagons and materials.....	100.0		7.7	17.2	14.2	15.2	27.0		18.6	
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		0.2	0.6	1.0	8.1	10.9	22.1	12.7	44.5
Clothing, men's, including shirts.....	100.0		2.6	12.6	13.8	12.2	38.8	20.0		
Flour-mill and gristmill products.....	100.0		54.7	24.0	3.6	6.1	10.7			
Foundry and machine-shop products.....	100.0		3.0	6.7	11.3	15.9	18.6	14.2		30.4
Iron and steel, steel works and rolling mills.....	100.0					2.3	14.2	50.2	33.3	
Leather, tanned, curried, and finished.....	100.0		0.5	15.4	25.9	38.6	19.7			
Liquors, distilled.....	100.0		6.2	20.9	36.4	24.4	12.1			
Liquors, malt.....	100.0		0.8	7.3	15.3	25.9		50.7		
Lumber and timber products.....	100.0		21.7	29.5	17.1	15.5	6.5	6.4	4.2	
Printing and publishing.....	100.0		21.0	20.4	12.1	14.4	23.0	0.1		
Slaughtering and meat packing.....	100.0		15.5	8.8	11.9	27.7	36.2			
Tobacco manufactures.....	100.0		4.7	6.1	9.9	13.5	25.5	13.6		26.7
All other industries.....	100.0		7.1	13.6	19.9	21.0	24.1	11.2	3.1	

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, on page 22.

This table shows that, for all industries combined, 55.6 per cent of the total expense was incurred for materials, 18.7 per cent for services—that is, salaries and wages—and 25.8 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The large proportion for miscellaneous expenses shown for distilled liquors, and

in somewhat less degree for malt liquors and tobacco manufactures, is due to the inclusion of internal-revenue taxes.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Ma-terials.	Miscel-laneous ex-penses.
All industries	4.8	13.9	55.6	25.8
Boots and shoes, including cut stock and findings.....	6.5	5.3	75.8	12.4
Bread and other bakery products.....	3.7	17.3	69.4	9.6
Carriages and wagons and materials.....	7.0	25.2	58.6	9.3
Cars and general shop construction and repairs by steam-railroad companies.....	4.2	49.6	44.4	1.8
Clothing, men's, including shirts.....	9.9	21.6	59.8	8.7
Flour-mill and gristmill products.....	1.8	2.9	91.3	3.0
Foundry and machine-shop products.....	7.6	27.9	54.9	9.6
Iron and steel, steel works and rolling mills.....	1.4	17.6	76.8	4.2
Leather, tanned, curried, and finished.....	3.0	7.8	81.7	7.5
Liquors, distilled.....	1.5	1.7	20.5	76.3
Liquors, malt.....	10.8	13.6	32.5	43.0
Lumber and timber products.....	4.9	25.1	60.0	10.0
Printing and publishing.....	18.5	32.6	31.7	17.1
Slaughtering and meat packing.....	1.0	4.1	93.0	2.0
Tobacco manufactures.....	5.3	8.3	49.1	37.2
All other industries.....	6.7	17.3	64.9	11.1

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	5,700	3,261	3,152	230,224	174,025	144,161	100.0	100.0	100.0
Owned.....	4,341	3,261	3,152	218,607	170,200	141,721	95.0	97.5	98.3
Steam.....	3,647	2,842	2,839	207,591	162,829	136,122	90.2	93.2	94.4
Gas.....	515	249	135	4,724	1,038	1,000	2.1	1.1	0.8
Water wheels.....	160	152	178	5,320	4,538	4,247	2.3	2.6	2.9
Water motors.....	19	18	(²)	57	65	(²)	(²)	(²)	(²)
Other.....				915	890	256	0.4	0.5	0.2
Rented.....	1,449	(²)	(²)	11,617	4,365	2,440	5.0	2.5	1.7
Electric.....	1,449	(²)	(²)	11,314	3,874	1,722	4.9	2.2	1.2
Other.....				303	491	718	0.1	0.3	0.5
Electric motors	2,795	514	114	31,208	10,690	3,415	100.0	100.0	100.0
Run by current generated by establishment.....	1,346	514	114	19,954	6,810	1,693	63.8	63.8	49.6
Run by rented power.....	1,449	(²)	(²)	11,314	3,874	1,722	36.2	36.2	50.4

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.

The amount of primary power used in the manufacturing industries of Kentucky increased 21.1 per cent from 1899 to 1904 and 31.8 per cent from 1904 to 1909. This increase in primary power was principally in power generated by steam engines, although the proportion which this class of power forms of the total decreased from 94.4 per cent in 1899 to 93.2 per cent in 1904 and to 90.2 per cent in 1909. A more general use of gas engines is also shown, the horsepower of such engines being 4,724 in 1909, as against

1,096 in 1899. The number of water wheels decreased from 1899 to 1909, but the power generated increased. The figures also show that the practice of renting electric power is on the increase, 4.9 per cent of the total power being rented electric in 1909, as against 1.2 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly increasing, these motors showing 19,954 horsepower in 1909, as against 1,693 horsepower in 1899.

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.	An-thra-cite coal (tons).	Bitu-minous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gaso-line (bar-rels).	Gas (1,000 feet).
All industries	2,207	1,464,731	193,238	45,157	156,448	2,203,914
Boots and shoes, including cut stock and findings.....		311				
Bread and other bakery products.....	524	4,770	3,438	6,041	164	9,602
Brick and tile.....		78,800	3,503	8,272	19	7,500
Carrriages and wagons and materials.....	9	20,214	952	1,222	141	517
Cars and general shop construction and repairs by steam-railroad companies.....	54	69,390	2,094		12,304	
Clothing, men's, including shirts.....		3,583			859	3,423
Coke.....		98,466				
Flour-mill and gristmill products.....	45	87,285	300	14,095	1,640	15,780
Fonndry and machine-shop products.....	36	74,000	23,953	270	10,283	33,236
Gas, illuminating and heating.....		98,800	(950)		27,356	
Iron and steel, blast furnaces.....		10,256	127,326			
Iron and steel, steel works and rolling mills.....		137,438	16,032	384		1,870,647
Leather, tanned, curried, and finished.....		22,177				94,808
Liquors, distilled.....		107,937	6,198	6,730	79	6,321
Liquors, malt.....	359	70,471				8
Lumber and timber products.....		51,589	1,582	1,080	718	8,200
Pottery, terra-cotta, and fire-clay products.....		102,200	1,000	470	4	5,400
Printing and publishing.....	30	6,021		70	625	22,901
Slaughtering and meat packing.....		15,702		460	94	100
Tobacco manufactures.....	1	11,616	3	17		828
All other industries.....	1,149	317,435	5,151	5,128	102,102	118,488

¹ In addition there were 11,142 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 value of products and other information for securing which no provision is made on the general schedule. Certain data for six important industries in Kentucky are here presented.

Flour-mill and gristmill products.—The following tabular statement gives the quantities and values of products for the last three census years.

White wheat flour, the most important product, which represented 71.1 per cent of the total value of products of the industry in 1909, 73.3 per cent in 1904, and 70.5 per cent in 1899, shows an increase in quantity of 189,924 barrels, or 7.2 per cent, and an increase in value* of \$2,710,571, or 20.5 per cent, since 1904. The output of feed, barley meal, and of corn meal and corn flour combined decreased in quantity during this five-year period.

PRODUCT.	1909	1904	1899
Total value	\$22,364,950	\$18,007,786	\$13,017,043
Wheat flour:			
White—			
Barrels.....	2,830,541	2,640,617	2,527,699
Value.....	\$15,912,192	\$13,201,621	\$9,176,202
Graham—			
Barrels.....	1,747	887	
Value.....	\$8,833	\$3,575	
Corn meal and corn flour:			
Barrels.....	984,217	1,003,020	973,782
Value.....	\$3,071,856	\$2,314,364	\$2,000,020
Rye flour:			
Barrels.....	906	664	1,044
Value.....	\$4,232	\$2,600	\$2,194
Buckwheat flour:			
Pounds.....	16,000		
Value.....	\$600		
Barley meal:			
Pounds.....	14,400	70,000	
Value.....	\$242	\$850	
Feed:			
Tons.....	18,053	19,270	32,245
Value.....	\$490,958	\$423,233	\$507,513
Offal:			
Tons.....	125,951	114,227	88,547
Value.....	\$2,729,877	\$2,049,260	\$1,209,400
All other products.....	\$146,160	\$12,187	\$24,748

Lumber and timber products.—The following is a statement of the quantities of the three main classes of products of the sawmills as reported at the censuses of 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber.....M feet b. m.	869,712	774,651
Lath.....thousands	19,776	17,091
Shingles.....thousands	55,010	59,375

The quantity of rough lumber sawed increased 86,061 M feet board measure, or 11.1 per cent, from 1899 to 1909.

Kentucky timber is principally hardwood, of which 781,823 M feet was cut in 1909. Of this amount, 405,677 M feet was oak and 149,808 M feet yellow poplar. During this year, 78,889 M feet board measure of softwood was produced, of which 38,419 M feet was yellow pine.

Iron and steel, steel works and rolling mills.—The following statement shows for this industry the quantities and values of products, by general groups, for the last two census years:

PRODUCT.	1909	1904
Total value.....	\$7,779,320	\$8,167,542
Rolled, forged, and other classified products:		
Tons.....	216,311	160,466
Value.....	\$7,119,158	\$5,901,428
All other products, including value added to iron and steel rolling-mill products by further manufacture.	\$660,162	\$266,114

In 1909, compared with 1904, the tonnage of rolled, forged, and other classified iron and steel products increased 46,845 tons, or 27.6 per cent, in quantity and \$1,217,730, or 20.6 per cent, in value.

Slaughtering and meat packing.—The following table shows the quantities and values of the different products in 1909, 1904, and 1899.

The most prominent facts shown in this table are the general increase in the quantities of fresh meats and the decrease in the quantity of all products requiring curing or other further preparation, and the general increase in prices of the several products.

The table also indicates that the greatest gain was in the production of fresh beef, which increased 102.7 per cent in quantity during the decade 1899-1909. During this period the quantity of pork salted and cured decreased 59.6 per cent, while the proportion which its value formed of the total value of all products of the industry decreased considerably.

PRODUCT.	1909	1904	1899
Total value.....	\$6,568,077	\$5,693,731	\$5,177,167
Beef, fresh:			
Pounds.....	17,090,098	7,297,142	8,429,597
Value.....	\$1,453,210	\$475,926	\$614,540
Veal, fresh:			
Pounds.....	1,339,303	500,482	388,102
Value.....	\$149,944	\$41,431	\$36,009
Mutton, fresh:			
Pounds.....	404,445	455,965	440,016
Value.....	\$40,876	\$34,584	\$36,164
Pork, fresh:			
Pounds.....	5,771,593	4,981,087	6,822,730
Value.....	\$642,051	\$419,959	\$523,398
Pork, salted or cured:			
Pounds.....	17,276,390	39,089,950	42,714,543
Value.....	\$2,264,481	\$3,499,376	\$2,857,200
Sausage, fresh or cured.....	\$353,074	\$298,181	\$309,149
Lard:			
Pounds.....	7,870,530	10,330,271	8,658,416
Value.....	\$988,763	\$767,999	\$491,720
Fertilizers and fertilizer materials:			
Tons.....	1,230	1,740	1,087
Value.....	\$23,344	\$25,524	\$23,376
Hides:			
Number.....	57,260	23,890	25,905
Pounds.....	2,506,385	1,137,381	1,233,773
Value.....	\$281,390	\$91,444	\$114,571
Pelts:			
Number.....	12,952	12,308	(¹)
Value.....	\$9,085	\$9,696	
All other products.....	\$360,059	\$29,611	\$171,040

¹ Not reported separately.

Printing and publishing.—Of the 431 establishments reported for the printing and publishing industry in 1909, 302 were engaged in publishing newspapers and periodicals.

The following table shows the number of publications in the state, together with their aggregate circulation per issue, for the three census years 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	339	337	294	1,194,245	1,041,802	1,099,172
Daily.....	35	34	27	226,180	162,658	164,624
Sunday.....	12	10	12	115,855	83,115	(¹)
Semiweekly and triweekly	27	21	25	61,248	41,058	127,375
Weekly.....	226	230	190	481,957	466,926	425,323
Monthly.....	28	34	32	136,995	142,550	262,450
All other classes.....	11	8	8	172,010	145,495	119,400

¹ Included in circulation for daily.

During the past five years the number of publications in Kentucky increased but two, while the total circulation of all publications increased 152,443, or 14.6 per cent. The number of dailies increased by only one, but their circulation increased 63,522, or 39.1 per cent, while the monthlies decreased 6 in number and 5,555, or 3.9 per cent, in circulation. This latter class, for the ten-year period, shows a decrease in circulation of 125,455, or 47.8 per cent. The number of weeklies was slightly less in 1909 than in 1904, but the circulation was considerably greater. All but seven of the publications were printed in the English language.

Six of these—one daily, one Sunday, one semi-weekly, two weeklies, and one monthly—were printed in German, the other one, a monthly, was printed in German and English.

Leather, tanned, curried, and finished.—The following is a statement of the quantities and values of the different kinds of products in the leather industry, for the three census years 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	\$4,240,795	\$3,952,277	\$3,757,016
Oak sole leather:			
Sides.....	404,382	303,808	442,975
Value.....	\$2,712,069	\$2,117,495	\$2,314,770
Harness leather:			
Sides.....	160,750	187,632	206,748
Value.....	\$980,970	\$1,075,228	\$1,091,901
All other leather.....	228,453	581,287	285,882
All other products.....	70,569	90,094	64,454
Work on materials for others.....	248,734	88,173	(¹)

¹ None reported.

The leather industry shows an increase of \$483,779, or 12.9 per cent, in value of products during the last 10 years. This growth was due largely to the increased value of sole leather, the quantity of which, however, was less in 1909 than in 1899. Harness leather decreased both in quantity and in value. The only item that showed a marked percentage of increase was the amount received for work on materials furnished by others.

Laundries.—Statistics for steam laundries are not included in the general tables, or in the totals for manufacturing industries. In 1909 there were 73 such establishments in the state of Kentucky, 22 of which were in Louisville, 6 in Lexington, 4 in Paducah, and 3 in Owensboro. The following statement summarizes the statistics:

Number of establishments.....	73
Persons engaged in the industry.....	1,749
Proprietors and firm members.....	67
Salaried employees.....	128
Wage earners (average number).....	1,554
Primary horsepower.....	2,139
Capital.....	\$730,112
Expenses.....	967,610
Services.....	618,705
Materials.....	202,229
Miscellaneous.....	146,676
Amount received for work done.....	1,208,811

The most common form of ownership was the individual, with 30 establishments. The firm and corporate forms of ownership were represented by 17 and 26 establishments, respectively. Eleven establishments had receipts for the year's business of less than \$5,000; 42, receipts of \$5,000, but less than

\$20,000; and 20, receipts of \$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.....	1,387	33.7	July.....	1,658	100.0
February.....	1,395	34.1	August.....	1,649	99.5
March.....	1,419	35.6	September.....	1,628	98.2
April.....	1,547	39.3	October.....	1,617	97.5
May.....	1,576	39.1	November.....	1,575	95.0
June.....	1,611	39.2	December.....	1,593	96.1

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		2,139
Owned:		
Steam.....	71	2,068
Gas.....	1	2
Rented—Electric.....	14	69

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

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	24,121
Wood.....	Cords.....	52
Oil.....	Barrels.....	22
Gas.....	1,000 feet.....	13,507

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.....	204	822
Persons engaged in industry.....	1,009	1,409
Proprietors and firm members.....	381	1,038
Salaried employees.....	2	2
Wage earners (average number).....	626	369
Primary horsepower.....	5,650	11,933
Capital.....	\$204,594	\$544,171
Expenses.....	144,954	1,725,707
Services.....	115,416	38,702
Materials.....	6,092	1,663,346
Miscellaneous.....	23,446	23,749
Value of products.....	326,593	1,206,677

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

MANUFACTURES—KENTUCKY.

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.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
STATE—All industries	1909	4,776	79,080	5,050	8,610	65,400	230,224	\$172,779	\$9,603	\$27,888	\$111,779	\$223,754	\$111,975
	1904	3,734	69,755	4,108	5,853	59,794	174,825	147,282	5,871	24,439	86,545	159,754	73,209
	1899	3,648	.....	.....	4,356	51,735	144,161	87,996	4,185	18,454	67,406	120,509	59,103
Boots and shoes, including cut stock and findings.	1909	13	570	11	133	426	232	1,700	211	171	2,444	3,248	804
	1904	19	720	8	53	659	268	1,360	47	200	1,400	1,930	570
	1899	11	.....	.....	63	221	122	261	37	57	470	657	187
Bread and other bakery products.....	1909	286	1,433	308	140	985	745	2,108	104	485	1,946	3,338	1,302
	1904	237	1,056	257	55	744	386	1,114	42	350	1,400	2,225	825
	1899	226	928	243	70	606	.....	861	30	216	838	1,644	806
Brick and tile.....	1909	82	1,207	61	81	1,125	4,463	2,160	78	400	234	1,015	781
	1904	88	1,277	96	67	1,114	3,098	1,503	48	362	176	887	711
	1899	84	1,051	97	36	918	1,890	805	26	252	128	631	503
Butter, cheese, and condensed milk.....	1909	13	78	5	17	56	164	81	10	30	195	275	80
	1904	3	21	6	3	12	37	19	3	5	48	84	36
	1899	9	31	14	.....	17	37	10	.....	5	55	77	22
Canning and preserving.....	1909	36	876	38	185	653	907	1,502	168	177	1,093	1,857	704
	1904	16	607	13	74	520	501	724	69	101	706	1,096	390
	1899	12	.....	.....	32	493	.....	242	25	74	281	512	231
Carriages and wagons and materials.....	1909	101	3,263	171	315	2,777	6,617	7,750	322	1,164	2,713	5,141	2,428
	1904	131	3,110	133	252	2,734	4,971	5,309	252	1,104	2,814	5,505	2,601
	1899	160	.....	.....	164	2,247	.....	3,734	159	809	1,922	3,604	1,742
Cars and general shop construction and repairs by steam-railroad companies.	1909	24	5,887	.....	282	5,605	4,994	5,600	275	3,240	2,900	6,535	3,635
	1904	24	4,773	.....	185	4,588	2,624	2,413	170	2,625	2,956	5,730	2,783
	1899	25	3,668	.....	96	3,572	2,063	1,762	83	1,842	2,268	4,248	1,980
Cars and general shop construction and repairs by street-railroad companies.	1909	7	229	.....	12	217	205	232	12	116	142	276	134
	1904	3	109	.....	6	103	.....	94	6	49	63	124	61
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clothing, men's, including shirts.....	1909	123	4,399	121	429	3,849	807	3,746	543	1,184	3,276	6,052	2,776
	1904	141	4,198	139	300	3,750	568	4,870	278	1,055	3,381	6,433	3,052
	1899	196	.....	.....	185	2,831	.....	1,555	142	723	1,892	3,507	1,615
Clothing, women's.....	1909	15	475	18	65	392	65	273	43	161	433	772	339
	1904	12	510	13	35	402	76	140	43	190	438	772	334
	1899	9	.....	.....	3	91	.....	18	2	22	78	131	53
Confectionery.....	1909	24	827	25	117	685	339	811	111	219	1,281	2,257	976
	1904	16	716	12	78	626	362	485	70	157	785	1,454	669
	1899	13	.....	.....	62	476	.....	357	62	93	476	990	514
Cooperage and wooden goods, not elsewhere specified.	1909	49	972	49	45	878	2,726	2,720	65	394	1,703	2,648	945
	1904	57	1,168	63	52	1,053	1,819	1,375	60	348	2,093	2,073	880
	1899	44	.....	.....	42	1,270	.....	1,008	64	314	850	1,471	612
Copper, tin, and sheet-iron products.....	1909	50	595	55	76	464	323	784	78	229	1,685	2,243	558
	1904	39	507	40	53	414	239	411	48	174	308	728	426
	1899	19	.....	.....	26	351	.....	302	20	127	351	660	318
Cordage and twine and jute and linen goods.....	1909	6	778	1	26	751	1,801	1,505	33	225	799	1,080	371
	1904	3	475	.....	23	452	1,448	943	27	115	307	598	201
	1899	4	404	2	18	384	.....	404	22	116	269	470	210
Cotton goods, including cotton small wares.....	1909	4	1,066	1	21	1,044	3,159	1,917	36	307	1,188	1,902	714
	1904	4	1,050	.....	25	1,031	3,085	2,156	25	243	1,165	1,505	490
	1899	6	1,375	.....	24	1,351	3,605	1,868	34	280	972	1,664	692
Flour-mill and gristmill products.....	1909	440	2,426	647	378	1,401	24,773	9,010	377	591	18,664	22,365	3,701
	1904	388	2,244	617	254	1,373	23,256	7,342	193	515	15,099	18,098	2,966
	1899	341	.....	.....	168	1,050	.....	4,389	125	462	10,797	13,017	2,220
Foundry and machine-shop products.....	1909	120	5,174	97	598	4,479	8,089	9,096	651	2,402	4,735	9,627	4,892
	1904	85	3,045	57	316	2,672	4,095	5,110	340	1,212	2,541	5,349	2,898
	1899	107	.....	.....	205	3,598	.....	4,519	308	1,511	2,640	5,771	3,131
Furniture and refrigerators.....	1909	32	1,233	19	119	1,095	2,036	1,350	121	444	770	1,671	901
	1904	34	1,206	28	75	1,103	2,300	1,220	74	438	650	1,496	837
	1899	14	1,018	28	72	918	.....	1,353	66	333	648	1,504	856
Gas, illuminating and heating.....	1909	15	500	.....	114	386	991	5,789	93	206	315	1,004	689
	1904	17	506	.....	92	417	792	5,391	95	192	264	961	697
	1899	17	339	.....	60	279	343	4,496	51	122	130	671	532
Ice, manufactured.....	1909	78	645	45	128	472	9,040	4,108	116	243	307	1,135	828
	1904	48	444	33	66	345	8,760	1,816	55	152	130	703	504
	1899	31	266	22	52	192	3,201	1,200	33	84	82	454	372
Iron and steel, steel works and rolling mills.....	1909	7	2,437	.....	65	2,372	20,640	4,178	99	1,273	5,561	7,779	2,218
	1904	8	2,220	.....	71	2,140	20,965	4,716	78	1,272	4,217	6,198	1,951
	1899	6	.....	.....	73	1,766	17,000	3,134	92	949	3,116	5,005	1,889
Leather goods.....	1909	33	1,068	34	220	814	499	1,356	191	389	1,427	2,373	946
	1904	27	985	47	112	826	308	1,254	92	373	1,073	2,071	988
	1899	24	.....	.....	92	778	.....	1,040	73	322	1,093	1,878	785
Leather, tanned, curried, and finished.....	1909	18	724	1	93	630	2,069	5,970	118	308	3,224	4,241	1,017
	1904	20	802	12	92	728	1,769	4,429	90	327	2,807	3,952	1,145
	1899	23	880	17	83	810	1,836	4,681	61	322	2,882	3,757	875

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

MANUFACTURES—KENTUCKY.

19

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

THE STATE—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.													
STATE—Continued.													
Liquors, distilled.....	1909	206	3,158	143	476	2,530	16,031	\$22,452	\$600	\$728	\$8,601	\$44,300	\$35,750
	1904	188	1,036	157	351	1,428	11,859	17,774	364	554	4,778	11,205	9,427
	1899	177	1,548	188	248	1,112	11,880	12,280	328	559	3,005	9,787	6,182
Liquors, malt.....	1909	19	1,282	10	260	1,012	6,057	8,803	421	532	1,271	4,949	3,678
	1904	20	986	12	207	747	4,362	6,900	265	471	898	3,674	2,776
	1899	26	720	14	124	591	3,125	5,132	193	327	631	3,187	2,556
Lumber and timber products.....	1909	1,592	15,800	1,968	700	13,042	50,653	20,884	847	4,382	10,456	21,381	10,925
	1904	960	14,392	1,220	756	12,407	43,404	16,495	724	4,882	8,707	20,565	11,768
	1899	1,000			446	11,282		9,238	341	3,618	7,514	15,923	8,400
Marble and stone work.....	1909	75	676	100	66	510	1,685	875	89	261	350	1,060	710
	1904	43	481	52	32	307	926	573	33	211	232	734	502
	1899	26			20	307		349	21	168	238	593	325
Mirrors.....	1909	4	143	4	0	130	225	241	11	77	324	482	158
	1904	4	140	3	7	139	180	183	11	84	337	483	146
	1899												
Musical instruments, pianos and organs, and materials.	1909	6	370	4	23	343	700	655	32	222	272	588	316
	1904	6	381	6	15	300	478	424	19	188	244	505	261
	1899	4	50	4	3	43	148	118	1	22	71	112	41
Paint and varnish.....	1909	17	272	6	120	146	768	1,150	108	79	1,213	1,962	740
	1904	13	190	4	52	143	498	591	44	50	565	1,023	458
	1899	12	144	7	44	63	390	302	39	40	470	694	224
Patent medicines and compounds and druggists' preparations.	1909	49	510	38	201	280	447	1,151	189	93	756	2,123	1,367
	1904	35	395	26	101	208	442	1,369	152	73	529	1,770	1,241
	1899	27			58	191		348	69	64	319	1,077	758
Pottery, terra-cotta, and fire-clay products....	1909	10	1,429	7	103	1,319	3,554	2,340	114	538	382	1,470	1,088
	1904	21	1,406	14	80	1,312	2,790	1,618	92	456	347	1,247	900
	1899	16	899	11	47	841	1,631	699	45	233	199	724	525
Printing and publishing.....	1909	431	4,577	391	1,051	3,135	2,945	5,546	901	1,690	1,645	6,545	4,800
	1904	398	3,678	411	679	2,588	2,397	4,784	617	1,201	1,171	4,807	3,036
	1899	330	2,656	314	443	1,890		3,444	390	813	810	3,279	2,460
Shipbuilding, including boat building.....	1909	10	179	12	10	157	524	271	7	97	155	271	116
	1904	9	131	9	7	115	198	73	7	71	48	151	103
	1899	10	124	14	6	104	290	00	4	48	21	97	70
Slaughtering and meat packing.....	1909	37	440	44	48	354	853	1,260	61	251	5,746	6,568	322
	1904	22	548	30	40	472	887	1,404	44	243	4,505	5,094	1,090
	1899	28	694	31	62	511		1,327	52	214	4,445	5,177	732
Stoves and furnaces, including gas and oil stoves.	1909	8	635	5	66	594	618	880	81	280	253	827	574
	1904	7	580	2	44	540	391	726	57	345	202	720	518
	1899												
Tobacco manufactures.....	1909	226	4,877	226	678	3,073	2,713	11,019	911	1,432	8,425	18,598	10,173
	1904	238	4,599	243	297	3,069	2,875	22,661	371	1,226	5,014	14,913	8,900
	1899	230	5,398	258	574	4,530	1,830	4,591	592	1,238	5,736	16,455	10,719
Woolen, worsted, and felt goods, and wool hats	1909	14	858	8	32	818	2,500	1,046	56	241	858	1,278	429
	1904	21	990	26	47	917	2,016	1,936	69	261	775	1,273	498
	1899	36	656	18	20	618	1,232	1,589	29	145	406	747	341
All other industries.....	1909	418	6,017	377	1,018	5,522	24,575	18,774	1,172	2,637	14,127	22,549	8,422
	1904	319	7,241	310	763	6,168	13,210	16,131	701	2,565	12,314	20,199	7,855
	1899	320			596	5,298		10,451	566	1,930	10,676	16,286	5,610

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

LOUISVILLE—All industries.....	1909	903	32,397	669	4,705	27,023	49,926	\$79,437	\$5,533	\$12,460	\$54,128	\$101,284	\$47,156
	1904	842	28,817	700	3,126	24,985		79,999	3,367	10,812	45,682	83,204	37,522
	1899	860			2,491	23,062		44,016	2,595	8,436	34,876	66,110	31,234
Baking powders and yeast.....	1909	3	11	1	4	6	5	6	2	3	4	9	5
	1904	3	12	8		4		4		1	4	9	5
	1899	4	33	8	12	13		9	2	3	13	24	11
Boots and shoes, including cut stock and findings.	1909	7	269	8	15	246	169	234	18	91	269	439	170
	1904	3	228	3	22	203		268	18	65	193	318	125
	1899	6	222	11	30	181		90	14	46	138	231	93
Bread and other bakery products.....	1909	133	920	135	100	679	484	1,807	89	332	1,302	2,246	944
	1904	129	688	132	38	518		782	34	248	990	1,514	524
	1899	130	641	135	69	437		684	36	151	611	1,164	553
Brick and tile.....	1909	5	221	3	13	205	650	474	16	80	50	194	144
	1904	10	403	3	24	376		702	22	143	83	322	239
	1899	9	316	7	11	208		256	10	93	63	250	103
Canning and preserving.....	1909	7	440	1	142	300	325	1,033	156	107	846	1,465	619
	1904	7	269	9	56	204		535	57	60	521	807	286
	1899	3	112	5	19	88		90	17	14	146	219	73

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.
⁴ Not reported separately.

MANUFACTURES—KENTUCKY.

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.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
LOUISVILLE—Continued.													
Carriages and wagons and materials.....	1909	38	1,075	36	90	040	2,341	\$3,276	\$108	\$418	\$800	\$1,574	\$774
	1904	31	1,126	27	95	1,004	.....	2,799	107	465	1,160	2,244	1,084
	1899	30	.....	.....	68	955	.....	2,187	91	367	980	1,754	774
Cars and general shop construction and repairs by steam-railroad companies.	1909	4	2,811	.....	106	2,705	2,570	3,010	112	1,482	1,503	3,098	1,565
	1904	4	1,751	.....	69	1,682	.....	670	64	968	1,816	2,882	1,066
	1899	5	1,583	.....	20	1,563	.....	655	16	817	1,389	2,252	863
Clothing, men's, including shirts.....	1909	20	2,518	9	346	2,163	472	2,604	421	689	2,533	4,354	1,821
	1904	23	2,054	19	256	1,779	.....	3,143	241	579	2,520	4,639	2,110
	1899	15	.....	.....	138	1,245	.....	1,168	127	382	1,558	2,617	1,059
Confectionery.....	1909	16	747	17	96	634	286	725	96	202	1,205	2,105	900
	1904	10	654	8	67	579	.....	429	63	141	696	1,309	613
	1899	9	.....	.....	59	455	.....	337	58	87	456	944	488
Coopage and wooden goods, not elsewhere specified.	1909	13	690	8	37	645	1,966	2,142	56	298	1,287	2,028	741
	1904	14	617	12	35	570	.....	824	41	179	1,457	1,963	506
	1899	14	.....	.....	38	1,103	.....	838	62	253	530	1,009	470
Copper, tin, and sheet-iron products.....	1909	17	251	17	30	204	112	275	27	99	409	625	216
	1904	13	234	7	37	190	.....	197	27	90	168	386	218
	1899	11	.....	.....	24	171	.....	137	18	67	157	338	181
Flour-mill and gristmill products.....	1909	5	419	.....	156	263	2,410	2,145	184	147	5,734	6,580	846
	1904	5	282	1	74	207	.....	1,210	62	98	3,860	4,374	514
	1899	6	149	4	27	118	.....	507	32	58	1,587	1,825	238
Foundry and machine-shop products.....	1909	43	3,575	25	386	3,164	5,724	7,096	431	1,700	3,499	6,888	3,389
	1904	31	1,836	17	170	1,640	.....	3,142	207	735	1,794	3,674	1,880
	1899	47	.....	.....	223	2,749	.....	3,542	251	1,120	2,066	4,457	2,391
Furniture and refrigerators.....	1909	17	497	17	55	425	960	487	57	178	350	705	469
	1904	17	668	16	39	613	.....	473	66	246	305	704	459
	1899	16	.....	.....	30	603	.....	481	20	217	297	700	469
Ice, manufactured.....	1909	12	140	.....	24	122	1,172	1,741	36	67	78	338	260
	1904	6	75	3	15	57	.....	494	17	34	41	200	169
	1899	7	66	4	12	50	.....	372	10	27	35	132	97
Leather goods.....	1909	20	721	23	171	527	315	975	153	270	1,001	1,670	669
	1904	15	537	16	76	445	.....	767	65	208	626	1,200	574
	1899	18	.....	.....	73	524	.....	758	60	207	787	1,310	523
Leather, tanned, curried, and finished.....	1909	12	492	1	54	437	1,784	3,426	70	226	2,455	3,169	714
	1904	12	582	4	51	527	.....	2,760	67	249	2,231	3,075	844
	1899	15	623	8	40	575	.....	3,598	40	250	2,373	3,115	742
Liquors, distilled.....	1909	13	579	1	110	468	2,173	3,152	125	141	2,000	9,684	7,684
	1904	19	430	10	110	316	.....	4,870	119	131	1,478	3,878	2,400
	1899	9	254	8	60	186	.....	3,433	76	98	802	2,009	2,107
Liquors, malt.....	1909	11	578	10	109	459	2,962	5,347	187	214	593	2,133	1,540
	1904	12	453	12	103	338	.....	4,354	130	217	411	1,931	1,620
	1899	19	393	14	62	317	.....	2,735	98	180	381	1,782	1,401
Lumber and timber products.....	1909	34	1,613	15	212	1,686	4,415	4,877	269	733	2,509	4,227	1,718
	1904	28	1,761	21	141	1,599	.....	3,185	163	645	2,086	3,584	1,498
	1899	27	1,845	31	88	1,726	.....	1,592	87	507	1,179	2,214	1,035
Marble and stone work.....	1909	10	161	4	28	129	658	274	39	77	131	384	253
	1904	6	201	5	15	181	.....	308	19	101	87	321	234
	1899	5	.....	.....	5	136	.....	129	5	40	54	140	86
Mirrors.....	1909	4	143	4	9	130	225	241	11	77	324	482	158
	1904	4	149	3	7	139	.....	183	11	84	337	483	146
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	26	188	27	66	95	239	510	92	36	524	1,410	895
	1904	20	190	15	89	80	.....	869	92	38	387	1,301	914
	1899	20	.....	.....	56	107	.....	240	57	43	259	915	656
Printing and publishing.....	1909	124	2,716	89	725	1,911	1,815	3,396	715	1,080	1,111	4,102	3,081
	1904	110	2,180	87	484	1,615	.....	3,371	486	910	859	3,332	2,473
	1899	100	1,491	84	318	1,089	.....	2,560	312	532	607	2,232	1,625
Slaughtering and meat packing.....	1909	22	353	24	36	293	679	1,101	55	219	4,715	5,372	657
	1904	13	495	17	45	433	.....	1,392	44	229	4,264	5,286	1,022
	1899	12	515	14	52	449	.....	1,218	46	189	3,828	4,445	617
Tobacco manufactures.....	1909	76	3,637	68	540	3,029	1,997	9,653	764	1,121	7,213	16,269	9,956
	1904	104	3,258	100	195	2,903	.....	21,285	275	920	5,203	12,861	7,658
	1899	116	4,321	123	443	3,755	.....	3,797	498	1,038	5,235	14,790	9,555
All other industries.....	1909	211	6,317	135	1,030	5,143	13,018	10,421	1,248	2,373	11,677	19,575	7,898
	1904	194	7,672	151	813	6,708	.....	20,983	900	3,028	12,096	20,547	8,451
	1899	207	.....	.....	514	4,169	.....	12,597	543	1,581	9,330	14,330	4,994

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

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

MANUFACTURES—KENTUCKY.

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

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 horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
COVINGTON—All industries.....	1909	196	4,528	189	397	3,942	8,256	\$6,634	\$427	\$1,838	\$4,471	\$8,712	\$4,241
	1904	199	4,150	203	244	3,703		6,725	256	1,453	2,610	8,100	3,490
	1899	204			199	3,212		4,228	199	1,200	2,517	5,479	2,962
Bread and other bakery products.....	1909	18	52	21	3	28	10	34	1	18	76	130	54
	1904	14	45	18		27		74		15	51	89	38
	1899	20	57	26		31		16		12	45	86	41
Brick and tile.....	1909	5	68	6	4	51	460	165	3	33	10	75	65
	1904	3	60	4	3	53		51	1	21	5	43	38
	1899	3	30	4	1	25		21	1	7	3	20	17
Carriages and wagons and materials.....	1909	4	26	5		21	5	45		10	9	28	19
	1904	7	36	9		27		52		12	15	30	24
	1899	4	28	6		22		23		9	7	26	10
Clothing, men's, including shirts.....	1909	38	454	43		411	50	66		130	4	188	184
	1904	53	611	59	2	550		53	2	136	2	204	202
	1899	52	600	88		572		32		127	1	189	188
Copper, tin, and sheet-iron products.....	1909	14	130	18	16	96	38	109	20	49	444	578	134
	1904	17	20	10	1	16		32	1	9	15	50	24
	1899												
Foundry and machine-shop products.....	1909	12	679	3	100	570	710	1,297	116	289	601	1,305	704
	1904	11	463	7	56	400		829	60	192	346	828	452
	1899	9	333	6	30	297		295	23	147	171	410	239
Liquors, malt.....	1909	3	173		25	148	1,275	884	46	69	147	681	534
	1904	3	90		10	80		1,043	14	59	82	395	316
	1899	3	102		18	84		765	29	52	66	307	331
Lumber and timber products.....	1909	10	177	11	24	142	601	327	17	83	172	312	140
	1904	7	180	5	10	171		230	9	80	192	340	157
	1899	6			4	141		159	4	44	130	269	73
Marble and stone work.....	1909	5	29	6	2	21	124	29	1	16	14	47	33
	1904	4	26	5		21		20		12	22	51	29
	1899												
Printing and publishing.....	1909	13	75	14	34	27	21	54	24	15	27	125	68
	1904	12	75	12	24	39		81	17	21	24	121	97
	1899	9	51	10	5	30		26	8	13	13	57	44
Tobacco manufactures.....	1909	30	408	29	68	311	387	589	69	115	740	1,223	483
	1904	31	345	34	20	285		352	28	93	201	810	528
	1899	19	229	18	46	165		217	42	51	175	607	432
All other industries.....	1909	44	2,257	33	121	2,103	4,575	2,945	180	1,011	2,227	4,020	1,793
	1904	47	2,187	40	112	2,035		3,917	124	803	1,665	3,120	1,555
	1899	49			95	1,839		2,073	92	738	1,900	3,478	1,578

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

Frankfort.....	1909	31	727	26	164	537	1,331	\$2,403	\$224	\$232	\$1,908	\$3,083	\$1,115
	1904	30	605	28	52	525		1,387	69	152	1,133	1,747	614
	1899	34			63	281		1,035	55	124	829	1,327	498
Henderson.....	1909	43	1,210	40	82	1,088	3,270	2,257	87	413	1,722	2,932	1,210
	1904	34	558	31	68	459		1,453	51	180	762	1,305	603
	1899	20			34	352		653	28	127	581	1,032	451
Lexington.....	1909	85	1,307	70	205	1,032	2,579	1,896	194	511	1,240	2,851	1,002
	1904	84	1,389	79	199	1,114		2,094	148	465	1,380	2,775	1,389
	1899	88			120	797		1,393	88	316	980	1,889	903
Newport.....	1909	144	2,995	146	217	2,632	3,750	4,568	277	1,341	3,366	6,491	3,125
	1904	105	2,220	102	180	1,958		2,816	101	1,052	2,972	5,231	2,259
	1899	134			109	1,955		2,389	117	873	1,473	3,548	2,075
Owensboro.....	1909	69	1,340	48	228	1,064	4,059	4,294	214	408	2,252	3,595	1,253
	1904	60	1,627	52	183	1,392		2,845	180	500	1,515	3,319	1,504
	1899	51			116	800		1,960	73	276	915	1,740	825
Paducah.....	1909	91	3,066	64	389	2,613	5,247	4,703	392	1,245	2,348	4,067	2,019
	1904	84	3,204	72	291	2,841		4,393	272	1,185	1,845	4,443	2,598
	1899	70			124	2,061		2,559	99	795	1,335	2,977	1,642

1 Excluding statistics for one establishment, to avoid disclosure of individual operations.
 2 Figures can not be shown without disclosing individual operations.
 3 Excluding statistics for two establishments, to avoid disclosure of individual operations.
 4 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.

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.		Average number.	Wage earners.		Total.	16 and over.		Under 16.				
					Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.			
															Number.		
1 All industries.....	4,776	79,060	5,050	2,929	4,443	1,238	65,400	Oct. 69,476	Jan. 61,119	(1)	(1)	(1)	(1)	(1)	230,224		
2 Artificial stone.....	31	119	39	7	1	1	72	Jy 114	Fe 19	127	127				70		
3 Baking powders and yeast.....	3	11	1	1	2	1	6	De ² 7	Ja ² 4	7	5	2			5		
4 Baskets, and rattan and willow ware.....	9	18	9				6	De ² 10	My ² 6	10	10						
5 Boots and shoes, including out stock and findings.....	13	570	11	41	81	11	420	Oct 400	Aug 412	472	203	189	9	11	232		
6 Boxes, cigar.....	3	28	4	2			22	Au ² 23	De ² 21	21	8	13			17		
7 Brass and bronze products.....	7	42	8	5	3	1	25	Ap 28	Ja 21	31	30	1			99		
8 Bread and other bakery products.....	280	1,433	303	20	62	58	985	No 1,037	Ja 941	1,023	871	137	14	1	745		
9 Brick and tile.....	82	1,267	61	65	13	3	1,125	Au 1,681	Ja 350	1,538	1,517		21		4,463		
10 Brooms.....	32	140	30	12	5	1	86	Oct 110	Ja 60	91	88	1	2		96		
11 Butter, cheese, and condensed milk.....	13	78	5	7	4	6	56	Je ² 59	Ja ² 54	57	56	1			164		
12 Canning and preserving.....	36	874	38	55	105	25	653	Se 1,778	Ja 202	1,711	654	986	19	52	907		
13 Carpets, rag.....	5	60	4	5			46	My 73	Ja 29	39	34	5			100		
14 Carriages and wagons and materials.....	161	3,263	171	128	142	45	2,777	Ap 2,913	No 2,642	2,868	2,747	109	11	1	6,617		
15 Cars and general shop construction and repairs by steam-railroad companies.....	24	5,887		107	157	18	5,605	De 6,205	My 5,150	6,207	6,205	2			4,994		
16 Cars and general shop construction and repairs by street-railroad companies.....	7	229		8	4		217	No 224	Mh 209	222	221	1			295		
17 Chemicals.....	5	40	2	7	1		39	Au 44	De ² 36	37	37				102		
18 Clothing, men's, including shirts.....	123	4,399	121	75	312	42	3,849	Ja 3,947	My 3,758	3,880	762	3,006	19	102	8,907		
19 Clothing, women's.....	15	475	18	22	21	22	392	Oct 432	Je 355	403	106	294		3	65		
20 Confectionery.....	24	827	25	18	61	38	685	Oct 832	Jy 599	754	303	444		7	339		
21 Cooperage and wooden goods, not elsewhere specified.....	49	972	49	25	15	5	878	Fe 1,127	Jy 604	1,126	1,110		7		2,726		
22 Copper, tin, and sheet-iron products.....	50	595	55	34	22	20	464	Se 516	Mh 403	483	462	9	12		323		
23 Cordage and twine and jute and linen goods.....	6	778	1	13	9	4	751	Oct 821	Au 621	815	393	399	21	2	1,801		
24 Cotton goods, including cotton small wares.....	4	1,066	1	13	5	3	1,044	Je 1,069	Au 976	1,058	419	557	39	43	3,159		
25 Electrical machinery, apparatus, and supplies.....	4	146	1	11	13	4	117	Se 132	My ² 96	131	100	31			161		
26 Flour-mill and gristmill products.....	440	2,426	647	122	214	42	1,401	Au 1,489	Jo 1,281	1,455	1,431	24			24,773		
27 Foundry and machine-shop products.....	129	5,174	97	209	298	91	4,479	De 5,041	Ja 3,875	5,078	4,974	59	45		8,059		
28 Furnishing goods, men's.....	8	85	10	3	3	2	67	Se 84	Ja ² 47	90	14	76			20		
29 Furniture and refrigerators.....	32	1,233	19	61	42	16	1,095	Mh 1,107	Ap 1,031	1,205	1,175	28	4		2,936		
30 Gas, illuminating and heating.....	15	500		49	37	28	386	Je 407	Se 370	392	390	2			991		
31 Hand stamps and stencils and brands.....	7	35	0	2	5	2	17	De 18	Fe ² 10	18	10		2		25		
32 Ice, manufactured.....	78	645	45	86	34	8	472	Jy 708	Ja 257	463	460	1	2		9,040		
33 Iron and steel, blast furnaces.....	4	359	4	12	10	2	331	Je 481	Au 205	325	325				7,895		
34 Iron and steel, steel works and rolling mills.....	7	2,437		26	31	8	2,372	No 2,594	Mh 2,048	2,486	2,486				26,640		
35 Jewelry.....	3	25	4	3		3	15	My ² 16	Ja ² 13	14	13	1			6		
36 Leather goods.....	33	1,008	34	42	163	25	814	Mh 847	Ja 781	812	736	50	22	4	499		
37 Leather, tanned, curried, and finished.....	18	724	1	46	41	6	639	Ja 676	Ap 598	668	608	1			2,669		
38 Liquors, distilled.....	205	3,158	143	199	225	52	2,539	Fe 3,269	Au 1,723	3,327	2,567	756	3	1	10,041		
39 Liquors, malt.....	19	1,282	10	60	186	14	1,012	Jy 1,143	Ja 994	962	4	25			6,057		
40 Lumber and timber products.....	1,592	15,800	1,968	376	330	84	13,642	Oct 15,297	Ja 10,830	17,493	17,335	53	104	1	59,653		
41 Marble and stone work.....	75	676	100	37	19	10	510	Se 557	Ja 422	546	546				1,685		
42 Mattresses and spring beds.....	8	77	10	6	3	2	56	No 68	Ja 43	67	47	0	13	1	92		
43 Mirrors.....	4	143	4	5	2	2	130	De ² 140	Fe 117	140	140				225		
44 Musical instruments, pianos and organs, and materials.....	6	370	4	10	9	4	343	De 305	Au 313	394	382	8	3	1	796		
45 Oil, cottonseed, and cake.....	5	240		15	32	6	187	No 269	Jy 95	248	248				1,225		
46 Paint and varnish.....	17	272	6	30	74	16	146	De 178	Ja 128	178	144	32		2	768		
47 Patent medicines and compounds and druggists' preparations.....	49	510	38	46	107	48	280	Oct 301	My 263	280	163	109	3	5	447		
48 Pottery, terra-cotta, and fire-clay products.....	19	1,429	7	44	40	10	1,319	De 1,411	Fe 1,221	1,413	1,334	70	0		3,554		
49 Printing and publishing.....	431	4,577	391	302	520	220	3,135	De 3,202	Au 3,069	3,203	2,568	551	76	8	2,945		
50 Pumps, not including steam pumps.....	3	5	4				1	De ³ 1	Jy ³ 1	1	1				3		
51 Shipbuilding, including boat building.....	10	179	12	6	4		157	Au 278	Ja 13	168	168				524		
52 Slaughtering and meat packing.....	37	446	44	14	34		354	Ja 377	Ap 323	366	365	1			853		
53 Stoves and furnaces, including gas and oil stoves.....	8	635	5	24	39	3	564	Oct 653	My 416	586	584		2		618		
54 Tobacco manufactures.....	226	4,877	226	133	452	93	3,973	Mh 4,143	Au 3,779	4,178	2,454	1,641	58	25	2,713		
55 Wall plaster.....	3	33	8	5			20	Au ² 23	Ja 16	17	17				130		
56 Woolen, worsted, and felt goods, and wool hats.....	14	858	8	23	5	4	818	No 873	Ja 680	873	308	501	46	18	2,506		
57 All other industries.....	278	5,445	232	249	434	124	4,406								14,529		

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 Same number reported for entire year.
 4 All other industries embrace—

Agricultural implements.....	6	Cement.....	2	Food preparations.....	9
Automobiles, including bodies and parts.....	5	Clocks and watches, including cases and materials.....	3	Foundry supplies.....	1
Awnings, tents, and sails.....	2	Cloth, sponging and refinishing.....	2	Fur goods.....	1
Axle grease.....	1	Coffee and spice, roasting and grinding.....	13	Gas and electric fixtures and lamps and reflectors.....	2
Bags, other than paper.....	1	Coffins, burial cases, and undertakers' goods.....	1	Glass.....	1
Belting and hose, leather.....	1	Coke.....	4	Glass, cutting, staining, and ornamenting.....	2
Blackening and cleansing and polishing preparations.....	2	Cutlery and tools, not elsewhere specified.....	4	Gloves and mittens, leather.....	1
Bluing.....	2	Dentists' materials.....	4	Glue.....	1
Boxes, fancy and paper.....	2	Dyeing and finishing textiles.....	2	Gold and silver, leaf and foil.....	2
Brushes.....	2	Electroplating.....	2	Grease and tallow.....	2
Buttons.....	3	Fertilizers.....	4	Hair work.....	1
Cars, steam-railroad, not including operations of railroad companies.....	1	Firearms and ammunition.....	1	Hats and caps, other than felt, straw, and wool.....	2
		Flavoring extracts.....	2	Hats, fur-felt.....	2
		Flax and hemp, dressed.....	7		

MANUFACTURES—KENTUCKY.

THE STATE, BY INDUSTRIES: 1909.

	EXPENSES.											Value of products.	Value added by manufacture.
	Capital.	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	\$172,778,805	\$201,162,611	\$4,731,350	\$4,872,023	\$27,887,672	\$3,580,767	\$108,189,560	\$582,735	\$35,661,033	\$1,052,093	\$14,596,888	\$223,754,407	\$111,075,180
2	92,249	92,928	3,738	180	30,215	263	51,004	1,173	488	.....	4,067	116,875	64,708
3	5,704	9,122	1,200	704	2,506	142	3,370	507	15	.....	408	8,906	5,304
4	5,675	7,473	.....	.....	2,948	80	4,165	30	11	.....	239	10,800	6,561
5	1,700,360	3,226,157	69,549	141,022	170,740	4,230	2,440,107	2,940	4,091	263,408	130,464	3,247,825	803,488
6	13,760	29,602	1,144	.....	9,508	332	16,800	240	98	.....	1,420	36,250	19,118
7	43,171	54,882	2,992	1,965	12,379	2,159	29,850	2,736	330	.....	2,471	61,422	29,413
8	2,198,461	2,805,280	39,954	63,773	485,447	60,010	1,877,354	59,950	14,407	946	194,433	3,337,848	1,301,478
9	2,160,341	812,951	67,690	9,994	399,737	178,077	55,903	3,500	9,342	645	88,057	1,015,447	781,467
10	269,057	424,082	18,090	4,572	31,446	1,031	316,432	1,036	1,051	26,927	22,207	528,818	210,755
11	81,363	247,009	3,794	6,180	30,428	2,296	193,103	480	582	.....	10,140	275,389	79,000
12	1,561,612	1,701,013	59,289	108,813	177,326	11,170	1,082,171	10,920	0,890	.....	245,334	1,856,805	763,551
13	33,940	46,741	6,408	1,805	20,043	1,000	6,824	2,730	105	.....	6,467	51,525	43,032
14	7,739,088	4,627,490	189,725	132,692	1,103,085	55,815	2,650,091	16,238	42,068	4,474	360,292	5,141,107	2,428,601
15	5,600,107	6,534,930	145,261	129,827	3,240,035	99,900	2,790,478	.....	10,336	.....	100,633	6,534,930	3,035,092
16	232,079	270,046	9,464	2,240	115,880	2,385	130,070	.....	2,029	.....	4,000	276,046	133,682
17	151,105	72,623	9,607	706	16,688	4,923	35,582	100	540	.....	4,477	94,710	54,205
18	3,746,268	5,470,325	147,826	395,401	1,184,283	34,205	3,241,502	33,500	20,375	35,707	380,106	6,052,081	2,776,314
19	272,622	697,043	30,034	13,018	151,101	4,690	428,201	10,235	1,233	.....	58,525	772,082	330,185
20	811,375	1,952,937	32,394	79,056	218,900	13,258	1,267,834	21,310	5,465	.....	314,720	2,256,900	975,808
21	2,728,524	2,218,106	43,893	20,751	394,287	7,183	1,695,785	2,993	11,864	6,434	35,006	2,647,510	944,551
22	784,380	2,075,724	48,265	29,900	228,647	11,896	1,073,187	10,720	4,209	6,040	62,800	2,243,330	558,256
23	1,505,196	1,058,143	25,150	7,786	224,040	16,611	692,486	2,332	5,580	.....	83,252	1,079,570	370,473
24	1,910,512	1,057,054	28,018	7,657	307,470	20,311	1,158,024	1,000	19,085	.....	104,080	1,002,407	714,532
25	220,726	204,249	15,136	7,808	53,021	2,407	98,024	1,080	1,361	.....	23,012	228,927	127,836
26	9,099,997	20,438,837	146,394	231,088	591,415	184,030	18,480,213	8,755	63,647	10,150	723,145	22,364,950	3,700,707
27	9,095,550	8,617,482	348,019	303,477	2,401,704	254,250	4,480,592	29,102	47,125	42,289	710,864	6,626,680	4,801,874
28	41,326	97,148	1,400	3,360	12,053	551	75,453	602	320	150	2,200	105,582	29,578
29	1,349,795	1,473,609	79,934	41,179	444,346	10,175	753,012	5,585	7,436	12,497	112,545	1,671,234	901,147
30	5,788,097	777,987	62,265	31,080	295,730	201,298	53,247	25,000	47,990	175	92,102	1,003,582	680,037
31	21,556	32,070	2,640	2,810	9,072	927	11,033	3,140	135	.....	368	40,400	27,936
32	4,108,436	840,477	94,241	21,762	243,338	103,775	113,080	6,700	21,775	419	145,447	1,134,505	827,735
33	2,588,590	1,395,309	24,018	14,001	165,226	370,347	736,483	3,000	24,062	.....	48,362	1,478,595	362,705
34	4,177,795	7,236,719	70,700	28,218	1,273,307	370,770	5,189,795	15,000	14,129	.....	274,740	7,770,320	2,218,755
35	9,706	34,842	3,900	1,758	9,000	195	15,000	781	52	.....	3,466	50,520	34,065
36	1,355,880	2,164,604	68,222	123,138	388,958	10,709	1,416,480	29,369	7,858	338	125,602	2,373,260	946,110
37	5,069,593	3,944,125	74,934	43,183	307,593	40,784	3,183,302	810	23,294	.....	270,225	4,240,795	1,016,709
38	22,452,042	41,914,182	372,770	236,092	727,811	365,784	8,235,634	19,608	31,228,270	13,882	714,425	44,360,104	35,758,080
39	8,892,528	3,907,347	178,685	242,655	532,360	134,173	1,137,324	1,200	774,472	.....	906,478	4,949,407	3,677,550
40	20,883,500	17,425,864	538,424	308,230	4,382,405	120,674	10,335,614	24,131	120,652	444,459	1,151,260	21,380,504	10,924,276
41	875,325	805,810	62,040	18,213	261,266	16,021	333,532	6,620	6,642	7,296	94,886	1,059,708	710,245
42	71,268	115,274	5,079	3,183	23,171	1,555	64,533	2,230	1,064	.....	14,659	129,060	63,172
43	240,841	420,240	5,771	5,228	70,770	3,039	321,378	800	1,266	.....	5,982	482,204	157,877
44	654,553	550,968	21,224	10,839	221,093	5,543	209,192	240	3,885	.....	21,552	588,352	310,017
45	2,362,683	3,893,167	43,695	34,707	90,409	22,050	3,540,124	.....	11,259	.....	141,023	4,141,175	570,001
46	1,149,600	1,606,523	74,577	121,180	78,541	12,045	1,200,498	5,061	8,498	75	166,030	1,902,081	749,638
47	1,150,703	1,817,123	74,362	115,123	93,082	8,942	747,335	8,014	6,560	.....	762,805	2,123,072	1,360,795
48	2,339,720	1,252,597	64,646	40,840	538,161	152,811	229,547	433	10,636	.....	207,123	1,469,757	1,087,309
49	5,545,566	5,184,057	474,511	486,027	1,090,244	94,440	1,550,744	100,750	41,382	138,578	607,081	6,453,842	4,808,058
50	4,200	2,633	.....	.....	480	34	1,816	125	30	.....	148	4,875	3,025
51	271,390	267,004	5,590	1,800	97,483	393	154,771	901	719	.....	5,847	271,067	115,903
52	1,208,876	6,179,132	35,360	25,805	251,325	36,478	5,709,380	1,844	12,093	.....	100,847	6,508,077	822,210
53	889,223	683,974	41,744	39,488	280,059	13,215	230,814	2,040	6,166	.....	16,336	820,761	573,722
54	11,010,145	17,157,069	301,578	609,421	1,431,500	64,008	8,361,354	32,247	2,034,661	1,610	3,420,790	18,567,786	10,172,424
55	78,690	85,381	13,170	4,004	11,739	2,263	42,946	180	9,445	.....	9,445	93,600	48,301
56	1,045,642	1,241,080	49,165	8,816	241,407	24,433	833,815	2,250	6,028	.....	77,115	1,277,917	419,669
57	12,759,680	13,226,466	391,105	542,933	2,131,373	245,410	8,398,033	65,281	67,952	28,990	1,355,350	15,367,855	6,724,412

* All other industries embrace—Continued.
 Hosiery and knit goods. 2
 House-furnishing goods, not elsewhere specified. 2
 Ink, writing. 2
 Instruments, professional and scientific. 4
 Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills. 1
 Labels and tags. 2
 Krollin and ground earths. 2
 Lard, refined, not made in slaughtering and meat-packing establishments. 1
 Lime. 5
 Malt. 70
 Mineral and soda waters. 70
 Models and patterns, not including paper patterns. 1

Mucilago and paste. 1
 Musical instruments and materials, not specified. 2
 Oil, not elsewhere specified. 2
 Optical goods. 2
 Pearls, grading, roasting, cleaning, and shelling. 1
 Petroleum, refining. 1
 Photo-engraving. 3
 Safes and vaults. 1
 Signs and advertising novelties. 5
 Soap. 4
 Sporting and athletic goods. 1
 Statuary and art goods. 1
 Steam packing. 1

Stereotyping and electrotyping. 1
 Surgical appliances and artificial limbs. 2
 Type founding and printing materials. 2
 Umbrellas and canes. 1
 Upholstering materials. 3
 Vault lights and ventilators. 1
 Vinegar and cider. 8
 Washing machines and clothes wringers. 1
 Whips. 1
 Window shades and fixtures. 2
 Wire. 1
 Wirework, including wire rope and cable. 5
 Wood, turned and carved. 19
 Wool pulling. 1

MANUFACTURES : LOUISIANA

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 Louisiana 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 Louisiana, 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 city of New Orleans. It also gives the same items for all industries combined for every city and town 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 canvasses 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 of the state.—Louisiana, with a gross area of 48,506 square miles, of which 3,097 represent water surface, ranks thirtieth in size among the states and territories of continental United States. Its population in 1910 was 1,656,388, as compared with 1,381,625 in 1900 and 1,118,588 in 1890. In 1910 the density of population for the entire state was 36.5 per square mile, the corresponding figure for 1900 being 30.4. It ranked twenty-fourth among the 49 states and territories as regards population in 1910 and twenty-third in 1900. Thirty per cent of the entire population of the state resides in incorporated cities and towns having a population of 2,500 or over, as against 26.5 per cent in 1900.

New Orleans, with a population of 339,075, is the only city of the state having a population of over 50,000. Five other cities, however—Alexandria, Baton Rouge, Lake Charles, Monroe, and Shreveport—have a population of less than 50,000, but exceeding 10,000. These six cities contain 25 per cent of the total population of the state and are credited with 39.2 per cent of the total value of its manufactures. Eliminating these cities, only 4.9 per cent of the population resides in towns of 2,500 inhabitants or over.

A large proportion of the raw materials used in the manufactures of Louisiana is furnished by the forests of the state, and by its sugar cane, cotton, and rice fields.

The difficulty of obtaining a sufficient supply of fuel much retarded the early development of manufactures, but the opening of short canals and recent improvements of waterways and in railroad facilities have materially reduced the cost of transportation of coal as

well as of other commodities. The rapid development of the oil fields of the South, particularly in Texas, has afforded a cheap substitute for coal and given an increased impetus to manufactures in Louisiana. New Orleans, the most important southern port, affords excellent opportunities for domestic coastwise and foreign commerce.

Importance and growth of manufactures.—Although Louisiana is not essentially a manufacturing state, from 1849–50 to 1909 the value of its manufactures increased at a somewhat greater rate than the value of the manufactures of the United States as a whole. The proportion of the total value of products which the state contributed was seven-tenths of 1 per cent in 1849–50 and 1.1 per cent in 1909. In 1849–50 the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to only \$6,779,000, while in 1909, exclusive of the value of the products of the neighborhood and hand industries, it reached \$223,949,000, representing an increase of over thirty-two fold during the period. The population of the state during the same period increased only a little more than twofold. The value of manufactured products per capita of the total population of the state increased from \$13 to \$135. Louisiana ranked twenty-fourth in 1849–50 among the states in respect to gross value of products, but advanced to nineteenth place in 1909.

The following table 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:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	2,516	2,091	1,826	20.3	14.5
Persons engaged in manufactures.....	86,563	63,735	(1)	35.8	(1)
Proprietors and firm members.....	2,295	1,899	(1)	20.9	(1)
Salaried employees.....	8,103	5,977	3,576	35.6	67.1
Wage earners (average number).....	76,165	55,859	40,878	36.4	36.6
Primary horsepower.....	346,652	251,963	190,182	37.6	32.5
Capital.....	\$221,816,000	\$150,811,000	\$100,875,000	47.1	49.5
Expenses.....	204,024,000	164,442,000	101,164,000	37.5	62.5
Services.....	42,394,000	31,360,000	17,659,000	35.2	77.6
Salaries.....	9,008,000	6,044,000	2,934,000	49.0	106.0
Wages.....	33,386,000	25,316,000	14,725,000	31.9	71.9
Materials.....	134,865,000	117,035,000	75,404,000	15.2	55.2
Miscellaneous.....	26,765,000	16,047,000	8,101,000	66.8	98.1
Value of products.....	223,949,000	186,380,000	111,398,000	20.2	67.3
Value added by manufacture (value of products less cost of materials).....	89,084,000	69,345,000	35,994,000	28.5	92.7

¹ Figures not available.

In 1909 the state of Louisiana had 2,516 manufacturing establishments operating under the factory sys-

tem, which gave employment to an average of 86,563 persons during the year and paid out \$42,394,000 in

STATISTICS OF MANUFACTURES—LOUISIANA.

salaries and wages. Of the persons employed, 76,165 were wage earners. These establishments turned out products to the value of \$223,949,000, to produce which materials costing \$134,865,000 were consumed. The value added by manufacture was thus \$89,084,000, 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 Louisiana have shown a substantial increase during each of the two periods 1899-1904 and 1904-1909. The greater percentage of gain for all items, except number of establishments and primary horsepower, occurred during the earlier period. During the five-year period 1899-1904 the number of

establishments increased 14.5 per cent and the average number of wage earners 36.6 per cent, while the value of products increased 67.3 per cent, and the value added by manufacture 92.7 per cent. The same items increased 20.3 per cent, 36.4 per cent, 20.2 per cent, and 28.5 per cent, respectively, during the five-year period 1904-1909. 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.

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.....	2,516	76,165	100.0	\$223,949,000	100.0	\$89,084,000	100.0	20.2	67.3	28.5	92.7
Sugar and molasses and sugar refining, not including beet sugar.....	200	5,093	6.7	63,775,000	28.5	11,473,000	12.9	-13.6	57.8	-19.7	101.9
Lumber and timber products.....	702	40,072	52.5	62,838,000	28.1	30,682,000	44.5	63.8	100.0	41.8	157.5
Oil, cottonseed, and cake.....	43	804	1.2	13,085,000	5.8	1,517,000	1.7	-0.8	87.7	-11.3	38.7
Rice, cleaning and polishing.....	37	693	0.9	12,620,000	5.6	1,558,000	1.7	16.9	86.9	-10.7	123.1
Bags, other than paper.....	6	474	0.6	5,352,000	2.4	280,000	0.3	31.3	18.4	-35.2	19.7
Bread and other bakery products.....	289	1,280	1.7	4,620,000	2.1	1,917,000	2.2	72.0	17.0	89.2	12.3
Printing and publishing.....	208	1,544	2.0	3,823,000	1.7	2,810,000	3.2				
Liquors, malt.....	9	512	0.7	3,673,000	1.6	2,536,000	2.8	56.2	55.4	50.1	58.1
Foundry and machine-shop products.....	83	1,314	1.7	2,998,000	1.3	1,546,000	1.7	-8.1	14.0	-22.2	35.1
Copper, tin, and sheet-iron products.....	66	979	1.3	2,899,000	1.3	1,169,000	1.3				
Cars and general shop construction and repairs by steam-railroad companies.....	26	2,426	3.2	2,527,000	1.1	1,545,000	1.7	-4.1	84.4	1.6	75.6
Cooperage and wooden goods, not elsewhere specified.....	41	966	1.3	1,595,000	0.7	719,000	0.8	-11.8	185.6	14.0	125.6
Ice, manufactured.....	69	633	0.8	1,501,000	0.7	1,002,000	1.1	36.4	92.6	30.6	99.2
Turpentine and resin.....	23	1,688	2.2	1,174,000	0.5	1,015,000	1.1	453.8	84.3	480.0	113.4
Clothing, men's, including shirts.....	19	817	1.1	1,168,000	0.5	508,000	0.6	-43.1	-5.9	-34.6	-17.2
Leather goods.....	17	230	0.3	1,025,000	0.5	317,000	0.4	6.8	32.2	-7.6	22.1
Canning and preserving.....	26	974	1.3	978,000	0.4	405,000	0.5	-16.6	174.7	-24.6	206.9
Flour-mill and gristmill products.....	11	82	0.1	943,000	0.4	103,000	0.1	1,328.8	77.2	692.3	-63.9
Confectionery.....	12	207	0.3	709,000	0.3	372,000	0.4	29.9	118.4	24.4	214.7
Furniture and refrigerators.....	17	369	0.5	620,000	0.3	346,000	0.4				
Shipbuilding, including boat building.....	25	374	0.5	573,000	0.3	419,000	0.5	77.4	29.2	83.0	28.7
Carriages and wagons and materials.....	40	358	0.5	529,000	0.2	323,000	0.4				
Boots and shoes, including cut stock and findings.....	13	278	0.3	517,000	0.2	214,000	0.2				
Brick and tile.....	48	583	0.8	496,000	0.2	385,000	0.4	-40.0	82.9	-49.5	77.4
Mattresses and spring beds.....	22	203	0.3	491,000	0.2	201,000	0.2	-3.0	222.3	-15.2	415.2
All other industries.....	395	7,123	9.3	33,611,000	15.0	16,725,000	18.8	76.0	69.0	122.3	25.1

¹ Per cent of increase is based on figures in Table I, and a minus sign (-) denotes 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 products of one establishment in the industry as material for another establishment.

In addition to the industries presented separately, there are eight important industries each of which had a value of products in 1909 exceeding \$1,000,000. They are included under the head of "All other industries" in the table because in some cases 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 as it is interwoven with one or more other industries. These industries are as follows: Coffee and spice, roasting and grinding; cotton goods, including cotton small wares; fertilizers; food preparations; gas, illuminating and heating; liquors, distilled; tobacco manufactures; and wood preserving. Statistics, however, for distilled liquors are presented in Table II for 1909.

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

Sugar and molasses and sugar refining, not including beet sugar.—The statistics for these two characteristic industries of Louisiana are combined in the above tabular statement and in Table I for comparison with 1904 and 1899. In other tables, however, where industries are shown for 1909 only, the two are presented separately. The combined industry is the largest in the state from the standpoint of its value of products which amounted to 28.5 per cent of the total for all manufacturing industries of the state. It shows a considerable decrease, however, in 1909, as compared with 1904, both in value of products and value added by manufacture. This condition is due to the fact that in 1909 as compared with 1904 the cane crop was short, and that the imports of raw sugar at New Orleans for the fiscal year ending June 30, 1909, were about \$2,750,000 less in value than in 1904. Furthermore, in 1904 several establishments which were engaged in compounding table sirups were included under this head. In 1909 these establishments were included under the head of "Food preparations." In 1904 Louisiana was the second most important state in the Union in the production of sugar and molasses and refined sugar, contributing 26.6 per cent of the total value of these products, whereas, in 1909, although the state retained the same relative position, it contributed only 22.8 per cent of the total value of these products.

The manufacture of cane sugar in the United States is confined almost exclusively to Louisiana, all but six of the establishments reported for this industry at the census of 1909 being located in that state.

Lumber and timber products.—This industry includes, in addition to timber plants whose chief products are logs and bolts, the sawmills, shingle mills, and planing mills producing rough lumber, shingles, lath, cooperage stock, sash, doors, blinds, interior finish and other millwork, and also wooden packing-box factories. Far more establishments are engaged in this line of manufacture than in any other one industry in the state, and the value of the output is exceeded only by that for the combined sugar and molasses and sugar refining industries. The lumber and timber industry in Louisiana has reached an advanced stage of development. It gave employment to an average of 46,072 wage earners during 1909 and the value of its products amounted to \$62,838,000, these figures representing 60.5 per cent and 28.1 per cent, respectively, of the corresponding totals for the state.

Oil, cottonseed, and cake.—The statistics include those for all establishments engaged primarily in extracting oil from cotton seed or refining crude cottonseed oil. The decided decrease from 1904 to 1909 in the production of cotton in Louisiana caused a decline in the output of cottonseed products during the same period. Prior to 1870 cotton seed was for the most part treated as waste or used as a fertilizer, but since

that date the discovery of many new and varied uses for cottonseed products has caused a constant increase in the demand for cotton seed, and a decided advance in its price. Measured by value of products, Louisiana is fourth in order of importance among the states in this industry, having been displaced from third place by Mississippi since 1904.

Rice, cleaning and polishing.—Of the 71 establishments in the United States in 1909 reported as engaged in cleaning and polishing rice, the combined output of which was valued at \$22,371,000, Louisiana had 37, with products valued at \$12,529,000. The introduction, just prior to the census of 1899, of new methods of cultivating and harvesting rice and the establishing of irrigation plants in the rice-producing sections of the state, had a noteworthy effect upon the industry during the next five years, the number of rice-milling establishments increasing from 37 to 43, and the value of the products from \$5,736,000 to \$10,718,000. During the next five years the gain in value of products, although substantial, was not so pronounced, while the number of establishments decreased to 37.

Bags, other than paper.—The importance of this industry is in a measure dependent upon the demands made by other industries of the state for its output. Burlap bags and sacks are used in handling cotton seed, cottonseed meal, rice, and fertilizers. Ranked by value of products, Louisiana was third in 1909 and second in 1904 among the states in this class of manufacture, reporting 9.8 per cent of the total value of products for this industry in 1909 and 10.9 per cent in 1904.

Measured by value added by manufacture, the relative importance of the first 10 industries is considerably different from the order shown in the table. The lumber and the combined sugar and molasses industries exchange places, while the printing and publishing and malt-liquor industries become third and fourth in importance, thereby displacing the cottonseed-oil industry and the cleaning and polishing of rice, which drop to eighth and sixth places, respectively. The baking industry displaces the bag industry from fifth place, this latter industry falling to twenty-second place. The foundry and machine-shop industry advanced from ninth to seventh place.

Owing to the comparatively simple processes involved in the manufacture of bags and of cottonseed oil and in the cleaning and polishing of rice, as well as to the extent to which these processes are carried on by machinery, the value added by manufacture and the number of wage earners employed in these industries are not commensurate with the gross value of products. When measured by value of products, steam-railroad repair shops and the turpentine and rosin industry do not rank among the most important of the industries, but they occupy the third and fourth positions, respectively, in the number of wage earners employed.

The table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture where these statistics are comparable. The flour-mill and gristmill industry shows a greater rate of increase from 1904 to 1909, both in value of products and value added by manufacture, than any other industry shown separately, namely, 1,328.8 per cent and 692.3 per cent, respectively. The turpentine and rosin industry, also shows remarkable increases both in gross value of products and in value added by manufacture.

There are some striking differences among the several industries shown separately as respects the relative increase from 1899 to 1904, and from 1904 to 1909, respectively. Nine of the industries show decreases from 1904 to 1909 in value of products and ten show decreases in value added by manufacture, while on the other hand, only one industry decreased in value of products and two industries decreased in value added by manufacture from 1899 to 1904. The most pronounced decreases from 1904 to 1909 are shown for the brick and tile industry—49 per cent in value of products and 49.5 per cent in value added by manufacture.

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.....	86,563	80,787	5,776
Proprietors and officials.....	5,001	4,822	179
Proprietors and firm members.....	2,205	2,144	151
Salaried officers of corporations.....	872	891	11
Superintendents and managers.....	1,834	1,817	17
Clerks.....	5,397	4,838	559
Wage earners (average number).....	76,165	71,127	5,038
16 years of age and over.....	74,026	70,153	4,473
Under 16 years of age.....	1,539	974	565

The average number of persons engaged in manufactures during 1909 was 86,563, of whom 76,165 were wage earners. The remainder was about equally divided between proprietors and officials, and 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 12 important industries individually:

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	86,563	5.8	6.2	88.0
Bags, other than paper.....	538	4.3	7.6	88.1
Bread and other bakery products.....	1,744	19.4	6.7	73.9
Cars and general shop construction and repairs by steam-railroad companies.....	2,615	2.0	5.3	92.8
Copper, tin, and sheet-iron products.....	1,200	8.7	9.7	81.6
Foundry and machine-shop products.....	1,573	8.7	7.8	83.5
Liquors, malt.....	620	4.8	12.6	82.6
Lumber and timber products.....	49,545	3.4	3.6	93.0
Oil, cottonseed, and cake.....	1,165	9.7	13.6	76.7
Printing and publishing.....	2,461	17.8	19.5	62.7
Rice, cleaning and polishing.....	960	8.5	19.3	72.2
Sugar and molasses.....	5,077	11.2	11.3	77.4
Sugar refining, not including beet sugar.....	1,323	3.3	8.8	87.8
All other industries.....	17,752	7.9	8.3	83.8

Of the total number of persons engaged in all manufacturing industries, 5.8 per cent were proprietors and officials, 6.2 per cent clerks, and 88 per cent wage earners. In the baking and in the printing and publishing industries the majority of the establishments are small, and in many of them the proprietors or their immediate representatives do all or a part of the work, so that the proportion of persons engaged in these industries falling in the class of proprietors and officials is very much higher than for other industries or all industries combined. The sugar and molasses industry also shows a large proportion of proprietors and officials, 11.2 per cent. Railroad repair shops show the smallest proportion, because these establishments 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 work.

The following table shows in percentages, for 1909, 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.	Per cent of total.		
		16 years of age and over.		Under 16 years of age.
		Male.	Female.	
All Industries	76,165	92.1	5.9	2.0
Bags, other than paper.....	474	29.3	47.7	23.0
Bread and other bakery products.....	1,289	82.2	12.7	5.0
Cars and general shop construction and repairs by steam-railroad companies.....	2,426	100.0		
Copper, tin, and sheet-iron products.....	979	85.8	10.9	3.3
Foundry and machine-shop products.....	1,314	99.3	0.1	0.6
Liquors, malt.....	512	96.7	3.1	0.2
Lumber and timber products.....	46,072	99.1	0.1	0.8
Oil, cottonseed, and cake.....	894	99.1	0.7	0.2
Printing and publishing.....	1,544	84.6	10.4	4.9
Rice, cleaning and polishing.....	693	99.0	0.6	0.4
Sugar and molasses.....	3,931	98.0	0.5	0.6
Sugar refining, not including beet sugar.....	1,162	98.2		1.8
All other industries.....	14,875	69.3	25.0	5.7

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, 92.1 per cent of the average number of wage earners were males 16 years of age and over; 5.9 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 tobacco manufactures and in the canning and preserving, men's clothing, cotton-goods, bag, and bakery industries. In the manufacture of bags, nearly half of the employees are women 16 years of age and over; in bakeries, over one-eighth; in the manufacture of copper, tin, and sheet-iron products and in the printing and publishing industry, over one-tenth.

The tobacco manufactures, hosiery, cotton-goods, bag, and lumber industries combined employed the larger part of the total number of wage earners under 16 years of age. The number of children employed was largest in the lumber industry, yet the proportion which they formed of all wage earners in that industry was only eight-tenths of 1 per cent. In the manufacture of bags 23 per cent of the wage earners were children.

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 the comparison according to occupational status:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Percent of increase, 1904-1909.
	Number.	Percent distribution.	Number.	Percent distribution.	
Total	86,563	100.0	63,735	100.0	35.8
Proprietors and firm members.....	2,295	2.7	1,899	3.0	20.9
Salaried employees.....	8,103	9.4	5,977	9.4	35.6
Wage earners (average number).....	76,165	88.0	55,859	87.6	36.4

Comparable figures are not obtainable for 1899. The table shows a slightly greater percentage of increase in the average number of wage earners than in

the number of salaried employees, while both of these classes show a greater increase than proprietors and firm members.

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	76,165	100.0	55,859	100.0	40,878	100.0
16 years of age and over.....	74,620	98.0	54,546	97.6	30,772	97.3
Male.....	70,153	92.1	49,922	89.4	34,763	85.0
Female.....	4,473	5.9	4,604	8.2	5,909	12.3
Under 16 years of age....	1,530	2.0	1,313	2.4	1,106	2.7

This table indicates that for all industries combined there has been a gradual decrease during the 10 years in the proportion of children under 16 years of age, although the total number of children employed increased slightly. Females 16 years of age and over decreased both in number and in the proportion which they represent of the total. In 1909 males 16 years of age and over formed 92.1 per cent of all wage earners, as compared with 89.4 per cent in 1904 and 85 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 sugar and molasses 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 20, 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.		Sugar and molasses.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	71,118	77.5	1,252	8.3	69,866	90.3
February.....	69,020	75.8	410	2.8	69,201	80.5
March.....	72,237	78.7	657	4.3	71,580	92.6
April.....	71,911	78.3	739	4.9	71,172	92.0
May.....	70,050	76.3	820	5.4	69,230	89.5
June.....	72,066	78.5	985	6.5	71,081	91.9
July.....	73,270	79.8	1,071	7.1	72,199	93.4
August.....	73,576	80.1	874	5.8	72,702	94.0
September.....	74,272	80.9	1,256	8.3	73,016	94.4
October.....	83,413	90.8	9,511	62.9	73,902	95.6
November.....	90,630	98.7	15,112	100.0	75,518	97.6
December.....	91,814	100.0	14,475	95.8	77,339	100.0

In considering this table it should be noted that the sugar and molasses industry—not including the refining of sugar—is a seasonal one, so that the number employed during certain months is far greater than the average number for the entire year. In November 15,112 wage earners were employed in this industry, while but 419 were employed in February, the average for the year being 3,931.

The average number of wage earners in all industries combined shows some irregularity during the year, owing to the seasonal character of a number of industries which are dependent upon agriculture for their raw material. The greatest number, 91,814, was employed in the month of December, which was the period of greatest activity in the lumber industry, and the smallest number, 69,620, in the month of February, this number being equal to 75.8 per cent of the max-

imum. The variation from the maximum was relatively small in October and November, being 9.2 and 1.3 per cent, respectively. During the first nine months of the year the number of wage earners, though comparatively constant, was considerably less than the maximum, the ratio ranging from 75.8 to 80.9 per cent.

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.....	76,165	4,348	1,410	6,448	1,584	35,245	20,767	3,559	2,804
Bags, other than paper.....	474	2		18		454			
Boots and shoes, including cut stock and findings.....	278	12		10	143	107			6
Bread and other bakery products.....	1,280	154	4	8	58	248	688	10	119
Brick and tile.....	583	37		9	6	306	128		7
Canning and preserving.....	974	24		13	2	517	317	96	5
Carriages and wagons and materials.....	358		58	218		74	2	6	
Cars and general shop construction and repairs by steam-railroad companies.....	2,426	20		1,441		341	624		
Clothing, men's, including shirts.....	817	196	417	137		67			
Confectionery.....	207	84	72			49			2
Cooperage and wooden goods, not elsewhere specified.....	960	402	13	137	82	322		6	4
Copper, tin, and sheet-iron products.....	979	171	9	346	105	348			
Flour-mill and gristmill products.....	82	4		40		36		2	
Foundry and machine-shop products.....	1,314	14	1	706	72	423			8
Furniture and refrigerators.....	359	4	7	97	48	203			
Ice, manufactured.....	633				51	22	68	65	427
Leather goods.....	230	80		6	12	132			
Liquors, malt.....	512	224		181	107				
Lumber and timber products.....	46,072	380	259	852	300	25,085	18,184	112	
Mattresses and spring beds.....	203	28	23	12	14	126			
Oil, cottonseed, and cake.....	894	5				207	132	524	26
Printing and publishing.....	1,544	773	105	356	119	91	1	9	
Rice, cleaning and polishing.....	693	10				110	324	249	
Shipbuilding, including boat building.....	374	33		258		83			
Sugar and molasses.....	3,931	99				40	12	1,902	1,788
Sugar refining, not including beet sugar.....	1,162					650		376	136
Turpentine and rosin.....	1,088	262				1,277	149		
All other industries.....	7,123	1,330	352	1,513	465	2,957	138	112	276

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Louisiana the prevailing hours of labor range from 60 to 72 a week, or from 10 to 12 a day, only 18.1 per cent of the total being employed in establishments where the prevailing hours are less than 10 a day and only 3.7 per cent in establishments where the prevailing hours are more than 12 a day.

It will be noted that the canning and preserving, brick and tile, lumber and timber, bags, other than paper, furniture and refrigerators, leather goods, mattresses and spring beds, and turpentine and rosin industries operate largely on the basis of a 10 hour day (60 hours per week), while half of the employees in the sugar and molasses industry are in establishments

operating 72 hours per week, with nearly all the other employees working over 72 hours. The cottonseed-oil and cake industry is mainly on a 72-hour basis. The manufacture of ice is conspicuous for the long hours of work, as 67.5 per cent of the total number of wage earners were employed over 72 hours per week. Most of the industries just mentioned are seasonal in character.

Location of establishments.—The next table shows the extent to which the manufactures of Louisiana are centralized in cities of 10,000 population or over. (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 or towns that came within the group having over 10,000 inhabitants.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENT.		PER CENT OF TOTAL.	
			In cities and towns with population of 10,000 and over.	Outside districts.	In cities and towns with population of 10,000 and over.	Outside districts.
Population.....	1910	1,656,388	414,858	1,241,530	25.0	75.0
	1900	1,381,625	314,386	1,067,239	22.8	77.2
Number of establishments.	1909	2,516	1,028	1,488	40.9	59.1
	1899	1,826	747	1,079	40.9	59.1
Average number of wage earners.	1909	76,165	20,587	55,578	27.0	73.0
	1899	40,878	17,250	23,628	42.2	57.8
Value of products.	1909	\$223,948,638	\$87,880,248	\$136,068,390	39.2	60.8
	1899	111,307,919	59,719,597	51,588,322	53.6	46.4
Value added by manufacture.	1909	89,083,863	34,311,474	54,772,389	38.5	61.5
	1899	35,993,982	18,046,533	17,947,449	50.1	49.9

In 1900 New Orleans, Shreveport, and Baton Rouge were the only cities with a population of 10,000 and over, but increases in population since 1900 brought the cities of Alexandria, Lake Charles, and Monroe into this class in 1910. Although the total value of products in 1909 of the last three cities named was \$4,785,230, it was not large enough to affect materially the showing for the two groups presented in the table.

In 1909 only 39.2 per cent of the total value of products was reported from the six cities having over 10,000 inhabitants and 27 per cent of the average number of wage earners were employed in such cities. The figures indicate that during the last decade the manufacturing industries outside these cities have developed much more rapidly than those located in the cities. This is due in part to the size and rapid growth of the lumber industry which is conducted almost entirely outside the cities covered by the table.

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

CITY OR TOWN.	POPULATION.	
	1910	1900
New Orleans.....	339,075	287,104
Shreveport.....	28,015	16,013
Baton Rouge.....	14,807	11,269
Lake Charles.....	11,449	6,680
Alexandria.....	11,213	5,048
Monroe.....	10,209	5,428

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 cities.

The relative importance in manufactures of each of these six 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:

CITY OR TOWN.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
New Orleans ¹	17,186	17,408	16,185	\$78,794,030	\$81,410,706	\$57,446,116
Shreveport ¹	1,114	1,162	736	3,642,009	2,837,023	1,556,113
Lake Charles.....	736	(2)	(2)	2,250,973	(2)	(2)
Alexandria.....	513	(2)	(2)	1,278,041	(2)	(2)
Monroe.....	681	(2)	(2)	1,255,316	(2)	(2)
Baton Rouge.....	357	620	320	658,379	1,383,061	717,368

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 cities.

² Population less than 10,000 in 1900.

Each of the three cities for which comparable statistics are available shows a decrease in number of wage earners from 1904 to 1909, and all but Shreveport show a loss in value of products during the same period. Although the decreases in the manufactures of Baton Rouge were due largely to the disappearance of the sugar and molasses industry and to the great shrinkage in the lumber industry, the production of nearly half of the other industries which were represented in both years also decreased. The value of products reported for Shreveport, although not important when compared with the total for the state, more than doubled during the decade.

This table shows to what extent the manufactures of the state are centralized in the city of New Orleans. Of the total value of products and the total average number of wage earners reported for the state in 1909, 35.2 per cent and 22.6 per cent, respectively, represent the proportions falling to this city. Ranked by value of products New Orleans was twenty-third in 1899 among the cities of the country, twentieth in 1904, and twenty-fifth in 1909. The value of its manufactured products increased 37.2 per cent from 1899 to 1909. There was a decrease, however, of 3.2 per cent from 1904 to 1909, due to a loss in the sugar and molasses industry, which is the most important in the city.

The manufactures of New Orleans are diversified. All the establishments in the state reported as engaged in the manufacture of distilled liquors, bags, cotton goods, and men's clothing are located there. In tobacco manufactures, the malt-liquor industry, the roasting and grinding of coffee and spice, and the manufacture of illuminating gas, the value of the city's product represented more than 95 per cent of the totals reported for the state in each industry. Copper, tin, and sheet-iron products, printing and publishing, foundry and machine-shop products, and cleaning and polishing rice are other leading industries in New Orleans. Of the total value of products in 1909 which were shown for these industries in the state, 88.1 per cent, 78.8 per cent, 63.2 per cent, and

40.9 per cent, respectively, were reported from New Orleans.

The leading industries in Shreveport are the manufacture of lumber and timber products, steam-railroad repair shops, and the flour-mill and gristmill industry. The output of the latter industry represents 40.3 per cent of the total value of products of this character for the state. Other industries of importance are printing and publishing, the manufacture of fertilizers, and the production of cottonseed oil and cake.

The lumber industry is foremost among those in Lake Charles, Alexandria, and Monroe.

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 following table:

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:				
1909.....	2,518	76,165	\$223,948,638	\$89,083,863
1904.....	2,091	55,859	186,879,592	69,344,287
Individual:				
1909.....	1,143	8,423	21,241,076	8,894,583
1904.....	1,003	8,538	25,046,838	10,420,725
Firm:				
1909.....	456	6,089	19,297,319	6,500,020
1904.....	383	6,558	22,339,261	7,821,287
Corporation:				
1909.....	910	61,561	183,303,633	73,580,038*
1904.....	700	40,758	138,977,223	51,089,131
Other:				
1909.....	7	92	105,710	96,316
1904.....	5	5	10,270	13,174
Per cent of total:				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Individual:				
1909.....	45.4	11.1	9.5	10.0
1904.....	48.0	15.3	13.4	15.0
Firm:				
1909.....	18.1	8.0	8.6	7.3
1904.....	18.3	11.7	12.0	11.3
Corporation:				
1909.....	36.2	80.8	81.8	82.6
1904.....	33.5	73.0	74.6	73.7
Other:				
1909.....	0.3	0.1	(¹)	0.1
1904.....	0.2	(¹)	(¹)	(¹)
Bread and other bakery products, 1909.....	289	1,289	\$4,619,618	\$1,916,441
Individual.....	251	746	2,759,952	1,111,046
Firm.....	30	130	672,143	252,582
Corporation.....	8	413	1,187,523	552,813
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	86.9	57.9	59.7	58.0
Firm.....	10.4	10.1	14.5	13.2
Corporation.....	2.8	32.0	25.7	28.8
Cooperage and wood goods, not elsewhere specified, 1909.....	41	966	\$1,594,830	\$715,890
Individual.....	26	178	330,973	148,382
Firm.....	6	25	41,948	21,406
Corporation.....	9	763	1,221,909	546,102
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	63.4	18.4	20.8	20.7
Firm.....	14.6	2.6	2.6	3.0
Corporation.....	22.0	79.0	76.6	76.3

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Copper, tin, and sheet-iron products, 1909.....	66	979	\$2,898,597	\$1,168,680
Individual.....	44	312	972,733	314,356
Firm.....	10	82	105,751	67,516
Corporation.....	12	585	1,820,103	786,808
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	66.7	31.9	33.6	29.5
Firm.....	15.2	8.4	3.6	5.8
Corporation.....	18.2	59.8	62.8	64.8
Foundry and machine-shop products, 1909.....	83	1,314	\$2,998,273	\$1,546,179
Individual.....	40	501	1,244,915	552,758
Firm.....	13	110	177,992	104,229
Corporation.....	30	703	1,575,456	889,192
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	48.2	38.1	41.5	35.7
Firm.....	15.7	8.4	5.9	6.7
Corporation.....	36.1	53.5	52.5	57.5
Lumber and timber products, 1909.....	702	46,072	\$62,837,912	\$39,681,716
Individual.....	236	3,268	3,536,060	2,337,126
Firm.....	173	2,830	3,783,345	2,522,579
Corporation.....	293	39,974	55,518,507	34,822,011
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	33.6	7.1	5.6	5.9
Firm.....	24.6	6.1	6.0	6.4
Corporation.....	41.7	86.8	88.4	87.8
Printing and publishing, 1909.....	268	1,544	\$3,823,478	\$2,810,180
Individual.....	151	356	617,554	484,025
Firm.....	40	185	313,121	234,977
Corporation.....	77	1,003	2,892,798	2,091,178
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	56.3	23.1	16.2	17.2
Firm.....	17.2	12.0	8.2	8.4
Corporation.....	26.5	65.0	75.7	74.4
Sugar and molasses, 1909.....	204	3,931	\$39,001,027	\$8,879,308
Individual.....	72	948	6,690,446	1,924,701
Firm.....	41	600	4,415,208	1,309,908
Corporation.....	91	2,383	17,895,373	5,644,698
Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	35.3	24.1	23.1	21.7
Firm.....	20.1	15.3	15.2	14.3
Corporation.....	44.6	60.6	61.7	63.6

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. For all industries combined, 36.2 per cent of the total number of establishments were in 1909 under corporate ownership, as against 63.8 per cent under all other forms. The corresponding figures for 1904 were 33.5 per cent and 66.5 per cent, respectively. Of the total value of products, however, establishments with corporate ownership contributed 81.8 per cent in 1909 and 74.6 per cent in 1904.

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 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.....	2,516	76,165	\$223,948,638	\$89,033,863
1904.....	2,091	55,859	186,370,592	69,344,287
Less than \$5,000:				
1909.....	661	1,432	1,707,700	1,100,020
1904.....	468	890	1,269,970	822,103
\$5,000 and less than \$20,000:				
1909.....	814	5,703	8,633,602	5,012,465
1904.....	658	4,174	6,860,329	4,033,652
\$20,000 and less than \$100,000:				
1909.....	634	14,739	30,049,092	14,591,951
1904.....	554	12,428	26,798,992	13,652,237
\$100,000 and less than \$1,000,000:				
1909.....	384	44,640	108,140,730	49,290,737
1904.....	398	35,112	97,332,115	45,173,492
\$1,000,000 and over:				
1909.....	23	9,642	75,417,505	19,079,681
1904.....	13	3,255	54,118,180	5,602,803
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.....	26.3	1.9	0.8	1.2
1904.....	22.4	1.6	0.7	1.2
\$5,000 and less than \$20,000:				
1909.....	32.4	7.5	3.9	5.6
1904.....	31.5	7.5	3.7	5.8
\$20,000 and less than \$100,000:				
1909.....	25.2	19.4	13.4	16.4
1904.....	26.5	22.2	14.4	19.7
\$100,000 and less than \$1,000,000:				
1909.....	15.3	58.6	48.3	55.3
1904.....	19.0	62.9	52.2	65.1
\$1,000,000 and over:				
1909.....	0.9	12.7	33.7	21.4
1904.....	0.6	5.8	20.0	8.2
Average per establishment:				
1909.....		30	\$89,010	\$35,407
1904.....		27	80,134	33,163
Bread and other bakery products, 1909.....	289	1,289	\$4,619,618	\$1,016,441
Less than \$5,000.....	77	71	229,643	90,586
\$5,000 and less than \$20,000.....	167	473	1,713,835	694,357
\$20,000 and less than \$100,000.....	38	285	1,244,201	493,910
\$100,000 and less than \$1,000,000.....	7	400	1,431,840	631,588
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	26.6	5.5	5.0	5.0
\$5,000 and less than \$20,000.....	57.8	36.7	37.1	36.2
\$20,000 and less than \$100,000.....	13.1	22.1	26.0	25.8
\$100,000 and less than \$1,000,000.....	2.4	35.7	31.0	33.0
Average per establishment.....	4	4	\$15,985	\$6,631
Cooperage and woodengoods, not elsewhere specified, 1909.....	41	960	\$1,594,830	\$715,890
Less than \$5,000.....	13	27	41,457	21,306
\$5,000 and less than \$20,000.....	15	112	158,142	84,136
\$20,000 and less than \$100,000.....	10	400	553,310	281,339
\$100,000 and less than \$1,000,000.....	3	427	838,921	329,040
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	31.7	2.8	2.6	3.0
\$5,000 and less than \$20,000.....	36.6	11.6	9.9	11.8
\$20,000 and less than \$100,000.....	24.4	41.4	34.9	36.3
\$100,000 and less than \$1,000,000.....	7.3	44.2	52.6	46.0
Average per establishment.....	24	24	\$38,808	\$17,461
Copper, tin, and sheet-iron products, 1909.....	66	979	\$2,998,597	\$1,168,680
Less than \$5,000.....	23	40	77,376	47,765
\$5,000 and less than \$20,000.....	26	136	253,407	161,605
\$20,000 and less than \$100,000.....	9	180	340,207	180,980
\$100,000 and less than \$1,000,000.....	8	623	2,224,517	709,424
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	34.8	4.1	2.7	4.1
\$5,000 and less than \$20,000.....	30.4	13.9	8.8	13.8
\$20,000 and less than \$100,000.....	13.6	18.4	11.7	16.3
\$100,000 and less than \$1,000,000.....	12.1	63.6	76.7	65.8
Average per establishment.....	15	15	\$43,018	\$17,707
Foundry and machine-shop products, 1909.....	83	1,314	\$2,098,273	\$1,546,179
Less than \$5,000.....	17	23	50,355	31,623
\$5,000 and less than \$20,000.....	30	225	333,031	211,310
\$20,000 and less than \$100,000.....	31	615	1,202,837	701,635
\$100,000 and less than \$1,000,000.....	5	451	1,411,150	599,611
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	20.5	1.8	1.7	2.2
\$5,000 and less than \$20,000.....	36.1	17.1	11.1	13.7
\$20,000 and less than \$100,000.....	37.3	46.8	40.1	45.4
\$100,000 and less than \$1,000,000.....	6.0	34.3	47.1	38.8
Average per establishment.....	10	10	\$30,124	\$18,629

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.....	702	46,072	\$82,837,912	\$39,681,716
Less than \$5,000.....	130	568	361,513	248,454
\$5,000 and less than \$20,000.....	216	2,300	2,356,467	1,520,868
\$20,000 and less than \$100,000.....	197	6,605	9,136,020	5,748,811
\$100,000 and less than \$1,000,000.....	144	20,321	42,751,346	26,596,313
\$1,000,000 and over.....	6	7,122	8,232,557	5,607,270
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	19.8	1.2	0.6	0.6
\$5,000 and less than \$20,000.....	30.8	5.2	3.8	3.8
\$20,000 and less than \$100,000.....	28.1	14.5	14.5	14.5
\$100,000 and less than \$1,000,000.....	20.5	63.6	68.0	67.0
\$1,000,000 and over.....	0.9	15.5	13.1	14.0
Average per establishment.....	66	66	\$89,513	\$56,527
Printing and publishing, 1909.....	268	1,544	\$3,838,478	\$2,610,180
Less than \$5,000.....	160	233	375,953	208,123
\$5,000 and less than \$20,000.....	70	318	618,858	492,432
\$20,000 and less than \$100,000.....	32	583	1,248,208	868,180
\$100,000 and less than \$1,000,000.....	6	410	1,580,454	1,151,445
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	59.7	15.1	9.8	10.6
\$5,000 and less than \$20,000.....	26.1	20.6	16.2	17.5
\$20,000 and less than \$100,000.....	11.9	37.8	32.6	30.9
\$100,000 and less than \$1,000,000.....	2.2	26.6	41.3	41.0
Average per establishment.....	6	6	\$14,267	\$10,486
Sugar and molasses, 1909.....	204	3,931	\$29,001,027	\$8,879,802
Less than \$5,000.....	6	7	13,792	5,897
\$5,000 and less than \$20,000.....	7	30	90,182	23,997
\$20,000 and less than \$100,000.....	106	1,039	6,165,330	1,657,615
\$100,000 and less than \$1,000,000.....	85	2,855	22,731,714	7,191,793
Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000.....	2.9	0.2	(?)	0.1
\$5,000 and less than \$20,000.....	3.4	0.8	0.3	0.3
\$20,000 and less than \$100,000.....	52.0	26.4	21.3	18.7
\$100,000 and less than \$1,000,000.....	41.7	72.6	78.4	81.0
Average per establishment.....	19	19	\$142,162	\$43,626

¹ Includes the group "\$1,000,000 and over."
² Less than one-tenth of 1 per cent.

This table shows that, in 1909, of the 2,516 manufacturing establishments in the state only 23, or nine-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, had an average number of wage earners of 9,642, or 12.7 per cent of the total number in all establishments, and reported 33.7 per cent of the total value of products, and 21.4 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 (26.3 per cent), of the total number of establishments, but the value of their products amounted to only eight-tenths of 1 per cent of the total. The great bulk of the manufacturing was reported by establishments having a product valued at not less than \$100,000.

The average value of products per establishment was somewhat less in 1909 than in 1904, while the average value added by manufacture was slightly greater. The average number of wage earners per establishment also increased. The table shows further that when the size of establishments is measured by the average value of products per establishment the bakeries, cooperage shops, foundries and machine shops, copper, tin, and sheet-iron shops, and printing and publishing establishments are usually rather small, while

STATISTICS OF MANUFACTURES—LOUISIANA.

the lumber and sugar industries are conducted mainly in larger establishments.

In some respects, and especially from the standpoint of the 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 12 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.....	2,516	118	1,022	777	322	108	110	47	8	4
Bags, other than paper.....	6		1	2		1	2			
Bread and other bakery products.....	289	26	220	36	4	1	3			
Cars and general shop construction and repairs by steam-railroad companies.....	26		5	8	5	1	4	2	1	
Copper, tin, and sheet-iron products.....	66	1	40	10	3	5		1		
Foundry and machine-shop products.....	83	2	31	34	12	1	3			
Liquors, malt.....	0			1	5	2	1			
Lumber and timber products.....	702	1	150	253	120	52	74	33	6	4
Oil, cottonseed, and cake.....	43	7	21	12	3					
Printing and publishing.....	268	48	104	40	13	2	1			
Rice, cleaning and polishing.....	37		5	21	10					
Sugar and molasses.....	204		32	112	50	8	2			
Sugar refining, not including beet sugar.....	5			1			1	3		
All other industries.....	778	40	358	232	88	33	18	8	1	
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	76,165	2,808	9,036	10,991	7,835	17,592	15,905	5,250	6,748	
Bags, other than paper.....	474	1	28		86	360				
Bread and other bakery products.....	1,280	534	205	124		330				
Cars and general shop construction and repairs by steam-railroad companies.....	2,420	19	104	220	99	497	690	788		
Copper, tin, and sheet-iron products.....	979	105	184	89	335		266			
Foundry and machine-shop products.....	1,314	83	413	384	54	380				
Liquors, malt.....	512		8	215	147	142				
Lumber and timber products.....	46,072	545	3,149	4,280	3,834	12,059	11,016	3,841	6,748	
Oil, cottonseed, and cake.....	894	24	238	398	234					
Printing and publishing.....	1,544	388	432	444	166	124				
Rice, cleaning and polishing.....	693	12	279	297		105				
Sugar and molasses.....	3,931	113	1,307	1,650	495	366				
Sugar refining, not including beet sugar.....	1,162		8			136	1,018			
All other industries.....	14,875	984	2,691	2,800	2,366	3,087	2,306	621		
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	3.7	11.9	14.4	10.3	23.1	20.9	6.9	8.9	
Bags, other than paper.....	100.0	0.2	5.9		17.0	75.9				
Bread and other bakery products.....	100.0	41.4	22.9	9.6		26.1				
Cars and general shop construction and repairs by steam-railroad companies.....	100.0	0.8	4.3	9.1	4.1	20.5	28.8	32.5		
Copper, tin, and sheet-iron products.....	100.0	10.7	18.8	9.1	34.2		27.2			
Foundry and machine-shop products.....	100.0	6.3	31.4	29.2	4.1	28.0				
Liquors, malt.....	100.0		1.6	42.0	28.7	27.7				
Lumber and timber products.....	100.0	1.2	6.8	9.3	8.3	26.2	25.2	8.3	14.6	
Oil, cottonseed, and cake.....	100.0	2.7	26.6	44.5	26.2					
Printing and publishing.....	100.0	25.1	28.0	28.8	10.1	8.0				
Rice, cleaning and polishing.....	100.0	1.7	40.3	42.9		15.2				
Sugar and molasses.....	100.0	2.9	33.2	42.0	12.6	9.3				
Sugar refining, not including beet sugar.....	100.0		0.7			11.7	87.6			
All other industries.....	100.0	6.6	17.4	19.4	16.1	20.8	15.5	4.2		

The per cent distribution of the number of establishments is not shown in this table. Of the 2,516 establishments reported for all industries, 40.6 per cent employed from 1 to 5 wage earners; 30.9 per cent, 6 to 20; 12.8 per cent, 21 to 50; and 8.7 per cent, 51 to 250. The most numerous single group consists of the 1,022 establishments employing from 1 to 5 wage earners, and the next of the 777 establishments employing from 6 to 20 wage earners. There were 59 establishments that employed over 250 wage earners, and 4, all of which were lumber mills, that employed over 1,000 wage earners.

Of the total number of wage earners, 36.7 per cent were in establishments employing over 250 wage earners. The single group having the largest number of employees was the group employing from 101 to 250 wage earners. This group employed 17,592 wage earners, or 23.1 per cent of the total. The group of establishments employing from 251 to 500 wage earners, however, with 15,905 wage earners, or 20.9 per cent of the total, was nearly as important. Of the individual industries listed in this table, but not in the preceding one, the bags, other than paper, railroad repair shop, and sugar refining industries are

conducted in comparatively large establishments, as appears from the classification according to the number of wage earners, while the malt liquor and cottonseed-oil industries and the cleaning and polishing of rice are conducted in establishments employing generally less than 100 wage earners.

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, however, can be brought out concerning the relative importance of the different classes of expenses which make up the total.

The following table 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.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	4.4	16.4	66.1	13.1
Bags, other than paper.....	1.4	2.9	93.4	2.3
Bread and other bakery products.....	2.8	17.1	69.1	11.0
Cars and general shop construction and repairs by steam-railroad companies.....	7.5	52.6	30.0	0.9
Copper, tin, and sheet-iron products.....	6.7	18.8	64.9	9.6
Foundry and machine-shop products.....	8.8	30.2	53.9	7.1
Liquors, malt.....	7.9	14.7	39.7	37.6
Lumber and timber products.....	6.6	36.1	41.8	15.4
Oil, cottonseed, and cake.....	2.3	2.6	91.5	3.7
Printing and publishing.....	17.9	31.8	30.4	19.9
Rice, cleaning and polishing.....	2.8	2.7	90.7	3.8
Sugar and molasses.....	2.8	7.1	81.5	8.6
Sugar refining, not including beet sugar.....	0.7	2.0	94.5	2.8
All other industries.....	5.2	12.8	64.5	27.6

This table shows that, for all industries combined, 66.1 per cent of the total expenses was incurred for materials, 20.8 per cent for services, that is, salaries and wages, and 13.1 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.

The table indicates that from 1904 to 1909 there was an increase of 94,689 horsepower, or 37.6 per cent, in the total power used in manufactures, while from 1899 to 1904 the increase was 61,781 horsepower, or 32.5 per cent. Of the total increase from 1904 to 1909 in power used, 85,625 horsepower was in that generated by steam engines, and 6,299 horsepower in rented electric power. The water power employed has decreased from 313 horsepower in 1899 to 266 in 1904 and 75 in 1909. The more general use of gas engines is

shown, there being 284 such engines with a capacity of 3,496 horsepower reported in 1909, as against 136 engines with 961 horsepower in 1904, and 69 engines with 462 horsepower in 1899. The figures also show that the practice of renting electric power is increasing, 2.6 per cent of the total power being of this character in 1909, as compared with 1.1 per cent in 1904, and six-tenths of 1 per cent in 1899. The use of electric motors for the purpose of applying power generated within the establishments is also increasing, the horsepower of such motors increasing from 668 in 1 99 to 3,974 in 1904, and 18,062 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	6,123	2,765	2,967	346,652	251,963	190,182	100.0	100.0	100.0
Owned.....	4,078	2,705	2,967	337,342	249,112	188,580	97.3	98.9	99.2
Steam.....	4,388	2,622	2,887	331,370	245,745	187,492	95.6	97.5	98.6
Gas.....	284	130	69	3,496	961	462	1.0	0.4	0.2
Water wheels.....	2	5	11	65	200	313	(²)	0.1	0.2
Water motors.....	4	2	(³)	10	6	.....	(²)	(²)	(²)
Other.....	.....	.....	.....	2,401	2,140	322	0.7	0.8	0.2
Rented.....	1,445	(²)	(³)	9,310	2,851	1,593	2.7	1.1	0.8
Electric.....	1,445	(²)	(³)	9,077	2,778	1,401	2.6	1.1	0.6
Other.....	.....	.....	.....	233	73	192	0.1	(²)	0.1
Electric motors	2,331	135	61	27,139	6,752	2,669	100.0	100.0	100.0
Run by current generated by establishment power.....	889	135	61	18,062	3,974	668	66.0	58.9	32.3
Run by rented power.....	1,445	(²)	(³)	9,077	2,778	1,401	33.4	41.1	67.7

¹ Includes the neighborhood industries and hand trades, omitted in 1904 and 1909.
² Less than one-tenth of 1 per cent.
³ Not reported.

Fuel.—Closely related to the question of kind of power employed is that of the fuel consumed in generating this power, or otherwise consumed 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	13,358	1,074,837	21,980	152,424	2,516,335	509,626
Bags, other than paper.....	50	1,000	.....	.....	2	32
Bread and other bakery products.....	1,575	5,339	444	16,250	284	15,316
Brick and tile.....	156	1,338	.....	40,505	6,018	18,990
Cars and general shop construction and repairs by steam railroad companies.....	.....	16,140	289	50	5,793	64,743
Copper, tin, and sheet-iron products.....	.....	2,475	294	251	653	832
Foundry and machine-shop products.....	160	5,526	2,394	5,491	921	8,692
Gas, illuminating and heating.....	664	13,453	15,706	.....	73,520	20,710
Ice, manufactured.....	8,850	72,509	.....	7,203	52,009	265,928
Liquors, malt.....	.....	27,083	.....	.....	8,878	85
Lumber and timber products.....	68	68,000	80	23,781	24,126	550
Oil, cottonseed, and cake.....	676	31,358	.....	2,411	75,681	68,274
Printing and publishing.....	1	(10)	.....	38	477	7,533
Rice, cleaning and polishing.....	.....	0,379	.....	1,112	26,922	.....
Sugar and molasses.....	480	575,043	500	41,314	2,010,130	.....
Sugar refining, not including beet sugar.....	.....	157,690	.....	.....	167,025	.....
All other industries.....	678	87,000	2,273	15,018	62,933	31,932

¹ In addition there were 49,213 tons of other varieties of fuel reported.

STATISTICS OF MANUFACTURES—LOUISIANA.

SUPPLEMENTAL 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 which do not appear on the general schedule. Such data for seven important industries in Louisiana are here presented.

Lumber and timber products.—Although this industry is one of the oldest in the state, it was comparatively undeveloped in 1889. The excellent long-leaf pine and cypress forests which are so extensive in the state were practically untouched before that time. Since 1899 especially the development of the industry has been remarkable. Louisiana was the second state in the Union in 1909 in the amount of lumber sawed. Some of the largest sawmills in the country are located in this state.

The following statement shows the quantity of the different products of the sawmills reported for the census years 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899 ¹
Lumber..... M feet, b. m.	3,551,918	1,115,366
Lath..... thousands..	377,708	99,852
Shingles..... thousands..	737,868	504,810

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

From 1899 to 1909 the total quantity of rough lumber sawed increased 218.5 per cent; lath, 278.3 per cent; and shingles, 50.1 per cent. Of the total lumber cut in 1909 softwoods furnished 3,345,610,000 feet and hardwoods 206,308,000 feet. The softwoods consisted entirely of yellow pine and cypress. Yellow pine was the principal species cut, with 2,736,756,000 feet, while cypress was the next in importance with 608,854,000 feet. The most important species of hardwoods were cottonwood, red gum, tupelo, ash, and hickory.

Sugar and molasses.—At censuses prior to 1909 the statistics of cane-sugar and cane-sirup factories were grouped with refineries under the one general classification, "Sugar and molasses, refining," without distinction as to whether the factories did or did not refine. At the census of 1909 the statistics for the establishments exclusively engaged in sugar refining are shown under the head of "Sugar refining, not including beet sugar," and the statistics for establishments using sugar cane as a material, under the head of "Sugar and molasses." The total quantity of cane treated in mills manufacturing sugar and the quantity of the different products manufactured at the census of 1909 are shown in the following tabular statement.

MATERIAL OR PRODUCT.	QUANTITY.
Cane treated..... tons..	4,471,921
Products:	
Sugar..... tons..	325,497
Brown sugar (open-kettle process)..... tons..	3,678
Vacuum-pan sugar..... tons..	321,819
First-strike sugar..... tons..	271,822
Second-strike sugar..... tons..	41,335
Third-strike sugar..... tons..	8,662
Molasses (liquid product from which more or less sugar has been extracted)..... gallons..	24,342,565
Sirup (liquid product from which no sugar has been extracted)..... gallons..	942,997

This table does not include the statistics for 16 establishments engaged in the manufacture of sirup from sugar cane, but does include those for 1 establishment using sugar cane which was operated in connection with a penal institution and for 1 other manufacturing sugar incidentally in connection with another product. Cane sugar produced on farms is not included, but as the quantity was small the omission affects the accuracy and relative importance of the statistics but very little. Of the 196 establishments in the United States manufacturing sugar from cane during the last census year all but 6, which are in Texas, are located in Louisiana.

Of the 325,497 tons of sugar manufactured, only 3,678 tons were brown sugar manufactured by the open-kettle process. Of the total quantity of vacuum-pan sugar, 84.5 per cent was first strike, 12.8 per cent second strike, and 2.7 per cent third strike.

Oil, cottonseed, and cake.—Although the manufacture of oil from cotton seed is of recent origin, the industry has shown a marked development. As late as 1889-90 only 7 establishments were reported in the state, and their products were valued at only \$1,574,000, whereas in 1909 there were 43 mills in operation which manufactured cottonseed products valued at \$13,085,000.

The following statement shows the quantity of seed crushed and the quantities of crude products manufactured, by kind, in 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed, crushed..... tons..	155,548	319,704	259,983
Crude products manufactured:			
Oil..... gallons..	6,527,563	13,168,549	6,692,640
Meal and cake..... tons..	70,730	138,301	91,348
Hulls..... tons..	45,617	103,953	114,446
Linters..... pounds..	7,282,908	10,771,905	6,131,661

The totals presented include all cotton seed crushed, whether by establishments where the exclusive or chief products were those obtained from cotton seed or by such mills as were primarily engaged in the manufacture of other products, but incidentally

crushed some cotton seed. The crude products reported represent the total products derived from crushing cotton seed, whether sold as such or used as intermediate products in further processes of manufacture, such as the refining of oil and the mixing of fertilizer and of feed.

All products show a very large decrease in 1909. To a large extent this was caused by a decline in the production of cotton in the state, due to the ravages of the boll weevil. The cotton crop in 1904 was 1,107,271 bales and in 1909 only 269,573 bales, and the average quantity of seed crushed per mill fell from 6,525 tons in 1904 to 3,794 in 1909.

Of the 41 cottonseed-oil mills reported in 1909 as engaged in crushing seed, 5 crushed less than 1,000 tons each during the year, 12 crushed 1,000 but less than 2,000 tons, 14 crushed 2,000 but less than 5,000 tons, 5 crushed 5,000 but less than 10,000 tons, and 5 crushed 10,000 but less than 20,000 tons.

In 1909 the ratios which the several products bore to the total weight of the seed when received at the mill were: Crude oil, 15.7 per cent; meal and cake, 45.5 per cent; hulls, 29.3 per cent; and linters, 2.3 per cent; whereas, in 1904 the proportions were, crude oil, 15.4 per cent; meal and cake, 43.3 per cent; hulls, 32.5 per cent; and linters, 1.7 per cent. It is interesting to note that from 1899 to 1909 there was an increase of 1.2 in the percentage of oil, 9.1 in that for meal and cake, and 1.1 in that for linters, while in the percentage for hulls there was a decrease of 16.3.

Rice, cleaning and polishing.—The following statement shows the quantity of rice treated and the quantity of products, by kinds, for the census years 1909, 1904, and 1899:

MATERIAL OR PRODUCT.	QUANTITY (POUNDS).		
	1909	1904	1899
Rough rice, milled.....	540,002,250	635,010,885	290,105,708
Products manufactured:			
Clean rice—			
Whole.....	291,004,848	287,460,040	173,632,724
Broken.....	59,097,560	107,283,740	(¹)
Polish.....	17,558,068	22,520,750	11,491,310
Bran.....	55,215,995	74,531,334	50,243,288
Hulls.....	72,749,236	143,208,415	54,798,377

¹ Included with whole clean rice.

Although this industry has practically disappeared in the South Atlantic states during the last decade, it has shown rapid development in Louisiana, and although this was already the leading rice-milling state in 1899 the quantity treated in 1909 was nearly double the quantity in the earlier year. That the quantity of rice treated was 95,008,635 pounds, or 15 per cent, less in 1909 than in 1904 is due to a smaller crop in the year of the later census. A change in the variety of rice grown and improvements in methods of treatment account for the greater output of whole rice in 1909, as compared with 1904, and a relatively smaller production of broken rice. The decrease in the quantity of polish, bran, and hulls may be accounted for to

some extent by the practice of mills disposing of these products in the form of feed.

Printing and publishing.—The following tabular statement shows the number, period of issue, and average circulation of the newspapers and periodicals published in Louisiana in 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	198	197	170	511,680	511,636	300,072
Daily.....	23	25	23	136,226	134,828	106,990
Sunday.....	8	8	10	162,020	150,183	(¹)
Semiweekly.....	* 7	5	* 8	* 18,870	18,885	* 35,008
Weekly.....	141	143	112	176,193	172,949	137,434
Monthly.....	16	10	15	23,671	16,216	14,750
All other classes.....	3	6	2	3,800	9,575	5,800

¹ Included in circulation for daily.

* Includes two triweeklies.

² Includes one triweekly.

The total number of publications and total circulation increased during the decade and during each of the five-year periods, although the increases from 1904 to 1909 were practically negligible. During the later period there was an increase of only 1 in number of publications and of 53 in their circulation; monthlies increased both in number and circulation, while both dailies and weeklies decreased in number but increased in circulation. The number of Sunday publications remained the same, but the circulation decreased; semiweeklies increased in number, but the circulation remained practically the same; and all other classes of publications decreased both in number and circulation. In 1909, 6 of the 23 daily papers, with an aggregate circulation of 64,946, were morning editions. All of the publications were in English, except 1 daily and 1 Sunday which were in French, and 7 weeklies, 2 of which were in French, 3 in French and English, 1 in German, and 1 in Italian.

Ice, manufactured.—The quantity and value of the products of this industry for 1909, 1904, and 1899 are given in the statement below:

PRODUCT.	QUANTITY AND VALUE.		
	1909	1904	1899 ¹
Total value.....	\$1,500,985	\$1,089,786	\$591,500
Can ice:			
Tons.....	449,362	300,334	179,716
Value.....	\$1,438,300	\$1,047,703	\$503,561
Plate ice:			
Tons.....	5,000	(²)	(²)
Value.....	\$12,292		
All other products, value.....	\$50,393	\$52,023	\$27,939

¹ Includes the statistics for two establishments, the schedules for which were received too late to be included in the general tabulation.

² None reported.

Practically the entire product is can ice, the value of which increased 155.2 per cent and the quantity 150 per cent during the 10 years. The compressor system of manufacture prevails. All other products includes amount received for cold storage.

Turpentine and rosin.—This is one of the oldest industries of the state, but only in recent years has it become of importance. The statistics are interesting because Louisiana and Florida are the only states in

which the industry did not show decreases during the period from 1904 to 1909, the depletion of the forests in the localities where it had been carried on for a longer time having tended to lessen the output. A severe storm in Louisiana in 1909 destroyed much of the timber which was being worked and curtailed the production for that year.

The quantity of products, by classes, in 1909, 1904, and 1899, are given below:

PRODUCT.	1909	1904	1899
Total value	\$1,178,848	\$211,820	\$116,324
Spirits of turpentine:			
Gallons.....	1,231,354	245,300	219,504
Value.....	\$592,641	\$124,095	\$85,415
Rosin:			
Barrels (280 pounds).....	139,486	30,023	23,843
Value.....	\$573,306	\$87,715	\$27,319
All other products, value.....	\$7,901	\$100	\$2,590

The quantity of turpentine manufactured increased 985,954 gallons, or fourfold, from 1904 to 1909, and 25,796 gallons, or 11.8 per cent, from 1899 to 1904. Rosin shows a gain of 109,463 barrels, or 364.6 per cent, from 1904 to 1909, and of 6,180 barrels, or 25.9 per cent, from 1899 to 1904.

The working unit in turpentine operations is the "crop," which consists of 10,500 boxes or cups. In 1909 there were 355 crops worked in Louisiana by the box system and 278 by the cup system. Of the crops obtained by the former method 90 were from virgin trees, 113 from second-year trees, 97 from third-year trees, and 55 from trees of older working, while of those obtained by the cup system, 116 were from virgin trees, 99 from second-year trees, 63 from third-year trees, and none from trees of older working. It is an interesting fact that although the comparatively crude and wasteful box method predominates, the new cup system is extensively employed. Most of the crops worked were from virgin and second-year trees.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 25 such establishments in the state of Louisiana, 9 of which were in New Orleans. The following statement summarizes the statistics:

Number of establishments.....	25
Persons engaged in the industry.....	1,117
Proprietors and firm members.....	19
Salaried employees.....	62
Wage earners (average number).....	1,036
Primary horsepower.....	1,109
Capital	\$795,657
Expenses	679,882
Services.....	446,378
Materials.....	132,328
Miscellaneous.....	100,676
Amount received for work done.....	852,021

The most common forms of organization were the individual and the corporate, for each of which eleven

establishments were reported. The firm form of ownership was represented by three establishments. Six establishments had receipts for the year's business of less than \$5,000; six, \$5,000 but less than \$20,000; eleven, \$20,000 but less than \$100,000; and two, \$100,000 but less than \$1,000,000.

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.....	1,010	94.4	July.....	1,070	100.0
February.....	1,029	96.2	August.....	1,047	97.9
March.....	1,030	96.3	September.....	1,055	98.6
April.....	1,005	93.9	October.....	1,035	96.7
May.....	1,026	95.9	November.....	1,022	95.5
June.....	1,042	97.4	December.....	1,058	98.9

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

KIND.	Number of engines or motors.	Horsepower.
Primary power, total		1,109
Owned:		
Steam.....	26	1,049
Gas.....	1	12
Rented:		
Electric.....	10	48

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	1,534
Bituminous coal.....	Tons.....	5,940
Oil.....	Barrels.....	810
Gas.....	1,000 feet.....	58,574
Wood.....	Cords.....	2,144

Custom saw and grist mills.—Statistics for custom saw and grist mills 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.....	3	31
Persons engaged in industry.....	15	81
Proprietors and firm members.....	2	32
Salaried employees.....	2	4
Wage earners (average number).....	11	45
Primary horsepower.....	95	530
Capital	\$9,000	\$34,751
Expenses	4,959	49,065
Services.....	4,404	3,258
Materials.....	213	135,462
Miscellaneous.....	342	11,345
Value of products.....	6,000	46,471

¹ Includes estimate of all grain ground.

STATISTICS OF MANUFACTURES—LOUISIANA.

TABLE I.—COMPARATIVE SUMMARY FOR SELECTED INDUSTRIES: 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- facture.						
			Total.	Pro- pri- etors and firm mem- bers.	Sala- ried em- plov- ers.	Wage earn- ers (aver- age num- ber).								Expressed in thousands.					
														1909	1904	1899	1909	1904	1899
STATE—All Industries.....	1909	2,516	86,668	2,295	8,103	76,165	846,652	\$221,816	\$9,008	\$93,366	\$134,865	\$293,949	\$89,084						
	1904	2,091	63,735	1,899	5,977	55,859	251,965	150,811	6,044	25,318	117,035	186,380	69,345						
	1899	1,836			3,576	40,878	190,182	100,875	2,634	14,725	76,404	111,398	35,894						
Bags, other than paper.....	1909	6	538	6	58	474	189	2,352	76	158	5,072	5,352	280						
	1904	6	422	5	47	370	131	1,145	51	117	3,644	4,076	432						
	1899	5	377	4	43	330		819	28	74	3,082	3,443	361						
Boots and shoes, including cut stock and find- ings.....	1909	13	319	21	20	278	190	306	23	112	303	517	214						
	1904	10	422	15	37	370	169	352	31	137	378	620	242						
	1899	12	444	20	27	307	140	280	26	145	442	661	219						
Bread and other bakery products.....	1909	280	1,744	312	143	1,289	946	1,829	110	669	2,793	4,620	1,917						
	1904	236	1,032	257	33	742	572	787	17	374	1,673	2,686	1,013						
	1899	157	1,183	168	89	926		932	54	296	1,304	2,296	992						
Brick and tile.....	1909	48	673	43	47	583	2,010	1,256	36	204	111	496	385						
	1904	62	1,150	58	65	1,027	3,215	1,343	51	399	210	973	763						
	1899	58	1,153	66	43	1,044	1,217	972	26	261	102	532	430						
Canning and preserving.....	1909	26	1,124	59	91	974	659	1,393	107	183	573	978	405						
	1904	10	722	21	87	614	344	1,091	55	144	636	1,173	537						
	1899	15	451	27	26	398		285	22	92	252	427	175						
Carriages and wagons and materials.....	1909	40	427	45	24	358	598	407	22	194	206	529	323						
	1904	40	460	46	11	293	220	237	11	159	151	436	285						
	1899	41			13	285		260	8	119	128	360	232						
Cars and general shop construction and repairs by steam-railroad companies.....	1909	26	2,615		189	2,426	1,799	1,600	188	1,323	982	2,527	1,545						
	1904	16	2,645		211	2,431	799	1,471	188	1,285	1,114	2,635	1,521						
	1899	19	1,421		43	1,378	632	783	46	800	563	1,429	866						
Clothing, men's, including shirts.....	1909	19	920	20	74	817	136	1,116	74	173	660	1,168	508						
	1904	32	1,413	48	109	1,256	156	1,317	82	260	1,276	2,053	777						
	1899	26			117	2,177		1,210	102	412	1,243	2,181	938						
Confectionery.....	1909	12	249	9	33	297	189	268	24	64	337	709	372						
	1904	16	303	13	26	261	174	236	33	65	247	546	299						
	1899	7			12	96		151	6	35	155	250	95						
Cooperage and wooden goods, not elsewhere specified.....	1909	41	1,057	40	51	966	1,315	2,093	55	351	879	1,595	710						
	1904	67	957	63	43	831	920	1,075	67	321	1,183	1,808	625						
	1899	39			31	377		350	21	130	356	633	277						
Copper, tin, and sheet-iron products.....	1909	66	1,209	65	159	979	1,173	4,107	179	593	1,739	2,899	1,169						
	1904	30	382	30	61	291	122	339	35	185	375	796	421						
	1899	13			25	293		279	25	80	270	478	199						
Flour-mill and gristmill products.....	1909	11	112	5	25	82	895	594	34	33	840	943	193						
	1904	3	9	4	1	4	140	50	1	2	53	66	13						
	1899	4			2	30		70	2	9	253	289	36						
Foundry and machine-shop products.....	1909	83	1,573	71	188	1,314	2,557	3,710	237	812	1,452	2,998	1,546						
	1904	72	1,899	64	176	1,659	2,548	4,048	247	957	3,272	3,261	1,989						
	1899	83			117	1,406		3,100	151	695	1,389	2,860	1,471						
Furniture and refrigerators.....	1909	17	423	17	47	369	579	578	58	167	274	620	346						
	1904	10	459	9	39	430	680	646	31	177	196	515	319						
	1899	7	263	15	17	241	347	258	11	81	137	320	183						
Ice, manufactured.....	1909	69	798	16	149	633	10,556	5,333	146	357	499	1,501	1,002						
	1904	62	586	27	101	468	8,276	3,496	87	236	333	1,160	767						
	1899	34	378	15	74	289	4,827	2,233	66	122	186	571	385						
Leather goods.....	1909	17	314	19	65	280	122	677	68	120	708	1,025	317						
	1904	11	400	10	69	261	125	599	80	130	617	960	343						
	1899	8			53	198		385	59	104	445	726	281						
Liquors, malt.....	1909	9	629		108	512	2,297	5,056	206	384	1,037	3,573	2,536						
	1904	9	373		55	318	1,560	3,105	118	244	597	2,287	1,690						
	1899	6	431		57	374	1,813	3,299	88	225	403	1,472	1,069						
Lumber and timber products.....	1909	792	49,535	652	2,811	46,072	159,286	88,973	3,670	20,033	23,156	62,838	39,682						
	1904	471	30,161	418	1,866	27,877	84,186	39,573	2,292	12,827	10,385	38,371	27,086						
	1899	376			713	15,242	38,799	14,926	693	5,010	8,229	19,098	10,869						
Mattresses and spring beds.....	1909	22	254	20	31	293	287	419	27	86	290	491	291						
	1904	12	296	10	32	256	179	295	28	89	269	596	237						
	1899	7			9	110		59	5	20	111	157	46						
Oil, cottonseed, and cake.....	1909	43	1,165	1	270	894	12,142	7,164	289	318	11,568	13,085	1,517						
	1904	51	1,016	4	307	1,605	12,698	8,687	312	591	11,477	13,188	1,711						
	1899	24	1,486	5	164	1,317	4,821	4,623	159	347	5,792	7,026	1,234						
Printing and publishing.....	1909	268	2,461	280	437	1,544	1,494	2,906	597	1,061	1,013	3,823	2,810						
	1904	240	1,936	210	393	1,214	1,197	2,121	459	835	742	4,184	3,442						
	1899	203			215	1,386		1,734	195	744	487	2,098	1,611						

¹ Does not include statistics for two establishments, to avoid disclosure of individual operations.
² Does not include statistics for one establishment, to avoid disclosure of individual operations.

STATISTICS OF MANUFACTURES—LOUISIANA.

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

THE STATE—ALL INDUSTRIES COMBINED AND SELECTED INDUSTRIES—Continued.

INDUSTRY.	Cen-sus.	Num-ber of estab-lish-ments.	PERSONS ENGAGED IN INDUSTRY.				Pri-mary horse-power.	Capital.	Sal-aries.	Wages.	Cost of mate-rials.	Value of prod-ucts.	Value added by manu-fac-ture.
			Total.	Pro-pri-eters and firm mem-bers.	Sal-aries em-ploy-ees.	Wage car-riers (aver-age num-ber).							
Expressed in thousands.													
STATE—Continued.													
Rice, cleaning and polishing.....	1909	37	960	10	257	693	10,706	\$8,385	\$338	\$327	\$10,071	\$12,529	\$1,558
	1904	43	1,107	12	232	623	10,333	6,138	288	400	8,073	10,718	1,745
	1899	37	504	26	126	412	5,079	1,818	141	181	4,054	5,736	782
Shipbuilding, including boat building.....	1909	25	431	27	30	374	1,301	629	40	236	154	573	419
	1904	18	241	22	8	211	432	83	11	123	94	323	229
	1899	15	280	10	23	247	427	213	15	105	72	250	178
Sugar and molasses and sugar refining, not including beet sugar.	1909	209	6,400	197	1,110	5,093	128,047	50,868	931	2,439	52,302	63,775	11,473
	1904	251	7,100	281	1,004	5,815	112,165	54,872	717	3,166	60,508	73,787	14,229
	1899	355	.....	.....	1,042	6,444	110,781	52,606	421	2,818	39,676	46,748	7,072
Turpentine and rosin.....	1909	23	1,800	19	63	1,688	105	804	38	420	159	1,174	1,015
	1904	15	269	13	20	236	.....	70	12	70	37	212	155
	1899	10	325	15	8	302	5	75	3	54	33	115	82
All other industries.....	1909	395	8,851	332	1,398	7,123	15,303	28,183	1,376	2,657	16,886	33,611	16,725
	1904	289	7,015	250	793	6,070	10,613	17,069	780	2,053	11,595	19,100	7,545
	1899	262	.....	.....	487	5,260	.....	9,446	564	1,757	5,241	11,242	6,000

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

NEW ORLEANS—All industries.....	1909	848	20,938	754	2,008	17,186	38,145	\$56,934	\$3,240	\$8,020	\$48,732	\$78,794	\$30,062
	1904	690	20,582	606	2,332	17,468	.....	56,996	2,386	7,396	58,828	81,411	22,583
	1899	688	.....	.....	1,579	16,185	.....	42,858	1,667	6,176	40,386	57,446	17,060
Bags, other than paper.....	1909	6	538	0	58	474	180	2,352	70	158	5,072	5,352	280
	1904	6	422	5	47	370	.....	1,145	51	117	3,644	4,076	432
	1899	5	377	4	43	330	.....	819	28	74	3,082	3,443	361
Bread and other bakery products.....	1909	125	1,107	134	79	894	814	1,303	84	474	1,030	3,243	1,313
	1904	113	639	119	25	492	.....	518	15	256	1,150	1,793	634
	1899	127	.....	.....	88	871	.....	873	53	280	1,308	2,136	828
Canning and preserving.....	1909	11	222	14	26	182	95	255	35	38	202	292	90
	1904	11	204	13	54	197	.....	370	34	63	223	520	267
	1899	5	.....	.....	8	50	.....	19	5	10	56	74	18
Carriages and wagons and materials.....	1909	20	309	22	15	272	217	257	14	151	141	373	232
	1904	10	196	10	6	174	.....	102	5	90	90	242	159
	1899	23	.....	.....	8	210	.....	149	6	93	93	268	112
Cars and general shop construction and repairs by steam-railroad companies.	1909	6	1,055	.....	82	973	571	874	80	452	361	895	504
	1904	5	1,038	.....	131	1,507	.....	815	118	755	746	1,627	888
	1899	6	936	.....	21	915	.....	472	24	550	348	930	582
Clothing, men's, including shirts.....	1909	19	920	29	74	817	136	1,116	74	173	660	1,168	588
	1904	32	1,413	48	109	1,256	.....	1,347	82	200	1,276	2,053	775
	1899	(*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Confectionery.....	1909	8	220	6	27	187	102	224	21	56	299	638	334
	1904	11	268	9	23	236	.....	201	30	54	201	467	266
	1899	(*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cooperage and wooden goods, not elsewhere specified.	1909	20	509	20	32	457	410	1,180	34	184	535	934	399
	1904	38	693	36	48	609	.....	721	53	250	856	1,310	476
	1899	22	.....	.....	23	224	.....	205	16	92	107	370	187
Copper, tin, and sheet-iron products.....	1909	43	1,031	41	143	847	1,068	3,861	166	426	1,570	2,554	966
	1904	15	300	9	62	229	.....	319	35	124	291	595	304
	1899	9	.....	.....	25	180	.....	273	25	70	269	447	188
Foundry and machine-shop products.....	1909	39	844	38	108	698	1,009	1,920	129	468	1,022	1,895	875
	1904	30	1,231	29	119	1,083	.....	2,717	181	626	928	2,197	1,251
	1899	53	.....	.....	89	1,108	.....	2,395	124	507	1,197	2,387	1,199
Ice, manufactured.....	1909	20	340	2	54	284	3,140	2,034	57	174	250	661	431
	1904	10	168	4	35	129	.....	1,918	34	86	141	451	209
	1899	10	.....	.....	28	135	.....	1,538	38	49	116	399	199
Leather goods.....	1909	12	269	13	53	293	101	565	53	193	537	823	266
	1904	5	90	4	19	67	.....	53	18	26	29	87	58
	1899	(*)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products.....	1909	54	2,042	45	107	1,800	6,611	4,582	235	906	2,121	3,867	1,766
	1904	30	2,053	16	107	1,870	.....	3,584	204	831	1,357	3,205	1,848
	1899	22	.....	.....	108	1,114	.....	1,732	121	449	1,034	2,118	1,084

* 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.

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

STATISTICS OF MANUFACTURES—LOUISIANA.

19

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

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

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Pri- mary horse- power.	Cap- tal.	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 (ave- rage num- ber).							
Expressed in thousands.													
NEW ORLEANS—Continued.													
Patent medicines and compounds and drug- gists' preparations.	1909	20	176	13	53	110	68	\$100	\$57	\$28	\$132	\$360	\$228
	1904	19	198	3	53	142	.....	337	62	36	170	412	233
	1899	17	230	4	72	154	.....	474	130	64	260	731	471
Printing and publishing.....	1909	122	1,762	111	530	1,112	1,131	2,041	499	824	810	3,014	2,204
	1904	102	1,378	66	428	884	.....	1,560	381	588	542	2,340	1,708
	1899	98	.....	.....	105	1,126	.....	1,377	179	638	422	1,766	1,341
Rice, cleaning and polishing.....	1909	9	317	5	78	234	3,611	2,265	126	137	4,681	5,125	444
	1904	10	331	6	49	276	.....	1,580	65	114	4,383	4,882	409
	1899	9	.....	.....	51	153	.....	855	64	78	2,603	2,025	322
Shipbuilding, including boat building.....	1909	10	211	7	20	184	435	471	30	124	65	303	238
	1904	15	85	6	4	75	.....	11	6	34	18	73	55
	1899	6	.....	.....	19	137	.....	172	11	57	26	133	107
All other industries.....	1909	304	9,066	248	1,360	7,458	18,437	30,535	1,471	3,144	28,344	47,207	18,055
	1904	246	9,218	217	953	7,872	.....	39,085	1,012	3,086	42,767	55,081	13,314
	1899	286	.....	.....	801	9,466	.....	31,505	843	3,105	29,375	30,400	10,025

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

Alexandria.....	1909	30	628	26	80	513	3,910	\$1,038	\$95	\$235	\$598	\$1,270	\$681
	1904	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baton Rouge.....	1909	33	438	46	35	367	1,522	909	37	143	336	658	322
	1904	37	719	30	69	620	.....	1,201	65	300	598	1,383	765
	1899	13	.....	.....	40	329	.....	747	32	111	387	717	330
Lake Charles.....	1909	33	846	20	90	736	3,777	1,619	128	395	1,260	2,251	982
	1904	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monroe.....	1909	23	854	21	62	681	2,894	1,082	70	394	545	1,255	710
	1904	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	(²)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shreveport.....	1909	61	1,381	41	226	1,114	3,042	3,719	255	671	2,080	3,643	1,554
	1904	63	1,351	48	141	1,162	.....	2,555	161	661	1,284	2,838	1,554
	1899	40	.....	.....	71	736	.....	1,220	60	320	901	1,550	655

¹ Does not include statistics for two establishments, to avoid disclosure of individual operations.

² Population less than 10,000 in 1900.

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.

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.		Average number.	Wage earners.		Total.	16 and over.		Under 16.				
					Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.			
															Number.	Number.	
1 All industries.....	2,516	86,668	2,295	2,700	4,838	559	76,165	De 91,814	Fe 69,620	(1)	(1)	(1)	(1)	(1)	346,652		
2 Artificial stone.....	15	95	15	5	1	74	Se 97	Ja 54	75	75					4		
3 Bags, other than paper.....	6	538	6	17	26	15	474	No 530	Je 393	531	156	253	28	94	180		
4 Baskets, and rattan and willow ware.....	5	14	5				9	De ² 9	Se ² 8	9	9						
5 Belling and hose, leather.....	3	25	1	4	6	4	10	De ³ 10	Jy ³ 10	10	9		1		10		
6 Boots and shoes, including cut stock and findings.....	13	319	21	6	8	6	278	Oc 305	Ja 188	291	220	61	5	5	190		
7 Boxes, fancy and paper.....	3	136	3	3	7	1	122	Au 130	De ² 118	118	27	70	9	12	36		
8 Bread and other bakery products.....	289	1,744	312	27	83	33	1,289	Oc 1,341	Ap 1,249	1,326	1,000	169	45	22	946		
9 Brick and tile.....	48	673	43	37	9	1	583	Jy 791	Ja 247	816	767	1	48		2,910		
10 Brooms.....	4	73	4	1	2		66	De 74	Ap 56	74	61		13		10		
11 Canning and preserving.....	26	1,124	59	33	56	2	974	Oc 1,213	Je 377	1,619	669	820	65	65	639		
12 Carriages and wagons and materials.....	40	427	45	14	8	2	358	De 379	Je 340	379	378		1		568		
13 Cars and general shop construction and repairs by steam-railroad companies.....	26	2,615		51	136	2	2,426	De 2,826	My 2,236	2,824	2,824				1,799		
14 Chemicals.....	4	52	1	3	10	2	36	Mh 56	Jy 29	37	37				159		
15 Clothing, men's, including shirts.....	19	920	20	11	54	0	817	De 998	My 677	1,000	88	908		4	136		
16 Clothing, women's.....	5	129	4	7	3	7	108	Oc 203	Ja 38	187	4	180	3		9		
17 Confectionery.....	12	249	9	10	17	6	207	Oc 235	Jy 185	208	70	114	12	12	189		
18 Cooperage and wooden goods, not elsewhere specified.....	41	1,057	40	25	24	2	966	De 1,130	Jy ³ 844	1,144	1,129		15		1,315		
19 Copper, tin, and sheet-iron products.....	66	1,200	65	40	91	25	979	Oc 1,148	My 812	1,116	657	122	30	7	1,173		
20 Electroplating.....	3	7	3				4	De ² 4	Je ² 3	4	4				9		
21 Flour-mill and gristmill products.....	11	112	5	8	16	1	82	De 95	Jy ² 75	98	98				895		
22 Foundry and machine-shop products.....	83	1,573	71	66	103	16	1,314	Oc 1,493	Fe 1,160	1,357	1,348	1	8		2,557		
23 Furnishing goods, men's.....	3	41	4	4	1	1	31	Ap 33	Jy 27	28	7	21			3		
24 Furniture and refrigerators.....	17	423	17	26	15	6	359	De 410	Ja 266	410	380	1	20		570		
25 Hand stamps and stencils and brands.....	3	21	3	1	4		13	De ³ 13	Jy ³ 13	13	11		2		5		
26 Ice, manufactured.....	69	798	16	82	65	2	633	Jy 827	Fe 451	618	610	1	7		10,536		
27 Leather goods.....	17	314	19	11	50	4	230	De 254	Mh 190	256	244	4	8		122		
28 Liquors, distilled.....	4	101	2	16	12		77	Au 89	Mh 64	81	81				140		
29 Liquors, malt.....	9	620		30	78		512	Jy 526	No 498	498	491	16	1		2,207		
30 Lumber and timber products.....	702	49,535	652	1,010	1,665	136	46,072	De 49,316	Fe 43,632	51,045	51,292	55	382	6	150,286		
31 Marble and stone work.....	22	281	22	13	13	3	230	De 259	Fe 207	259	258		1		226		
32 Mattresses and spring beds.....	22	254	20	12	12	7	203	Au ² 218	De 118	234	205	24	5		287		
33 Oil, cottonseed, and cake.....	43	1,165	1	112	153	5	894	No 1,595	Je 383	1,720	1,704	11	4	1	12,142		
34 Patent medicines and compounds and druggists' preparations.....	21	178	14	14	25	14	111	Ja 118	Au 105	116	49	60	5	2	68		
35 Pottery, terra-cotta, and fire-clay products.....	4	33	6	1			26	Fe ² 27	De ² 26	26	21		5		40		
36 Printing and publishing.....	268	2,461	280	158	417	62	1,544	De 1,598	Fe 1,522	1,600	1,354	167	78	1	1,491		
37 Pumps, not including steam pumps.....	3	35	6	2	2	1	24	Mh 35	De ² 18	18	18				57		
38 Rice, cleaning and polishing.....	37	930	10	72	172	13	693	Oc 1,180	Je 188	939	929	6	4		10,706		
39 Shipbuilding, including boat building.....	25	431	27	18	11	1	374	Au 433	My 319	391	391				1,391		
40 Slaughtering and meat packing.....	10	210	10	8	9	1	182	Se 192	My 177	184	184				896		
41 Sugar and molasses.....	204	5,077	103	377	552	24	3,931	No 15,112	Fe 419	14,717	14,560	71	83	3	118,162		
42 Sugar refining, not including beet sugar.....	5	1,323	4	40	112	5	1,102	Jy 1,629	Ja 857	1,708	1,766		32		9,885		
43 Turpentine and rosin.....	23	1,800	19	45	47	1	1,688	Au ² 1,821	Ja 1,407	1,837	1,830		7		105		
44 All other industries.....	283	7,420	229	292	760	139	6,000								13,631		

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 Same number reported for entire year.
 4 All other industries embrace—

Agricultural implements.....	1	Fancy articles, not elsewhere specified.....	1	Paper and wood pulp.....	1
Artificial flowers, and feathers and plumes.....	1	Fertilizers.....	6	Petroleum, refining.....	2
Awnings, tents, and sails.....	7	Flags, banners, regalia, society badges, and emblems.....	7	Photo-engraving.....	3
Axle grease.....	3	Flavoring extracts.....	1	Roofing materials.....	2
Baking powders and yeast.....	1	Food preparations.....	29	Salt.....	2
Baking and cleansing and polishing preparations.....	1	Gas and electric fixtures and lamps and reflectors.....	1	Show cases.....	7
Baling.....	2	Gas, illuminating and heating.....	5	Silverware and plated ware.....	1
Boxes, cigar.....	2	Glass, cutting, staining, and ornamenting.....	2	Soap.....	5
Brass and bronze products.....	2	Gold and silver, reducing and refining, not from the ore.....	1	Statuary and art goods.....	2
Brushes.....	1	Grease and tallow.....	1	Steam packing.....	1
Butter, cheese, and condensed milk.....	1	Hosiery and knit goods.....	1	Sulphuric, nitric, and mixed acids.....	1
Candles.....	1	House-furnishing goods, not elsewhere specified.....	2	Surgical appliances and artificial limbs.....	2
Carriages and sleds, children's.....	2	Iron and steel forgings.....	1	Tobacco manufactures.....	28
Cars and general shop construction and repairs by street-railroad companies.....	2	Jewelry.....	2	Type founding and printing materials.....	1
Cars, steam-railroad, not including operations of railroad companies.....	2	Leather, tanned, curried, and finished.....	1	Umbrellas and canes.....	2
Coffee and spice, roasting and grinding.....	17	Liquors, vinous.....	1	Upholstering materials.....	17
Collins, burial cases, and undertakers' goods.....	1	Millinery and lace goods.....	1	Vinegar and cider.....	1
Corlago and twine and jute and linen goods.....	1	Mineral and soda waters.....	72	Window shades and fixtures.....	1
Cordials and syrups.....	8	Mixers.....	2	Wirework, including wire rope and cable.....	2
Cotton goods, including cotton small wares.....	2	Models and patterns, not including paper patterns.....	2	Wood distillation, not including turpentine and rosin.....	2
Electrical machinery, apparatus, and supplies.....	2	Paint and varnish.....	3	Wood preserving.....	2
				Wood, turned and carved.....	2

STATISTICS OF MANUFACTURES—LOUISIANA.

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	\$221,816,398	\$204,023,520	\$4,679,847	\$4,328,288	\$33,385,904	\$3,952,109	\$130,012,666	\$541,827	\$10,074,141	\$2,555,405	\$13,593,333	\$223,948,038	\$89,083,863	
2	97,298	70,680	2,210	900	34,063	30	32,273	343	159	340	0,302	107,008	74,705	
3	2,352,005	5,430,920	30,144	45,865	158,439	9,850	5,002,323	10,876	12,270		101,147	5,351,661	270,488	
4	10,388	12,590			4,432	27	6,388	1,260	08		391	18,360	11,945	
5	67,895	138,255	6,000	8,986	8,481	170	93,565	3,250	243		10,660	141,777	48,042	
6	366,342	465,123	9,850	12,940	112,234	6,064	200,951	4,080	920		21,178	510,780	213,774	
7	89,337	157,010	4,000	3,700	21,042	1,380	116,217	4,920	370		5,390	173,390	55,802	
8	1,828,794	3,910,506	41,880	68,161	688,966	91,565	2,011,612	51,270	15,352	1,434	360,257	4,010,018	1,010,441	
9	1,255,607	428,488	32,984	3,400	204,165	98,144	13,241	330	5,365	300	70,559	496,407	385,112	
10	50,011	116,772	1,200	1,646	30,804	480	70,421	816			2,405	125,732	54,831	
11	1,392,777	965,470	58,092	48,567	182,657	17,103	555,095	7,554	5,902	1,550	87,369	977,703	404,065	
12	407,273	450,727	15,100	6,806	106,281	8,225	197,793	6,012	1,505		10,005	528,757	322,730	
13	1,690,369	2,516,336	98,287	120,094	1,323,145	49,088	632,570		3,932		18,611	2,527,337	1,545,070	
14	337,320	242,806	7,840	10,542	21,430	7,392	104,546	920	1,003		28,143	248,815	76,877	
15	1,116,666	1,008,453	19,695	54,113	173,306	2,825	657,044	15,136	1,070	40,800	43,705	1,108,205	598,330	
16	99,044	108,384	6,540	1,289	18,529	454	72,080	2,403	333		6,747	117,008	45,065	
17	268,354	550,483	16,730	7,405	64,135	5,043	331,449	8,305	1,802		115,014	700,402	372,310	
18	2,063,146	1,400,501	34,423	20,210	351,210	9,013	809,327	4,062	15,080	500	96,058	1,594,830	715,890	
19	4,107,483	2,667,469	89,738	89,196	502,688	20,075	1,709,842	41,267	12,220	11,004	100,770	2,898,597	1,168,680	
20	5,895	4,701			2,106	371	980	1,020	16		118	7,700	6,349	
21	593,968	924,502	8,100	26,220	32,838	5,565	834,572	637	1,030		15,531	942,956	102,810	
22	3,710,304	2,002,422	126,160	111,033	812,246	46,088	1,405,406	13,062	14,373	5,007	157,767	2,908,273	1,546,170	
23	47,871	50,758	6,550	365	4,807	121	36,998	1,237	59		831	62,477	25,658	
24	577,715	535,938	39,269	18,372	107,067	3,597	200,963	3,866	1,063		31,841	610,684	346,124	
25	28,079	21,600	624	1,500	6,500	140	9,545	3,000	21		204	20,477	19,786	
26	5,332,868	1,252,875	97,710	48,034	350,573	361,464	137,074	111	35,008	900	215,902	1,500,985	1,002,447	
27	676,794	955,357	21,905	46,282	119,006	2,516	705,422	10,361	2,366		40,889	1,025,187	317,249	
28	1,176,858	8,397,771	41,149	8,242	58,292	46,737	810,617		7,330,078		96,056	8,654,317	7,790,063	
29	5,655,842	2,008,516	108,140	98,220	383,869	90,040	639,868		540,984	12,490	427,096	3,573,401	2,536,593	
30	88,973,240	55,421,176	1,807,513	1,811,894	20,033,213	303,169	22,853,027	40,203	837,515	2,330,523	5,344,110	62,837,012	30,081,710	
31	308,094	475,724	18,145	17,275	155,013	3,271	256,875	2,928	801	3,741	17,585	608,883	348,737	
32	419,270	467,271	16,994	10,282	85,856	4,493	285,402	4,471	1,151		58,622	490,522	200,627	
33	7,103,820	12,639,592	177,012	112,171	318,084	227,261	11,340,440	20,100	75,994	100	368,430	13,084,586	1,510,885	
34	209,028	284,014	31,850	24,860	28,725	1,001	133,032	6,922	12,222		45,462	303,333	239,300	
35	66,445	22,189	720		9,055	1,045	10,107	180	116		966	34,042	23,490	
36	2,000,167	3,333,901	270,381	317,803	1,000,750	40,080	972,013	91,751	10,079	80,000	480,778	3,823,473	2,810,180	
37	101,622	81,204	2,700	1,180	13,980	870	59,951	630	177		1,800	98,207	37,380	
38	8,385,212	12,000,348	165,850	172,116	329,537	68,141	10,902,721	0,320	41,778		415,885	12,528,050	1,657,794	
39	629,027	408,948	32,904	6,742	235,699	5,183	140,030	4,923	4,461		30,006	572,602	418,389	
40	506,656	217,790	10,700	6,596	67,580	24,018	74,187	780	8,024		25,896	276,454	178,249	
41	34,642,802	24,609,951	487,433	193,839	1,700,728	1,386,004	18,735,121	30,225	272,813	40,268	1,792,920	20,001,027	8,879,302	
42	16,225,474	34,062,328	140,433	108,979	678,243	532,290	31,648,228	23,550	79,952		850,653	34,774,173	2,593,055	
43	804,345	749,810	54,999	33,091	420,005	1,007	157,042		3,146	1,184	78,736	1,173,848	1,016,199	
44	24,888,903	20,008,141	496,769	640,363	2,103,246	459,597	14,385,090	105,750	720,401	23,830	1,003,999	22,543,708	7,669,021	

MANUFACTURES : MAINE

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 Maine 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 Maine, 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 city of Portland. 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 in to (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 this 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.—Maine, with a gross area of 33,040 square miles, of which 3,145 represent water surface, ranks thirty-eighth in size among the states and territories of continental United States. Its population in 1910 was 742,371, as compared with 694,466 in 1900 and 661,086 in 1890. It ranked thirty-fourth among the 49 states and territories as regards population in 1910, and thirty-first in 1900. The density of population of the state was 24.8 per square mile in 1910, the corresponding figure for 1900 being 23.2. Fifty-one and four-tenths per cent of the entire population of the state resided in cities and towns having a population of 2,500 or over in 1910, as against 48.6 per cent in 1900.

Portland, with a population of 58,571, is the only city in the state having over 50,000 inhabitants. Six cities—Lewiston, Bangor, Biddeford, Auburn, Augusta, and Waterville—had a population of over 10,000 but less than 50,000 in 1910. These seven cities contained 22.4 per cent of the total population in 1910 and were credited with 29.2 per cent of the total value of manufactured products of the state in 1909.

The transportation facilities of the state are good. The important manufacturing centers are accessible by rail, while good harbors and navigable rivers afford excellent facilities for water transportation and have

been very important factors in the development of the manufactures of the state. Portland has one of the best harbors on the North Atlantic coast and is an important seaport for domestic and foreign shipping.

Importance and growth of manufactures.—Although agriculture and fishing are both important in Maine, manufacturing is the leading branch of industry in the state. In 1849 an average of 28,020 wage earners, representing 4.8 per cent of the total population, were employed in manufactures, while in 1909 an average of 79,955 wage earners, or 10.8 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 \$42 to \$237. Notwithstanding the fact that the manufactures of the state have steadily advanced, the proportion which their value represents of the total value of manufactured products in the United States has decreased. This proportion was 2.4 per cent in 1849, 1.5 per cent in 1879, 1 per cent in 1904, and nine-tenths of 1 per cent in 1909.

The following table 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:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	3,546	3,145	2,878	12.8	9.3
Persons engaged in manufactures.....	88,476	82,109	(1)	7.8	(1)
Proprietors and firm members.....	3,661	3,379	(1)	8.3	(1)
Salaried employees.....	4,860	3,772	3,103	28.8	21.6
Wage earners (average number).....	79,955	74,958	69,914	6.7	7.2
Primary horsepower.....	459,599	343,627	259,232	33.7	32.6
Capital.....	\$202,260,000	\$143,708,000	\$114,008,000	40.7	26.0
Expenses.....	154,821,000	129,208,000	97,520,000	19.8	32.5
Services.....	43,429,000	36,681,000	28,782,000	18.4	27.4
Salaries.....	5,797,000	3,989,000	3,051,000	45.3	30.7
Wages.....	37,632,000	32,692,000	25,731,000	15.1	27.1
Materials.....	97,101,000	80,042,000	61,210,000	21.3	30.8
Miscellaneous.....	14,291,000	12,485,000	7,528,000	14.5	65.8
Value of products.....	176,029,000	144,020,000	112,959,000	22.2	27.5
Value added by manufacture (value of products less cost of materials).....	78,928,000	63,978,000	51,749,000	23.4	23.6

¹ Figures not available.

In 1909 the state of Maine had 3,546 manufacturing establishments, which gave employment to an average of 88,476 persons during the year and paid out \$43,429,000 in salaries and wages. Of the persons employed, 79,955 were wage earners. These establishments turned out products to the value of

\$176,029,000, to produce which materials costing \$97,101,000 were used. The value added by manufacture was thus \$78,928,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

MANUFACTURES—MAINE.

In general, this table brings out the fact that the manufacturing industries of Maine as a whole show about the same development during both of the five-year periods, 1899-1904 and 1904-1909. During the later period the number of establishments increased 12.8 per cent and the average number of wage earners 6.7 per cent, while the value of products increased 22.2 per cent and the value added by manufacture

23.4 per cent. 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 prices of commodities.

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.....	3,546	79,955	100.0	\$176,029,000	100.0	\$78,928,000	100.0	22.2	27.5	23.4	23.6
Paper and wood pulp.....	45	8,047	10.8	33,950,000	19.3	13,446,000	17.0	47.9	73.6	48.0	48.8
Lumber and timber products.....	1,065	16,086	18.9	26,125,000	14.8	16,195,000	19.2	22.4	39.5	22.3	63.8
Cotton goods, including cotton small wares.....	16	14,634	18.3	21,932,000	12.5	10,542,000	13.4	42.4	5.3	69.1	-17.9
Woolen, worsted, and felt goods, and wool hats.....	65	8,764	10.9	18,490,000	10.5	7,128,000	9.0	5.2	31.1	5.3	23.8
Boots and shoes, including cut stock and findings.....	55	6,626	8.3	15,569,000	8.8	5,568,000	7.1	23.0	1.4	33.4	4.7
Canning and preserving.....	245	3,850	4.8	7,689,000	4.4	2,564,000	3.2	5.8	17.8	-15.3	8.5
Foundry and machine-shop products.....	125	2,885	3.6	5,237,000	3.0	2,833,000	3.7	7.1	35.1	0.2	57.2
Flour-mill and gristmill products.....	173	225	0.3	4,507,000	2.6	480,000	0.6	14.6	25.1	-2.2	-5.6
Printing and publishing.....	195	1,651	2.1	3,438,000	2.0	2,336,000	3.0	1.1	26.5	-5.3	22.9
Shipbuilding, including boat building.....	156	1,755	2.2	3,062,000	1.7	1,803,000	2.4				
Marble and stone work.....	142	2,381	3.0	2,565,000	1.4	2,075,000	2.6	0.4	26.4	-4.8	23.5
Bread and other bakery products.....	186	586	0.7	2,235,000	1.3	807,000	1.0	50.1	23.6	31.0	9.1
Cars and general shop construction and repairs by steam-railroad companies.....	18	1,200	1.5	2,048,000	1.2	840,000	1.1	72.1	38.9	68.1	36.9
Leather, tanned, curried, and finished.....	17	436	0.5	1,905,000	1.1	453,000	0.6	-23.8	2.0	-13.0	3.3
Wood, turned and carved.....	62	1,287	1.6	1,870,000	1.1	971,000	1.2	14.0	92.4	-0.2	87.1
Copper, tin, and sheet-iron products.....	16	374	0.5	1,689,000	1.0	671,000	0.8	231.2	429.4	510.0	74.6
Butter, cheese, and condensed milk.....	29	96	0.1	1,301,000	0.7	233,000	0.3				
Lime.....	12	526	0.7	1,215,000	0.7	486,000	0.6	3.5		-15.0	
Clothing, men's, including shirts.....	33	1,068	1.3	1,164,000	0.7	567,000	0.7	25.3	37.5	8.0	-27.1
Carriages and wagons and materials.....	150	472	0.6	966,000	0.5	560,000	0.7	1.0	32.8	2.3	25.8
Slaughtering and meat packing.....	20	107	0.1	957,000	0.5	172,000	0.2				
Copperage and wooden goods, not elsewhere specified.....	68	349	0.4	842,000	0.5	407,000	0.5	46.9	130.1	44.3	100.0
Patent medicines and compounds and druggists' preparations.....	37	144	0.2	756,000	0.4	550,000	0.7				
Confectionery.....	28	214	0.3	711,000	0.4	375,000	0.5	43.1	67.3	93.3	39.6
Glucose and starch.....	64	120	0.2	687,000	0.4	212,000	0.3	31.1	-5.8	32.5	-18.8
Clothing, women's.....	7	532	0.7	686,000	0.4	348,000	0.4	23.8	92.4	42.0	82.8
Leather goods.....	17	286	0.4	675,000	0.4	284,000	0.3	-4.1	44.0	-31.2	49.1
Gas, illuminating and heating.....	19	216	0.3	549,000	0.3	337,000	0.4	23.6	55.8	7.0	48.6
Tobacco manufactures.....	77	252	0.3	464,000	0.3	295,000	0.4	3.1	57.9	10.1	44.1
Brick and tile.....	49	203	0.3	390,000	0.2	285,000	0.4	-7.1	-4.5	-5.6	-9.6
Furniture and refrigerators.....	13	215	0.3	368,000	0.2	200,000	0.3	-2.4	-35.1	-13.8	-21.9
Stoves and furnaces, including gas and oil stoves.....	4	190	0.2	329,000	0.1	231,000	0.3	8.2		-0.4	
Boxes, fancy and paper.....	10	280	0.3	304,000	0.2	179,000	0.2	28.8	13.5	37.7	10.3
Agricultural implements.....	10	121	0.2	226,000	0.1	142,000	0.2	9.7	-29.0	9.2	-32.3
All other industries.....	318	4,127	5.1	11,188,000	6.4	5,206,000	6.7				

¹ Percentages are based on figures in Table I, and a minus sign (-) denotes decrease. Where the percentages are omitted, comparable figures can not be given.

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.

Although five industries greatly predominate in importance, reporting approximately two-thirds of the average number of wage earners, value of products, and value added by manufacture, it will be seen from Table II on page 22 that there is on the whole considerable diversity in the manufacturing activities of the state. The most important industries listed in the table given above call for brief consideration.

Paper and wood pulp.—The manufacture of paper and wood pulp, which is the leading industry of the state, measured by value of products, gave employ-

ment to an average of 8,647 wage earners in 1909, and the value of its products amounted to \$33,950,000. This industry contributed 19.3 per cent of the total value of manufactures of the state in 1909, in which year Maine reported 12.7 per cent of the total value of paper and wood pulp products for the United States.

Lumber and timber products.—This industry, which includes logging operations, sawmills, planing mills, and factories manufacturing wooden packing boxes, was first in importance in the state in 1909 in number of establishments, average number of wage earners, and value added by manufacture, and second in value of products. The utilization of forest products, one of the earliest forms of manufacture in Maine, continues to be a most important factor in its industrial activities.

Textiles.—Eight textile industries are represented in Maine, namely the manufacture of (1) cotton goods, including cotton small wares; (2) woolen, worsted, and felt goods; (3) hosiery and knit goods; (4) silk goods, including the operations of throwsters; (5) cordage and twine; (6) shoddy; (7) fur-felt hats; and (8) the dyeing and finishing of textiles. The manufacture of cotton goods ranks third among the industries of the state and the manufacture of woolen, worsted, and felt goods, fourth. The other six industries are of comparatively little importance in the state.

From 1899 to 1904 the cotton-goods industry of the state was practically stationary, the value of its products increasing only 5.3 per cent, but between 1904 and 1909 the increase in prices, the renewed activity of the mills of the state, and the establishment of an additional mill brought about an increase of 42.4 per cent in this respect. In 1909 employment was given to 14,634 wage earners, and the value of products amounted to \$21,932,000.

In 1909 the woolen, worsted, and felt goods industry in Maine embraced the operations of 55 woolen mills, 8 worsted mills, and 2 felt mills. No wool-hat establishments were reported. This industry as a whole had a greater growth during the five years 1899-1904 than during the more recent five-year period 1904-1909. The output of the woolen mills slightly declined in the latter period, but the increased output of the worsted mills resulted in a small gain for the combined industry.

Boots and shoes, including cut stock and findings.—The boot and shoe industry of the state remained practically stationary between 1899 and 1904, the value of products and the amount paid in wages increasing only slightly and the number of persons employed in the industry decreasing. From 1904 to 1909 the value of products increased 23 per cent, but this resulted chiefly from increased prices. The actual output of boots, shoes, and slippers was considerably smaller in 1909 than in 1899 and only slightly larger than in 1904.

Canning and preserving.—This industry, which includes the canning and preserving of fruits, vegetables, fish, and oysters, ranked sixth among the industries of the state in value of products in 1909, in which year it gave employment to 3,850 wage earners and reported products valued at \$7,689,000.

Shipbuilding, including boat building.—The totals for this industry as presented in Table I, page 19, show an apparent increase in number of wage earners and value of products in 1909 as compared with 1904. A proper comparison of the totals for this industry, however, is impracticable, since it was necessary to omit the statistics for one establishment from the figures for 1904 and those for two establishments from the figures for 1899 in order to avoid the disclosure of individual operations. It may be stated, however, that if it were possible to include the statistics for the one establish-

ment omitted in 1904 the totals for the industry would show a large decrease in 1909 as compared with 1904.

In addition to the 28 industries presented separately in the above table for which products valued at more than \$500,000 were reported, 4 other industries in the state had a value of products in 1909 in excess of this amount. These industries are included under the head of "All other industries" in the table in some cases because the operations of individual establishments would be disclosed if they were shown separately and 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. These industries are the manufacture of paper bags, the dyeing and finishing of textiles, the fertilizer industry, and the steel works and rolling mills.

Considerable change occurs in the relative importance of the leading industries of the state when measured by value added by manufacture instead of by value of products. The lumber and timber products industry becomes first, displacing the manufacture of paper and wood pulp; the foundry and machine-shop industry which was seventh changes places with canning and preserving which was sixth; printing and publishing advances from ninth to eighth place; marble and stone work becomes ninth instead of eleventh; the flour-mill and gristmill industry drops from eighth place to nineteenth, and the turning and carving of wood advances from fifteenth place to eleventh place.

The preceding table also shows the percentages of increase for these leading industries in respect to value of products and value added by manufacture in all cases where comparative statistics can be given. The manufacture of copper, tin, and sheet-iron products shows greater rates of increase in value of products for both five-year periods, and in value added by manufacture from 1904 to 1909, than any other industry listed in the above table. The cooperage and wooden-goods industry made the greatest increase in value added by manufacture from 1899 to 1904.

Four of the industries listed separately, the tanning, currying, and finishing of leather, the manufacture of leather goods, the brick and tile industry, and the manufacture of furniture and refrigerators, show a decrease in value of products from 1904 to 1909, while two of these, the brick and tile and the furniture and refrigerator industries, together with three others, show a decrease in this respect from 1899 to 1904. Eleven show a decrease in value added by manufacture from 1904 to 1909, and seven a decrease from 1899 to 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.....	88,476	68,647	19,829
Proprietors and officials.....	5,649	5,407	152
Proprietors and firm members.....	3,661	3,532	129
Salaried officers of corporations.....	643	632	11
Superintendents and managers.....	1,345	1,333	12
Clerks.....	2,872	1,730	1,142
Wage earners (average number).....	79,955	61,420	18,535
16 years of age and over.....	78,568	60,612	17,956
Under 16 years of age.....	1,387	808	579

The average number of persons engaged in manufactures during 1909 was 88,476, of whom 79,955 were wage earners. Of the remainder, 5,649 were proprietors and officials, and 2,872 were clerks. Corresponding figures for individual industries will be found in Table II, page 22.

The following table 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 13 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	88,476	6.4	3.2	90.4
Boots and shoes, including cut stock and findings.....	7,195	2.5	5.4	92.1
Bread and other bakery products.....	858	25.4	6.3	68.3
Canning and preserving.....	4,410	10.3	2.4	87.3
Cars and general shop construction and repairs by steam-railroad companies.....	1,256	2.1	2.3	95.5
Cotton goods, including cotton small wares.....	14,783	0.6	0.4	99.0
Flour-mill and gristmill products.....	514	48.0	7.6	43.8
Foundry and machine-shop products.....	3,229	6.5	4.1	89.3
Lumber and timber products.....	17,101	9.9	1.8	88.2
Marble and stone work.....	2,663	8.5	2.1	89.4
Paper and wood pulp.....	9,146	2.0	3.5	94.5
Printing and publishing.....	2,359	11.7	18.4	70.0
Shipbuilding, including boat building.....	2,014	10.5	2.4	87.1
Woolen, worsted, and felt goods, and wool hats.....	9,070	2.0	1.5	96.5
All other industries.....	13,878	10.5	5.4	84.1

Of the total number of persons engaged in all manufacturing industries, 6.4 per cent were proprietors and officials, 3.2 per cent clerks, and 90.4 per cent wage earners. The highest percentage of proprietors and officials shown for any individual industry, 48.6, is for the flour mills and gristmills, which are generally small and in which the work is to a large extent performed by the proprietors themselves or with the assistance of comparatively few wage earners. Similar conditions also prevail, although to a less extent, in the bakery and in the printing and publishing industries. The smallest proportion of proprietors and officials, six-tenths of 1 per cent, is shown for the cotton-goods industry, in which the number of wage earners per

establishment is very large and all the establishments are under corporate ownership. The proportions of proprietors and officials is also very small in the boot and shoe factories, railroad repair shops, paper mills, and woolen and worsted mills.

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 of 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 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.....	79,955	75.8	22.5	1.7
Boots and shoes, including cut stock and findings.....	6,626	65.3	33.0	1.7
Bread and other bakery products.....	858	75.6	21.2	3.2
Canning and preserving.....	3,850	55.8	42.8	1.4
Cars and general shop construction and repairs by steam-railroad companies.....	1,200	100.0		
Cotton goods, including cotton small wares.....	14,634	47.6	46.6	5.8
Flour-mill and gristmill products.....	225	99.6	0.4	
Foundry and machine-shop products.....	2,885	98.4	1.4	0.2
Lumber and timber products.....	15,086	99.5	0.4	0.2
Marble and stone work.....	2,381	100.0		
Paper and wood pulp.....	8,647	94.4	5.4	0.2
Printing and publishing.....	1,651	62.1	37.3	0.6
Shipbuilding, including boat building.....	1,755	99.8	0.2	
Woolen, worsted, and felt goods, and wool hats.....	8,754	62.4	35.5	2.1
All other industries.....	11,675	74.3	24.8	1.0

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, 75.8 per cent of the average number of wage earners were males 16 years of age and over; 22.5 per cent females 16 years of age and over; and 1.7 per cent children under the age of 16. Of the total number of female wage earners 16 years of age and over in the manufacturing industries of the state in 1909, 38 per cent were employed in the cotton-goods industry, in which the women constituted 46.6 per cent of all the wage earners. Exceptionally high proportions of women wage earners were reported for several industries shown in Table II; in the women's clothing industry they formed 86.3 per cent and in the men's clothing industry, 77.3 per cent of the total. Women were also employed to a relatively large extent in several other important industries, representing 42.8 per cent of the total in the canning and preserving industry, 37.3 per cent in printing and publishing, 35.5 per cent in the manufacture of woolen, worsted, and felt goods, and 33 per cent in the boot and shoe industry. There are no important industries where children under 16 years of age are employed to any

considerable extent, with the exception of the cotton mills, where employment was given to \$50, or 61.3 per cent of the total number of children employed in the factories of the state.

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.....	88,476	100.0	82,109	100.0	7.8
Proprietors and firm members.....	3,661	4.1	3,379	4.1	8.3
Salaried employees.....	4,860	5.5	3,772	4.6	28.8
Wage earners (average number).....	79,955	90.1	74,958	91.3	6.7

Comparable figures are not obtainable for 1899. The table shows that the greatest percentage of increase was in the salaried employees.

The table in the next column 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.)

This table indicates that for all industries combined there has been both an actual and relative decrease

during the 10 years in the employment of children under 16 years of age. In 1909 males 16 years of age and over formed 75.8 per cent of all wage earners, as compared with 75.6 per cent in 1904 and 72.1 per cent in 1899.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	79,955	100.0	74,958	100.0	69,914	100.0
16 years of age and over.....	78,568	98.3	73,487	98.0	67,739	96.9
Male.....	60,612	75.8	56,662	75.6	50,382	72.1
Female.....	17,950	22.5	16,825	22.4	17,357	24.8
Under 16 years of age.....	1,387	1.7	1,471	2.0	2,175	3.1

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 canning and preserving, and the lumber and timber industries, 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. The wage earners for the lumber industry are divided in the table in such a manner as to show separately the number engaged in the mills and in the logging operations. In Table II, page 22, are shown, for practically all of the important industries in the state, the largest number and 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.		Canning and preserving.		Lumber and timber products.						All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Total.		In mills.		In logging operations.		Number.	Per cent of maximum.
January.....	76,737	89.7	588	5.8	17,382	100.0	6,774	53.4	10,608	100.0	58,767	94.1
February.....	77,541	90.7	668	6.6	17,265	99.3	7,385	58.3	9,880	93.1	59,608	95.5
March.....	77,956	91.2	885	8.7	16,431	94.5	9,042	71.3	7,389	69.7	60,646	97.1
April.....	77,722	90.9	3,354	33.1	13,946	80.2	10,707	85.2	3,149	29.7	60,422	96.8
May.....	81,355	95.2	4,375	43.2	15,671	90.2	12,674	100.0	2,997	28.3	61,309	98.2
June.....	79,315	92.8	4,012	39.6	14,013	80.6	12,248	96.6	1,765	16.6	61,290	98.2
July.....	76,489	89.5	3,392	33.5	12,338	71.0	10,620	83.8	1,718	16.2	60,750	97.3
August.....	78,986	91.3	4,975	49.1	12,146	69.9	10,232	80.7	1,914	18.0	60,965	97.6
September.....	85,369	99.8	10,131	100.0	13,369	76.9	10,027	79.1	3,342	31.5	61,869	99.1
October.....	85,501	100.0	7,355	72.6	15,713	90.4	9,988	78.8	5,725	54.0	62,433	100.0
November.....	84,468	98.8	5,363	52.0	16,791	96.6	8,720	68.8	8,071	76.1	62,314	99.8
December.....	78,925	92.3	1,100	10.9	15,970	91.9	6,354	50.1	9,616	90.6	61,855	99.1

For all industries combined, the maximum employment occurred in October and the minimum in July, in which month the number of wage earners engaged represented 89.5 per cent of the maximum. The most important seasonal industries are canning and preserving, in which the number of wage earners varied from 10,131 in September, the month of greatest

activity, to 588 in January, the month of least activity, and the lumber industry, in which the maximum number, 17,382, were employed in January and the minimum, 12,146, in August. In their effect on the monthly fluctuations for all industries combined these two industries partially offset each other, inasmuch as the canneries were most active in September

and October, when employment in the lumber industry was relatively low, and were least active in January and February, when employment in the lumber industry was at its highest. There is considerable seasonal variation in the glucose and starch, brick and tile, and marble and stone work industries, but these industries do not give employment to sufficiently large numbers of wage earners to influence greatly the movement of employment for all industries combined.

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	79,955	4,409	4,378	7,483	15,310	41,696	5,032	1,163	484
Agricultural implements.....	121	69	6	33	11	2			
Boots and shoes, including cut stock and findings.....	6,626	1	171	268	4,775	1,411			
Boxes, fancy and paper.....	280		79	13	171	17			
Bread and other bakery products.....	586	38	4	91	7	374	31	30	11
Brick and tile.....	263		10	49		135	58	11	
Butter, cheese, and condensed milk.....	96	2		31		51	7	2	3
Canning and preserving.....	3,850	10		123	79	3,617	4	17	
Carrriages and wagons and materials.....	472	3		50	105	313	1		
Cars and general shop construction and repairs by steam-railroad companies.....	1,200		670	268	192	44	26		
Clothing, men's, including shirts.....	1,068	6	64	509	416	73			
Clothing, women's.....	532		192	27	205	108			
Confectionery.....	214	6		52	145	11			
Cooperage and wooden goods, not elsewhere specified.....	349	9		151	64	134	1		
Copper, tin, and sheet-iron products.....	374	52		18	86	218			
Cotton goods, including cotton small wares.....	14,634				1,118	13,516			
Flour-mill and gristmill products.....	225	38		17	36	130	2	2	
Foundry and machine-shop products.....	2,885	9	8	774	1,647	447			
Furniture and refrigerators.....	215	1		34	15	115			
Gas, illuminating and heating.....	216	5		3		28	78	10	92
Glucose and starch.....	120					66	49		5
Leather goods.....	286			6	243	37			
Leather, tanned, curried, and finished.....	436	1		17	233	185			
Lime.....	523	4			174	345	21		327
Lumber and timber products.....	15,080	30	129	1,061	1,320	8,784	3,768	4	
Marble and stone work.....	2,381	1,083	16	217	17	148			
Paper and wood pulp.....	8,647	1,011	2,775	1,962	236	841	667	1,085	40
Patent medicines and compounds and druggists' preparations.....	144	71	4	51	5	13			
Printing and publishing.....	1,651	573	142	690	208	38			
Shipbuilding, including boat building.....	1,755	26	3	170	1,265	282			
Slaughtering and meat packing.....	107	13	17	3	3	69	2		
Stoves and furnaces, including gas and oil stoves.....	190			190					
Tobacco manufactures.....	252	241		4	4	3			
Wood, turned and carved.....	1,287	3		71	235	773	199		6
Woolen, worsted, and felt goods, and wool hats.....	8,754			2	701	8,050		1	
All other industries.....	4,127	204	88	430	1,778	1,480	128	1	

Slightly more than one-half of the wage earners employed in the manufacturing industries of Maine were reported from establishments where 60 hours ordinarily constitute a week's work, this high proportion resulting principally from the more or less general prevalence of the 60-hour week in the cotton and woolen mills and the lumber and canning industries. Twenty-eight and five-tenths per cent of the wage earners were in establishments where the usual hours of labor were 54 but less than 60 a week, 11 per cent in establishments where they were less than 54 a week, and only 8.4 per cent in establishments where they were more than 60 a week. The greater part of the wage earners in the boot and shoe, foundry and machine-shop, and shipbuilding industries were in plants where the prevailing hours were 54 and 60 a week. The majority of the wage earners in the agricultural-implementation, the marble and stone work, and the tobacco-manufactures industries worked 48 hours or less per

week, while the majority of those in the gas and lime industries worked more than 60 hours a week.

Location of establishments.—The next table shows the extent to which the manufactures of Maine are carried on in cities of 10,000 inhabitants or over. (See Introduction.) The comparison is confined here as in other states, to the years 1899 and 1909, in the absence of a Federal census of population by which the grouping of cities in 1904 could be determined.

In 1909 the seven cities having over 10,000 inhabitants contained 22.4 per cent of the total population of the state, and reported 31.8 per cent of the average number of wage earners engaged in manufactures and 29.2 per cent of the total value of manufactured products. Several of the more important industries of the state, including the manufacture of paper and wood pulp, lumber and timber products, canning, and the manufacture of woolen goods, are carried on principally outside of this class of cities.

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	742,371	166,433	575,938	22.4	77.6
	1900	694,466	147,012	547,454	21.2	78.8
Number of establishments.	1909	3,546	675	2,871	19.0	81.0
	1899	2,878	631	2,247	21.9	78.1
Average number of wage earners.	1900	79,955	25,453	54,502	31.8	68.2
	1899	69,014	23,190	46,724	33.2	66.8
Value of products..	1909	\$176,029,393	\$61,466,847	\$124,562,546	20.2	70.8
	1899	112,950,098	36,806,611	76,062,487	32.7	67.3
Value added by manufacture.	1909	78,928,169	23,393,234	55,534,935	29.6	70.4
	1899	51,748,771	17,567,305	34,181,466	33.0	66.1

In 1900 the group of cities having over 10,000 inhabitants comprised the first six cities named in the next table, together with Bath, which, owing to a decrease in population, was not included in this group in 1910. Waterville had less than 10,000 inhabitants in 1900, so that for 1899 its statistics are not included with those for this class of cities. Owing, however, to the relatively small difference between the totals for the manufacturing industries of Bath and Waterville, the change in the composition of the group of cities has had little effect upon its proportions of the various totals for the state.

The population in 1910 and 1900 of the seven cities which had 10,000 inhabitants or over in 1910, and of the one city which had over 10,000 inhabitants in 1900 but less than that number in 1910, is given in the following tabular statement:

CITY.	1910	1900
Portland.....	58,571	50,145
Lewiston.....	26,247	23,701
Bangor.....	24,803	21,850
Biddeford.....	17,079	16,145
Auburn.....	15,064	12,951
Augusta.....	13,211	11,083
Waterville.....	11,458	9,477
Bath.....	9,396	10,477

The principal statistics for Bath for 1909 and 1899 are given in the following statement:

	1909	1899
Population.....	9,396	10,477
Number of establishments.....	39	54
Average number of wage earners.....	1,016	2,097
Value of products.....	\$2,817,070	\$3,697,090
Value added by manufacture.....	\$1,747,306	\$1,758,841

Not only the population but the manufactures of Bath decreased during the decade. The number of establishments decreased from 54 to 39, while the average number of wage earners decreased 22.9 per cent, and the value of products 23.8 per cent. These decreases were due chiefly to the decline in the ship-building and the lumber industries.

The relative importance in manufactures of each of the seven cities having a population of 10,000 and over in 1910 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:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Portland.....	4,902	4,345	3,763	\$11,050,367	\$9,132,801	\$7,333,750
Lewiston.....	6,788	6,187	6,677	10,475,374	8,527,649	7,778,941
Biddeford.....	5,070	4,764	4,375	9,011,606	6,948,722	5,472,254
Auburn.....	3,452	2,852	2,749	8,842,620	6,407,167	5,966,633
Augusta.....	2,000	1,860	2,018	4,602,174	3,886,833	3,313,158
Bangor.....	1,327	1,490	1,511	3,345,717	3,408,355	3,335,785
Waterville.....	1,812	2,011	1,020	3,178,080	3,060,309	2,283,536

Every city for which comparative figures are given, except Bangor, shows an increase in value of products from 1904 to 1909, and all show increases from 1899 to 1904. In general, the percentages of increase were greater from 1904 to 1909. During this later period the greatest relative gain, 38 per cent, was made by Auburn, this being due chiefly to the increased activity in the boot and shoe industry. In spite of the fact that decreases were reported for a large number of the industries in Portland, this city showed the second largest relative gain in the state, 30.9 per cent. The decrease in Bangor from 1904 to 1909 was due to the decline of the boot and shoe industry in this city. In 1899 Lewiston ranked first in value of manufactured products, but by 1904 Portland had taken first place, which it retained in 1909.

Portland is the largest and most important city in the state. The lumber and timber products, foundry and machine-shop, and printing and publishing industries were the leading industries in the city. About three-fourths of the total value of products of the women's clothing industry for the state, four-fifths of that for the confectionery industry, and three-fifths of that for the manufacture of patent medicines and compounds and druggists' preparations were reported from this city.

Lewiston and Biddeford owe their importance to the manufacture of cotton goods, which contributed 66.4 and 68.2 per cent, respectively, of the total value of the manufactured products of the two cities. In Auburn the manufacture of boots and shoes was the principal industry, the value of products of this industry forming 71.4 per cent of the total value of the manufactured products of the city. Of the total value of products for this industry in the state 40.7 per cent was reported from Auburn.

In 1904 printing and publishing was the principal industry of Augusta, with the manufacture of cotton goods second, but in 1909 these positions were reversed. The value of the products of these two industries

formed 60.6 per cent of the value of the manufactured products of this city in 1909.

Although Waterville showed an increase in value of manufactured products from 1904 to 1909, there was a decrease in the average number of wage earners. In this city the cotton-goods industry led in value of products, with steam-railroad repair shops second.

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 certain 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.

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.....	3,546	79,955	\$178,029,393	\$78,928,109	Canning and preserving, 1909..	245	3,850	\$7,688,833	\$2,563,915
1904.....	3,145	74,958	144,020,197	63,978,107	Individual.....	91	447	753,899	306,158
Individual:					Firm.....	63	668	1,173,117	403,739
1909.....	1,923	9,579	18,904,839	9,607,898	Corporation.....	91	2,735	5,759,817	1,854,008
1904.....	1,736	10,290	19,168,440	9,356,118	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	37.1	11.6	9.8	11.9
1909.....	746	8,853	20,476,080	9,274,402	Firm.....	25.7	17.4	15.3	15.7
1904.....	708	11,422	22,927,394	10,705,283	Corporation.....	37.1	71.0	74.9	72.3
Corporation:					Lumber and timber products, 1909.	1,065	15,086	\$26,124,640	\$16,194,465
1909.....	861	61,340	136,156,275	59,817,833	Individual.....	619	5,243	7,088,190	4,481,019
1904.....	671	53,138	101,575,154	43,770,068	Firm.....	209	2,800	4,938,634	2,993,634
Other:					Corporation.....	147	6,983	14,118,407	7,716,812
1909.....	16	183	492,160	228,036	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	30	108	349,209	146,638	Individual.....	68.1	34.8	27.1	29.5
Per cent of total:					Firm.....	28.1	19.0	18.9	19.7
1909.....	100.0	100.0	100.0	100.0	Corporation.....	13.8	46.3	54.0	50.8
1904.....	100.0	100.0	100.0	100.0	Paper and wood pulp, 1909..	45	8,647	\$33,950,230	\$13,440,017
Individual:					Firm ¹	7	1,408	4,830,434	2,000,219
1909.....	54.2	12.0	10.7	12.2	Corporation.....	38	7,239	29,119,796	11,385,798
1904.....	55.2	13.7	13.3	14.6	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Firm ¹	15.6	16.3	14.3	15.3
1909.....	21.0	11.1	11.6	11.8	Corporation.....	84.4	83.7	85.7	84.7
1904.....	22.5	15.2	15.9	16.7	Woolen, worsted, and felt goods, and wool hats, 1909..	65	8,754	\$18,490,120	\$7,128,523
Corporation:					Individual.....	10	108	173,102	73,280
1909.....	24.3	76.7	77.3	75.8	Firm.....	5	251	448,497	105,934
1904.....	21.3	70.9	70.5	68.4	Corporation.....	50	8,395	17,868,521	6,869,309
Other:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	0.5	0.2	0.3	0.3	Individual.....	15.4	1.2	0.9	1.0
1904.....	1.0	0.1	0.2	0.2	Firm.....	7.7	2.9	2.4	2.7
Boots and shoes, including cut stock and findings, 1909.	55	6,626	\$15,568,771	\$5,568,266	Corporation.....	76.9	95.9	96.6	96.2
Individual.....	8	43	76,080	37,250					
Firm.....	8	1,281	2,788,315	980,071					
Corporation.....	39	5,302	12,643,476	4,560,945					
Per cent of total.....	100.0	100.0	100.0	100.0					
Individual.....	14.5	0.6	0.5	0.7					
Firm.....	14.6	19.3	18.0	17.6					
Corporation.....	70.9	80.0	81.5	81.7					

¹ Includes the group "Individual," to avoid disclosure of individual operation.

Although less than one-fourth of the total number of manufacturing establishments were under corporate ownership in 1909 these establishments reported more than three-fourths of the total value of products, the proportion being considerably larger than in 1904. The establishments under individual ownership formed 54.2 per cent of the total number in 1909, but reported only 10.7 per cent of the total value of products. This class of establishments and those under firm ownership show decreases both in average number of wage earners employed and in value of products between 1904 and 1909.

Size of establishments.—The tendency of 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 next table 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 certain 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 the individual industries figures are given for 1909 only.

The cotton-goods industry is not shown in this table or the one preceding, because all the establishments were under corporate control in 1904 and 1909. In the latter year one establishment reported products valued at less than \$100,000; seven, products valued at between \$100,000 and \$1,000,000; and eight, products exceeding \$1,000,000 in value.

Of the 3,546 manufacturing establishments in the state in 1909, only 25, or seven-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 24,552 wage earners, or 30.7 per cent of the total num-

ber in all establishments, and reported 32.5 per cent of the total value of products and 32 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 less than \$5,000—constituted a very considerable proportion

(40.9 per cent) of the total number of establishments, but the value of their products amounted to only 1.9 per cent of the total. More than three-fourths of the total value of manufactured products of the state was reported by establishments having products valued at not less than \$100,000.

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.
ALL INDUSTRIES:					Canning and preserving, 1909.	245	3,850	\$7,688,833	\$2,563,915
1909	3,546	79,956	\$176,020,393	\$78,028,169	Less than \$5,000	71	174	143,350	71,149
1904	3,148	74,958	144,020,197	63,978,107	\$5,000 and less than \$20,000	96	730	1,003,930	433,787
Less than \$5,000:					\$20,000 and less than \$100,000	62	1,135	2,415,024	805,279
1909	1,451	2,178	3,286,155	2,008,923	\$100,000 and less than \$1,000,000	16	1,811	4,000,523	1,103,700
1904	1,218	1,718	2,899,882	1,810,707	Per cent of total:	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000:					Less than \$5,000	29.0	4.5	1.9	2.8
1909	1,194	6,910	12,200,959	6,520,395	\$5,000 and less than \$20,000	39.2	19.0	13.8	16.9
1904	1,091	6,259	10,886,507	5,810,455	\$20,000 and less than \$100,000	25.3	20.5	31.4	33.7
\$20,000 and less than \$100,000:					\$100,000 and less than \$1,000,000	6.5	47.0	52.9	46.6
1909	610	13,308	20,088,857	12,849,007	Average per establishment		16	\$31,383	\$10,405
1904	565	14,039	25,150,503	12,651,163	Lumber and timber products, 1909.	1,065	16,086	\$26,124,040	\$15,194,405
\$100,000 and less than \$1,000,000:					Less than \$5,000	485	918	1,000,114	742,817
1909	266	32,908	76,542,507	32,216,172	\$5,000 and less than \$20,000	360	2,964	3,765,170	2,410,751
1904	259	36,077	72,266,023	30,449,802	\$20,000 and less than \$100,000	184	4,780	7,472,010	4,410,717
\$1,000,000 and over:					\$100,000 and less than \$1,000,000	56	6,424	13,818,331	7,618,180
1909	25	24,552	57,250,905	25,237,582	Per cent of total:	100.0	100.0	100.0	100.0
1904	17	16,805	32,815,822	13,255,980	Less than \$5,000	43.7	6.1	4.1	4.9
Per cent of total:					\$5,000 and less than \$20,000	33.8	19.0	14.4	15.0
1909	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000	17.3	31.7	28.6	29.1
1904	100.0	100.0	100.0	100.0	\$100,000 and less than \$1,000,000	5.3	42.6	52.9	50.1
Less than \$5,000:					Average per establishment		14	\$34,530	\$14,207
1909	40.9	2.7	1.9	2.7	Paper and wood pulp, 1909.	45	8,647	\$33,950,230	\$13,446,017
1904	38.6	2.3	2.0	2.8	\$5,000 and less than \$20,000	3	21	10,120	8,915
\$5,000 and less than \$20,000:					\$20,000 and less than \$100,000	7	150	420,527	221,558
1909	33.7	8.7	7.0	8.3	\$100,000 and less than \$1,000,000	26	3,493	10,751,345	3,807,434
1904	34.7	8.4	7.6	9.1	\$1,000,000 and over	9	4,983	22,753,238	9,318,110
\$20,000 and less than \$100,000:					Per cent of total:	100.0	100.0	100.0	100.0
1909	17.2	16.0	15.2	16.3	\$5,000 and less than \$20,000	6.7	0.2	0.1	0.1
1904	18.0	18.7	17.5	19.8	\$20,000 and less than \$100,000	15.5	1.7	1.3	1.6
\$100,000 and less than \$1,000,000:					\$100,000 and less than \$1,000,000	57.8	40.4	31.7	29.0
1909	7.5	41.3	43.5	40.8	\$1,000,000 and over	20.0	57.6	67.0	60.3
1904	8.2	48.1	50.2	47.0	Average per establishment		192	\$754,450	\$208,800
\$1,000,000 and over:					Woolen, worsted, and felt goods, and wool hats, 1909.	65	8,754	\$18,490,120	\$7,128,523
1909	0.7	30.7	32.5	32.0	Less than \$5,000	10	12	15,947	9,399
1904	0.5	22.5	22.8	20.7	\$5,000 and less than \$20,000	4	33	36,910	26,136
Average per establishment:					\$20,000 and less than \$100,000	5	210	358,708	136,190
1909	23		\$40,042	\$22,258	\$100,000 and less than \$1,000,000	46	8,490	18,078,480	6,956,789
1904	24		46,703	20,343	Per cent of total:	100.0	100.0	100.0	100.0
Boots and shoes, including outstock and findings, 1909.	55	6,626	\$15,508,771	\$5,568,266	Less than \$5,000	15.4	0.1	0.1	0.1
Less than \$5,000	5	18	11,240	5,548	\$5,000 and less than \$20,000	6.2	0.4	0.2	0.4
\$5,000 and less than \$20,000	9	35	84,174	38,381	\$20,000 and less than \$100,000	7.7	2.5	1.9	1.9
\$20,000 and less than \$100,000	14	308	650,362	260,560	\$100,000 and less than \$1,000,000	70.8	97.0	97.8	97.0
\$100,000 and less than \$1,000,000	27	6,175	14,702,945	5,260,771	Average per establishment		150	\$284,403	\$100,070
Per cent of total:	100.0	100.0	100.0	100.0					
Less than \$5,000	9.1	0.3	0.1	0.2					
\$5,000 and less than \$20,000	16.4	0.5	0.5	0.7					
\$20,000 and less than \$100,000	25.5	6.0	4.2	4.7					
\$100,000 and less than \$1,000,000	49.1	93.2	95.2	94.5					
Average per establishment		120	\$281,978	\$101,241					

¹ Includes the group "Less than \$5,000."

² Includes the group "\$1,000,000 and over."

It will be seen from the above table that during the five years from 1904 to 1909 there was a decided increase in the relative importance, as measured by value of products, of the largest establishments—those reporting products valued at not less than \$1,000,000—and a decrease in that of all other classes.

The fact that between 1904 and 1909 the average value of products per establishment increased from \$45,793 to \$49,642, and the average value added by manufacture from \$20,343 to \$22,258, can not be taken as in itself indicating a tendency toward concentration. The increased values shown 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 24 to 23.

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 13 important industries individually, and gives not only the number of establishments falling into each group, but also the average number of wage earners employed.

Of the 3,546 establishments reported for all industries, 8.4 per cent employed no wage earners, 56.4 per cent employed from 1 to 5 each, 20.2 per cent from 6 to 20, 7.2 per cent from 21 to 50, and 7.8 per cent over 50. The most numerous single group consists of the 1,999 establishments employing from 1 to 5 wage earners, and the next of the 717 establishments employing from 6 to 20 wage earners. There were 49 establishments that employed over 250 wage earners; 11 of these, including 6 cotton mills and 2 woolen mills, employed over 1,000 each.

MANUFACTURES—MAINE.

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.....	3,546	298	1,989	717	254	133	96	27	11	11
Boots and shoes, including out stock and findings.....	55	1	13	4	10	7	11	8	1	.....
Bread and other bakery products.....	186	20	148	15	2	1	.....	.....	.....	.....
Canning and preserving.....	245	3	116	90	26	5	3	1	1	.....
Cars and general shop construction and repairs by steam-railroad companies.....	18	.....	2	6	6	.....	2	2	.....	.....
Cotton goods, including cotton small wares.....	16	.....	.....	.....	2	1	2	2	3	6
Flour-mill and gristmill products.....	173	35	134	4	.....	.....	.....	.....	.....	.....
Foundry and machine-shop products.....	125	12	70	23	14	1	4	.....	.....	1
Lumber and timber products.....	1,065	24	579	310	87	43	20	2	1	.....
Marble and stone work.....	142	8	93	19	12	2	8	.....	.....	.....
Paper and wood pulp.....	45	.....	1	5	11	7	10	6	4	1
Printing and publishing.....	195	32	99	44	16	3	1	.....	.....	.....
Shipbuilding, including boat building.....	156	33	93	21	6	2	.....	.....	.....	1
Woolen, worsted, and felt goods, and wool hats.....	65	1	12	2	2	21	22	3	.....	2
All other industries.....	1,060	129	639	174	60	41	13	3	1	.....
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	79,955	4,407	7,956	8,445	9,745	15,632	9,575	7,313	16,882	.....
Boots and shoes, including out stock and findings.....	6,626	30	54	357	557	1,057	2,991	680	.....	.....
Bread and other bakery products.....	680	318	138	54	76	.....	.....	.....	.....	.....
Canning and preserving.....	3,850	312	1,007	913	361	361	321	575	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	1,200	8	73	209	.....	282	628	.....	.....	.....
Cotton goods, including cotton small wares.....	14,634	.....	.....	81	55	395	700	2,300	11,064	.....
Flour-mill and gristmill products.....	225	190	29	.....	.....	.....	.....	.....	.....	.....
Foundry and machine-shop products.....	2,885	154	271	476	94	616	.....	.....	.....	1,274
Lumber and timber products.....	15,089	1,428	3,527	2,723	2,971	3,261	667	509	.....	.....
Marble and stone work.....	2,381	229	215	449	160	1,328	.....	.....	.....	.....
Paper and wood pulp.....	8,947	2	56	382	570	1,794	2,058	2,717	.....	.....
Printing and publishing.....	1,951	249	404	502	228	118	.....	.....	.....	.....
Shipbuilding, including boat building.....	1,755	125	237	227	137	.....	.....	.....	.....	.....
Woolen, worsted, and felt goods, and wool hats.....	8,754	25	34	66	1,747	3,422	967	.....	.....	1,040
All other industries.....	11,675	1,331	1,851	1,910	2,803	2,098	1,163	523	.....	2,493
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	5.5	10.0	10.6	12.2	19.6	12.0	9.1	21.1	.....
Boots and shoes, including out stock and findings.....	100.0	0.5	0.8	5.4	8.4	29.5	45.1	10.3	.....	.....
Bread and other bakery products.....	100.0	54.3	23.5	0.2	13.0	.....	.....	.....	.....	.....
Canning and preserving.....	100.0	8.1	26.2	23.7	9.4	9.4	8.3	14.9	.....	.....
Cars and general shop construction and repairs by steam-railroad companies.....	100.0	0.7	6.1	17.4	.....	23.5	52.3	.....	.....	.....
Cotton goods, including cotton small wares.....	100.0	.....	.....	0.6	0.4	2.7	5.4	15.8	75.2	.....
Flour-mill and gristmill products.....	100.0	87.1	12.9	.....	.....	.....	.....	.....	.....	.....
Foundry and machine-shop products.....	100.0	5.3	0.4	16.5	3.3	21.4	.....	.....	.....	44.2
Lumber and timber products.....	100.0	9.5	23.4	18.0	19.7	21.6	4.4	3.4	.....	.....
Marble and stone work.....	100.0	9.6	9.0	18.9	6.7	55.8	.....	.....	.....	.....
Paper and wood pulp.....	100.0	(1)	0.6	4.4	6.7	20.7	23.8	31.4	.....	12.3
Printing and publishing.....	100.0	15.1	28.1	35.9	13.8	7.1	.....	.....	.....	.....
Shipbuilding, including boat building.....	100.0	7.1	13.5	12.9	6.7	.....	.....	.....	.....	50.8
Woolen, worsted, and felt goods, and wool hats.....	100.0	0.3	0.4	0.8	20.0	39.1	11.0	.....	.....	28.5
All other industries.....	100.0	11.4	15.9	16.4	24.0	18.0	9.9	4.5	.....	.....

¹ Less than one-tenth of 1 per cent.

Of the total number of wage earners, 42.2 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 over 1,000 wage earners each. These establishments employed an aggregate of 16,882 wage earners, or 21.1 per cent of the total.

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, however, can be brought out concerning the relative importance of the different classes of expenses which make up the total. The table in the next column 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, page 22.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	3.7	24.3	62.7	9.2
Boots and shoes, including out stock and findings.....	4.7	21.8	67.0	5.9
Bread and other bakery products.....	2.2	15.9	74.9	7.0
Canning and preserving.....	4.0	16.3	73.2	5.9
Cars and general shop construction and repairs by steam-railroad companies.....	2.6	37.2	58.5	1.7
Cotton goods, including cotton small wares.....	1.9	30.2	60.2	7.7
Flour-mill and gristmill products.....	0.7	2.4	95.5	1.4
Foundry and machine-shop products.....	5.9	33.5	51.9	8.6
Lumber and timber products.....	2.9	31.3	48.1	17.7
Marble and stone work.....	5.4	67.7	21.6	5.2
Paper and wood pulp.....	3.5	18.0	70.0	8.5
Printing and publishing.....	13.6	27.6	39.0	19.9
Shipbuilding, including boat building.....	4.4	39.3	46.3	10.0
Woolen, worsted, and felt goods, and wool hats.....	2.5	23.2	68.2	6.0
All other industries.....	5.2	21.2	63.7	9.9

This table shows that for all industries combined 62.7 per cent of the total expenses was incurred for materials, 28 per cent for services—that is, salaries

and wages—and 9.2 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.....	5,634	3,748	3,615	459,599	343,627	259,232	100.0	100.0	100.0
Owned.....	4,070	3,748	3,615	431,099	333,445	250,443	93.9	97.0	96.0
Steam.....	1,880	1,720	1,633	168,595	126,818	89,257	36.7	36.9	34.4
Gas.....	385	246	100	6,583	3,063	2,178	1.4	0.9	0.8
Water wheels.....	1,771	1,738	1,876	253,830	202,873	158,788	55.3	59.0	61.3
Water motors.....	28	44	(²)	1,912	221	(²)	0.4	0.1	(²)
Other.....				179	470	220	(³)	0.1	0.1
Rented.....	1,564	(²)	(²)	28,500	10,182	8,789	6.2	3.0	3.4
Electric.....	1,564	(²)	(²)	27,203	8,001	7,572	5.9	2.3	2.9
Other.....				1,297	2,181	1,217	0.3	0.6	0.5
Electric motors	2,395	204	97	54,206	26,887	9,659	100.0	100.0	100.0
Run by current generated by establishment.....	831	204	97	27,063	18,520	2,087	40.9	69.7	21.6
Run by rented power.....	1,564	(²)	(²)	27,203	8,001	7,572	50.1	30.3	78.4

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.

All forms of owned primary power, except "Other" power, show marked increases for the decade. More than half of the total primary power was developed by the use of water wheels. The increase in such power during the decade was 95,042 horsepower, or 59.9 per cent, but the proportion which it formed of the total decreased from 61.3 per cent in 1899 to 55.3 per cent in 1909. Steam power shows an increase of 88.9 per cent for the decade, but represented a slightly smaller proportion of the total in 1909 than in 1904, although a somewhat larger proportion than in 1899. The horsepower generated by gas

engines increased 202.2 per cent between 1899 and 1909, more than doubling in the last five years of the decade, but still forms an insignificant proportion of the total. Rented electric power shows an increase of 19,631 horsepower, or 259.3 per cent, for the decade as a whole, and 19,142 horsepower, or 237.5 per cent, for the five-year period, 1904-1909. As a result of this rapid increase such power formed 5.9 per cent of the total primary power in 1909, as compared with 2.3 per cent in 1904 and 2.9 per cent in 1899.

The use of electric motors for applying power by means of current generated in the establishment is rapidly increasing, the horsepower of such motors in 1909 being more than twelve times as great as in 1899.

Fuel.—Closely related to the question of kind of power employed is that of fuel consumed in generating this power, or otherwise used as material in the manufacturing processes. The table following shows the quantity of each kind of fuel used in 1909 for all industries, and for certain selected industries:

INDUSTRY.	An-thra-cite coal (tons).	Bitumi-nous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gaso-line (barrels).	Gas (1,000 feet).
All industries.....	40,728	935,328	10,714	128,783	20,935	8,999
Boots and shoes, including cut stock and findings.....	1,068	8,669	173	1,810	70	.....
Bread and other bakery products.....	2,539	310	227	2,033	11	1,402
Brick and tile.....	100	912	.....	27,185	76	.....
Canning and preserving.....	1,417	15,741	37	3,238	502	.....
Carrriages and wagons and materials.....	190	916	10	608	240	.....
Cars and general shop construction and repairs by steam-railroad companies.....	100	9,300	48	.....	109	.....
Confectionery.....	700	200	35	31	.....	357
Cooperage and wooden goods, not elsewhere specified.....	31	603	.....	451	30	.....
Cotton goods, including cotton small wares.....	700	61,531	.....	576	903	.....
Flour-mill and gristmill products.....	63	1,066	.....	718	1,358	473
Foundry and machine-shop products.....	2,512	9,720	4,473	656	1,250	646
Gas, illuminating and heating.....	12,809	10,953	4,522	.....	11,205	50
Glucose and starch.....	.....	1,755	.....	7,445	32	.....
Lime.....	.....	45,185	.....	20,744	.....	.....
Lumber and timber products.....	471	1,401	.....	1,809	964	115
Marble and stone work.....	150	17,743	.....	235	208	8
Paper and wood pulp.....	15,202	690,101	.....	41,659	.....	.....
Printing and publishing.....	1,154	1,192	65	231	323	4,837
Shipbuilding, including boat building	317	5,103	104	270	200	203
Stoves and furnaces, including gas and oil stoves.....	831	399	540	85	14	50
Woolen, worsted, and felt goods, and wool hats.....	3,170	82,605	.....	2,779	825	.....
All other industries.....	3,072	69,069	474	10,094	2,504	959

NOTE.—In addition there were 1,885 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. Data of this character for six important industries in Maine are here presented.

Paper and wood pulp.—The next table shows for this industry, for 1909, 1904, and 1899, the quantity and cost of the materials used, the quantity and value of the different products, and the number and capacity of the principal paper machines, pulp grinders, and digesters used.

The statistics for the paper and wood-pulp industry covers three classes of establishments, namely, those making pulp only, those making paper only, and those making both pulp and paper. In determining the cost of materials for this industry the materials of all three classes of establishments are added, although the product of the pulp mills becomes the material for the paper mills. Similarly the value of products for the industry as a whole includes the products as disposed of for all three classes of establishments. The totals for cost of materials and value of products for the combined industry include therefore a considerable element of duplication. Undoubtedly a large part of the cost of wood pulp purchased represents a duplication in the cost of materials, and a large part of the value of "wood pulp produced for sale or for consumption in mills other than where produced" represents a duplication in the value of products.

Pulp wood is the most important of the materials, representing more than one-third of the cost of all materials used in the industry in 1909. In 1909 the mills of Maine consumed 903,962 cords of pulp wood, nearly three times the quantity used in 1899. Of this wood, 718,532 cords were spruce (166,500 cords of which were imported), 123,052 cords were poplar, 10,954 cords were hemlock, and 2,737 cords were of other species, and 48,687 cords were slab wood and other mill waste. Next to pulp wood the largest cost was reported for "All other materials," which includes such items as fuel, chemicals, clay, freight, etc. Rags, and old and waste paper formed a comparatively unimportant part of the materials, since practically the entire production of paper in the state was confined to those kinds in which wood fiber was the principal material.

The quantity of all kinds of paper produced in 1909 was 574,215 tons, as compared with 385,999 tons in 1904 and 207,281 tons in 1899. Each class of paper products shows a decided increase in output during the five years, 1904-1909.

Of the wood pulp produced in 1909, ground wood pulp represented 52.2 per cent, soda fiber 12.7 per cent, and sulphite fiber 35 per cent. Of the wood pulp produced for sale, ground pulp formed 55.1 per cent, soda fiber 21.2 per cent, and sulphite fiber 23.7 per cent. The total quantity of wood pulp produced for sale increased 15.6 per cent from 1904 to 1909. This gain was wholly in the ground pulp, since there was a decrease in soda and in sulphite fiber.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost	\$20,504,213	\$13,868,147	\$7,118,945
Pulp wood.....	\$7,084,338	\$4,838,375	\$1,718,091
Wood pulp purchased:			
Tons.....	167,126	107,268	93,090
Cost.....	\$4,637,964	\$2,735,002	\$2,020,333
Ground—			
Tons.....	98,553	60,132	48,740
Cost.....	\$1,831,737	\$937,741	\$509,129
Sulphite fiber—			
Tons.....	52,805	34,020	36,541
Cost.....	\$2,118,781	\$1,252,781	\$1,061,125
All other fiber—			
Tons.....	15,768	13,116	8,718
Cost.....	\$687,446	\$544,480	\$300,079
Rags, including cotton and flax waste and sweepings:			
Tons.....	4,400	5,769	7,804
Cost.....	\$167,316	\$100,378	\$241,359
Old and waste paper:			
Tons.....	7,204	5,693	1,010
Cost.....	\$119,305	\$92,745	\$16,489
All other materials.....	\$7,595,290	\$6,035,647	\$3,113,673
Products, total value	\$33,950,230	\$22,951,124	\$13,223,275
News paper:			
Tons.....	313,125	215,307	122,738
Value.....	\$11,424,388	\$7,721,864	\$4,122,050
Book paper:			
Tons.....	95,295	67,397	30,041
Value.....	\$7,302,670	\$5,159,239	\$2,660,211
Wrapping paper:			
Tons.....	143,606	89,818	39,659
Value.....	\$8,079,209	\$4,075,497	\$2,092,298
Boards:			
Tons.....	22,069	13,477	14,843
Value.....	\$831,340	\$523,568	\$520,087
Wood pulp made for sale or for consumption in mills other than where produced:			
Ground—			
Tons.....	107,116	64,480	78,954
Value.....	\$1,822,734	\$922,206	\$1,168,887
Soda fiber—			
Tons.....	41,106	45,376	32,950
Value.....	\$1,748,294	\$1,773,899	\$1,269,141
Sulphite fiber—			
Tons.....	46,073	58,261	27,143
Value.....	\$1,790,470	\$2,192,704	\$1,390,601
All other products.....	\$942,029	\$582,147	.....
Wood pulp produced (including that used in mills where manufactured), total tons	620,705	456,021	231,619
Ground.....	324,264	230,340	129,878
Soda fiber.....	78,940	83,257	44,162
Sulphite fiber.....	217,501	173,324	57,579
Equipment:			
Paper machines:			
Total number.....	104	91	78
Yearly capacity, tons.....	634,059	425,848	246,583
Fourdrinier—			
Number.....	84	73	56
Daily capacity, tons.....	1,863	1,349	(¹)
Cylinder—			
Number.....	20	18	22
Daily capacity, tons.....	174	120	(¹)
Pulp equipment:			
Grinders, number.....	330	268	178
Digesters, total number.....	98	93	83
Sulphite, number.....	60	55	(¹)
Soda, number.....	38	38	(¹)
Yearly capacity, tons.....	807,798	571,397	330,049
Ground.....	491,065	305,982	(¹)
Sulphite.....	99,205	91,028	(¹)
Soda.....	217,438	174,387	(¹)

¹ Figures not available.

Lumber and timber products.—The following statement shows the production of rough lumber, lath, and shingles in Maine in 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber..... M feet, b. m.	1, 111, 565	784, 647
Lath..... thousands.	337, 080	217, 376
Shingles..... thousands.	598, 131	465, 802

The rough lumber sawed in 1909 amounted to 1,111,565 M feet board measure, as compared with 784,647 M feet in 1899, a gain of 41.7 per cent. The output of lath increased 55.1 per cent during the decade, while that of shingles increased 28.4 per cent.

Maine ranked first among the states in its cut of spruce, reporting 24.1 per cent of the total for the United States in 1909. It was also first in the cut of balsam fir with 46.4 per cent of the total; third in that of birch with 13.9 per cent of the total; and third in that of white pine with 9.8 per cent of the total.

Textiles.—The progress of the textile industries is best indicated by the number of spindles and looms, which were reported as the mill equipment. The following table shows the number for the four principal textile industries in 1909, 1904, and 1899:

KIND.	Cen-sus.	Total.	Cotton goods, including cotton small wares.	Silk and silk goods, including throw-sters.	Woolen, worsted, and felt goods.	Hosiery and knit goods.
Producing spindles	1909	1, 240, 402	1, 020, 088	4, 740	214, 584	480
	1904	1, 085, 898	801, 246	4, 908	180, 084	.....
	1899	1, 007, 748	841, 621	(1)	106, 227	.....
Looms	1909	30, 501	26, 319	158	4, 024	.....
	1904	28, 028	24, 180	150	3, 680	.....
	1899	26, 288	23, 306	120	2, 802	.....

¹ Figures not available.

The number of producing spindles shows an increase between 1904 and 1909 of 154,594, or 14.2 per cent; and that of looms an increase of 2,473, or 8.8 per cent. In 1909 the cotton mills reported 82.3 per cent of the producing spindles in the four branches of the textile industry and made the largest gain in number, between 1904 and 1909, 129,442, or 14.5 per cent. In the woolen, worsted, and felt mills the increase in the number of spindles was 13.1 per cent. The number of looms used in the cotton mills increased 8.8 per cent, the number in the woolen mills, 9.1 per cent, and the number in the silk mills, 5.3 per cent.

Cotton goods.—The quantity and cost of the principal materials used in the manufacture of cotton goods and the quantity and value of the principal products for 1909, 1904, and 1899 are given in the next table.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$11, 390, 479	\$9, 173, 226	\$7, 036, 287
Cotton:			
Domestic:			
Pounds.....	78, 302, 022	67, 023, 278	70, 212, 256
Cost.....	\$9, 384, 474	\$7, 721, 045	\$5, 400, 370
Foreign:			
Pounds.....	376, 021	486, 414	553, 317
Cost.....	\$55, 589	\$88, 455	\$62, 914
Cotton yarn, purchased:			
Pounds.....	1, 266, 512	1, 515, 472	1, 417, 213
Cost.....	\$305, 638	\$208, 725	\$225, 219
Starch.....	\$93, 783	\$77, 595	\$62, 304
Chemicals and dyestuffs.....	\$178, 938	\$133, 933	\$136, 045
Fuel and rent of power.....	\$341, 702	\$236, 716	\$177, 186
All other materials.....	\$1, 030, 205	\$615, 857	\$971, 581
Products, total value.....	\$21, 932, 225	\$15, 405, 823	\$14, 031, 086
Plain cloths for printing or converting:			
Square yards.....	35, 857, 441	30, 024, 901	39, 019, 808
Value.....	\$2, 283, 441	\$1, 492, 520	\$1, 859, 213
Brown or bleached sheetings and shirtings:			
Square yards.....	100, 591, 496	83, 465, 950	94, 416, 781
Value.....	\$6, 830, 308	\$5, 284, 807	\$4, 825, 024
Twills and sateens:			
Square yards.....	27, 617, 001	10, 136, 858	25, 188, 579
Value.....	\$3, 452, 673	\$1, 263, 179	\$1, 626, 978
Fancy woven fabrics:			
Square yards.....	13, 228, 203	9, 359, 611	6, 922, 390
Value.....	\$2, 016, 453	\$1, 273, 075	\$784, 204
Bags and bagging:			
Square yards.....	0, 512, 876	2, 522, 430	6, 142, 221
Value.....	\$704, 110	\$205, 447	\$477, 610
Yarns for sale:			
Pounds.....	3, 259, 274	3, 381, 111	2, 768, 234
Value.....	\$957, 011	\$874, 770	\$406, 426
Cotton waste, not used for further manufacture:			
Pounds.....	7, 748, 530	5, 689, 226	10, 532, 309
Value.....	\$251, 170	\$241, 752	\$210, 176
All other products.....	\$6, 367, 960	\$4, 770, 204	\$4, 440, 555

The cost of raw cotton formed 82.9 per cent of the total cost of all materials used in 1909, 85.1 per cent in 1904, and 77.6 per cent in 1899. The amount of foreign cotton used is comparatively small, forming less than 1 per cent of the total in 1909, 1904, and 1899, and showing a decrease for the decade.

Brown or bleached sheetings and shirtings showed the greatest value of any class of products in 1909 as in 1904; the output of these fabrics increased 20.5 per cent, and their value 29.4 per cent, during the five-year period. Plain cloths for printing or converting show increases of 19.4 per cent in quantity and 53 per cent in value, and twills and sateens increases of 44.3 per cent in quantity and 94.2 per cent in value. Yarns made for sale is the only class of products showing a decrease in output during the five-year period; notwithstanding this decrease, however, an increase of 9.4 per cent was reported in their value.

Woolen, worsted, and felt goods.¹—The quantity and cost of the different materials used in this industry and the quantity and value of the principal products are given in the next table.

The cost of wool, both foreign and domestic, formed 44.7 per cent of the total cost of materials in 1909; that of cotton, 2.2 per cent; that of shoddy, 4.3 per cent; that of waste and noils, 6.4 per cent; that of

¹ The title of this industry in the tables, being uniform for all states, is "Woolen, worsted, and felt goods, and wool hats," but in Maine only woolen, worsted, and felt goods are made.

yarns purchased, 14.2 per cent; and that of chemicals and dyestuffs, 5.3 per cent. Of the total quantity of wool reported in 1909, 74 per cent was domestic and 26 per cent foreign, the cost of the former representing 74.5 per cent of the total cost of wool used and that of the latter 25.5 per cent.

MATERIAL OR PRODUCT.	1909	1904 ¹	1899 ¹
Materials used, total cost.....	\$11,361,597	\$10,811,235	\$7,944,980
Wool:			
Foreign (in condition purchased)—			
Pounds.....	3,588,706	2,724,534	3,121,357
Cost.....	\$1,292,296	\$843,063	\$766,203
Domestic (in condition purchased)—			
Pounds.....	10,194,888	12,390,314	16,172,948
Cost.....	\$3,781,852	\$4,160,873	\$3,617,005
Equivalent in scoured condition, pounds.....	10,763,585	11,016,422	10,567,069
Cotton:			
Pounds.....	1,986,953	3,132,243	2,298,770
Cost.....	\$253,408	\$431,502	\$247,988
Shoddy:			
Pounds.....	4,110,846	4,114,911	3,094,185
Cost.....	\$487,009	\$602,176	\$464,512
Waste and noils of wool, mohair, camel-hair, etc.:			
Pounds.....	2,399,147	1,850,030	1,048,310
Cost.....	\$721,825	\$427,032	\$323,838
Yarn, purchased:			
Woolen and worsted—			
Pounds.....	947,343	1,650,420	725,806
Cost.....	\$768,778	\$1,127,867	\$458,506
Cotton—			
Pounds.....	2,453,888	2,005,774	971,083
Cost.....	\$813,906	\$604,875	\$186,600
All other—			
Pounds.....	29,830	14,073	3,596
Cost.....	\$20,446	\$18,071	\$3,955
Chemicals and dyestuffs.....	\$604,064	\$540,171	\$424,684
Fuel and rent of power.....	\$397,760	\$392,148	\$243,132
All other materials.....	\$2,211,073	\$1,053,747	\$1,208,563
Products, total value.....	\$18,490,120	\$17,579,590	\$13,412,784
All-wool woven goods:			
Woolen cassimeres, suitings, etc.—			
Square yards.....	6,189,031	2,025,363	4,175,588
Value.....	\$3,540,909	\$1,975,009	\$2,420,866
Worsted coatings, dress goods, etc.—			
Square yards.....	2,285,713	2,100,598	1,620,161
Value.....	\$1,380,538	\$1,046,033	\$903,485
Woolen overcoatings and cloakings—			
Square yards.....	1,857,948	1,406,334	1,779,389
Value.....	\$1,400,455	\$1,517,262	\$1,602,482
Woolen dress goods—			
Square yards.....	4,354,196	5,876,735	5,403,946
Value.....	\$1,954,016	\$2,984,858	\$2,182,474
All other—			
Square yards.....	403,041	630,122	2,234,281
Value.....	\$226,702	\$339,215	\$576,872
Union or cotton-mixed woven goods:			
Unions, tweeds, etc.—			
Square yards.....	2,682,295	3,816,292	2,664,583
Value.....	\$1,288,615	\$2,287,614	\$1,691,408
All other—			
Square yards.....	1,314,290	2,408,073	2,021,883
Value.....	\$630,603	\$908,344	\$870,073
Cotton-warp goods woven:			
Wool-filling suitings and dress goods—			
Square yards.....	2,244,167	4,774,787	2,866,284
Value.....	\$700,016	\$1,074,231	\$630,072
All other—			
Square yards.....	12,347,581	7,380,663	3,748,730
Value.....	\$4,123,466	\$2,534,418	\$1,234,147
Upholstery goods and sundries.....	\$1,030,495	\$525,312	\$475,591
Yarns, for sale:			
Woolen yarn—			
Pounds.....	16,779	95,531	30,100
Value.....	\$12,181	\$64,146	\$19,742
Worsted yarn and tops—			
Pounds.....	1,452,845	439,423	358,500
Value.....	\$1,201,838	\$331,128	\$304,620
All other yarns—			
Pounds.....	106,736	177,369	267,637
Value.....	\$42,887	\$140,766	\$319,803
Waste and noils—			
Pounds.....	1,404,750	698,073	531,806
Value.....	\$258,012	\$155,117	\$104,088
Amount received for contract work.....	\$78,722	\$129,763	.....
All other products.....	\$496,776	\$65,784	\$77,052

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

Of the total value of products for the industry in 1909, all-wool woven goods contributed 46.6 per cent, union or cotton-mixed woven goods 10.4 per cent, goods woven on cotton warp, 26.1 per cent, upholstery

goods and sundries 5.6 per cent, yarns for sale 8.2 per cent, and other products, together with contract work, 3.1 per cent. The quantity of all-wool woven goods shows a gain of 2,090,777 square yards in 1909 as compared with 1904, and a decrease of 123,436 square yards in 1909 as compared with 1899. The relative importance of the union or cotton-mixed woven goods has decreased, such fabrics representing only 10.4 per cent of the total value of products for the industry in 1909, as contrasted with 18.2 per cent in 1904 and 19.1 per cent in 1899. Among the partly manufactured goods produced for sale, worsted yarns and tops show the striking increase in quantity of 230.6 per cent between 1904 and 1909. These partly manufactured articles represent a certain amount of duplication, because, although they are the products of one set of mills, they become the materials of other establishments within the industry.

Boots and shoes, including out stock and findings.—The following is a statement of the various kinds of footwear manufactured in the boot and shoe factories of Maine in 1909, 1904, and 1899.

PRODUCT.	NUMBER OF PAIRS.		
	1909	1904	1899
Total.....	9,275,102	9,261,587	10,748,690
Boots and shoes, total.....	9,066,454	9,152,833	10,114,000
Men's.....	4,786,134	5,709,462	6,134,268
Boys' and youths'.....	665,270	1,048,268	1,421,682
Women's.....	2,886,923	2,244,921	2,208,873
Misses' and children's.....	728,127	150,182	349,267
Slippers, infants' shoes and slippers, and all other.....	208,648	108,754	634,690

In 1909, as compared with 1904, the total output of boots and shoes of all kinds, including slippers, shows a slight increase, amounting to less than 1 per cent, but as compared with 1899 a decrease of 13.7 per cent, due to decreases in all classes except women's and misses' and children's boots and shoes.

In the following table the various kinds of footwear reported for 1909 are classified according to the method of manufacture.

PRODUCT.	NUMBER OF PAIRS.				
	Total.	Machine or hand welt.	McKay.	Wire screw or metal fastened.	Other methods.
Boots and shoes:					
Men's.....	4,786,134	3,496,020	1,006,002	243,850	39,262
Boys' and youths'.....	665,270	447,467	188,243	20,560	.....
Women's.....	2,886,923	577,444	1,816,038	(1)	493,441
Misses' and children's.....	728,127	187,043	541,084	.....	.....
Slippers, infants' shoes and slippers, and all other footwear.....	208,648	(1)	(1)	.....	208,648

¹ Included under "Other methods," to avoid disclosing operations of individual establishments.

Of the total output of boots and shoes, and slippers, 50.8 per cent were made by the machine or hand welt process; 38.3 per cent were made by the McKay

process; 2.9 per cent employed the wire screw or metal fastening; and 8 per cent were made by other methods not classified. The greater part of the men's and the boys' and youths' boots and shoes (73.1 per cent and 67.2 per cent, respectively) were made by the machine or hand welt process, but in making the women's and the misses' and children's boots and shoes the McKay process was used to a greater extent.

Canning and preserving.—The next table shows the quantity and value of the various products reported for this industry in 1909, 1904, and 1899.

PRODUCT.	1909	1904	1899
Total value	\$7,688,833	\$7,267,281	\$6,100,854
Canned vegetables:			
Cases.....	924,257	854,210	730,438
Value.....	\$1,545,452	\$1,714,414	\$1,008,936
Beans—			
Cases.....	92,602	54,805	14,815
Value.....	\$151,476	\$92,231	\$33,035
Corn—			
Cases.....	702,185	763,295	710,419
Value.....	\$1,320,223	\$1,525,089	\$1,038,316
All other—			
Cases.....	35,470	36,110	14,204
Value.....	\$73,754	\$97,094	\$26,085
Canned fruits:			
Cases.....	143,452	53,970	16,823
Value.....	\$230,696	\$121,173	\$90,479
Apples—			
Cases.....	75,540	3,088	16,823
Value.....	\$122,791	\$6,794	\$30,479
All other—			
Cases.....	67,912	50,882	.....
Value.....	\$107,905	\$114,379	.....
Fish and clams:			
Pounds.....	116,287,900	112,911,729	74,022,141
Value.....	\$5,738,085	\$5,131,612	\$4,753,071
Canned—			
Pounds.....	90,445,752	89,425,168	48,411,624
Value.....	\$4,812,739	\$4,486,173	\$4,300,184
Sardines—			
Pounds.....	87,513,920	86,218,610	44,420,236
Value.....	\$4,009,224	\$4,291,324	\$4,049,781
Clams—			
Pounds.....	2,175,277	2,700,310	3,096,086
Value.....	\$171,355	\$164,496	\$207,201
All other—			
Pounds.....	756,555	446,248	805,302
Value.....	\$32,160	\$30,353	\$52,190
Smoked—			
Pounds.....	8,814,081	10,925,323	6,765,196
Value.....	\$326,674	\$254,155	\$150,310
Finnan haddie—			
Pounds.....	975,682	650,100	80,000
Value.....	\$63,141	\$38,936	\$8,800
Herring—			
Pounds.....	7,592,993	9,821,243	6,422,476
Value.....	\$255,498	\$206,879	\$136,310
All other—			
Pounds.....	216,306	453,980	262,720
Value.....	\$8,035	\$8,340	\$5,200
Salted—			
Pounds.....	17,027,167	12,561,238	17,845,321
Value.....	\$599,272	\$394,284	\$263,577
Cod—			
Pounds.....	7,267,330	2,682,355	8,535,000
Value.....	\$333,621	\$141,345	\$80,454
Haddock—			
Pounds.....	992,935	611,171	681,050
Value.....	\$30,324	\$17,238	\$12,652
Herring—			
Pounds.....	216,466	1,853,899	3,549,045
Value.....	\$4,332	\$41,557	\$73,029
All other—			
Pounds.....	8,550,502	7,413,813	5,080,226
Value.....	\$230,905	\$194,144	\$127,442
All other products.....	\$174,000	\$297,082	\$287,368

Of the 245 establishments embraced within this classification in 1909, 100 canned fruits and vegetables and 141 canned or cured fish and clams, and 4 were engaged in the manufacture of pickles, preserves, and sauces.

There was a decrease of 13.4 per cent from 1904 to 1909 in the value of canned corn, which was the largest individual product in the canned vegetable branch of

the industry, representing 85.4 per cent of the total value of canned vegetables reported in the later year.

The fruit canning industry shows an increase in value of products between 1904 and 1909 amounting to 90.4 per cent. Apples contributed 53.2 per cent of the value of the fruit products in 1909 as compared with 5.6 per cent in 1904.

The principal branch of the canning industry in Maine is the canning and curing of fish and the canning of clams, the value of which formed 74.6 per cent of the value of all products for the combined industry in the year 1909, 70.7 per cent in 1904, and 77 per cent in 1899. Sardines are the principal product of this subdivision of the industry, contributing, in 1909, 59.9 per cent of the aggregate value of all products and 80.3 per cent of the value of the fish and clam product. In 1909 Maine produced more than nine-tenths of the total quantity of sardines canned in the United States.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 78 such establishments in Maine, 12 of which were in Portland, 5 in Bangor, and 3 in Lewiston.

The following statement summarizes the statistics:

Number of establishments.....	78
Persons engaged in the industry.....	956
Proprietors and firm members.....	87
Salaried employees.....	53
Wage earners (average number).....	816
Primary horsepower.....	1,085
Capital.....	\$536,361
Expenses.....	540,777
Services.....	335,240
Materials.....	115,661
Miscellaneous.....	89,876
Amount received for work done.....	736,367

Fifty-four of the 78 establishments were under individual ownership, 15 under firm ownership, and 9 under corporate ownership. Thirty-two establishments had receipts for the year's business of less than \$5,000; 39 had receipts of between \$5,000 and \$20,000; and 7 had receipts of between \$20,000 and \$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.....	697	68.6	July.....	984	96.8
February.....	701	69.0	August.....	1,016	100.0
March.....	699	68.8	September.....	911	89.7
April.....	764	75.2	October.....	826	81.3
May.....	775	76.3	November.....	778	76.6
June.....	851	83.8	December.....	789	77.7

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

MANUFACTURES—MAINE.

KIND.	Number of engines or motors.	Horse-power.
Primary power, total.....		1,085
Owned:		
Steam.....	55	811
Gas.....	2	10
Water.....	2	35
Rented:		
Electric.....	41	224
Other.....		5

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	1,804
Bituminous coal.....	Tons.....	0,163
Coke.....	Tons.....	17
Wood.....	Cords.....	502
Oil.....	Barrels.....	74
Gas.....	1,000 feet.....	16,264

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.....	88	34
Persons engaged in the industry.....	223	45
Proprietors and firm members.....	100	35
Salaried employees.....	4	
Wage earners (average number).....	119	10
Primary horsepower.....	4,339	1,279
Capital.....	\$173,500	\$49,623
Expenses.....	57,087	203,563
Services.....	44,696	3,993
Materials.....	3,135	1,197,687
Miscellaneous.....	9,256	1,853
Value of products.....	102,802	1,248,593

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

MANUFACTURES—MAINE.

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).							
STATE—All industries.....	1909	3,546	88,476	3,061	4,860	79,955	459,599	\$202,260	\$5,797	\$37,632	\$97,101	\$176,029	\$78,928
	1904	3,145	82,109	3,379	3,772	74,958	343,627	143,708	3,989	32,692	80,042	144,020	63,978
	1899	2,878	.....	.....	3,103	69,914	259,232	114,008	3,051	25,731	61,210	112,059	51,749
Agricultural implements.....	1909	10	147	8	18	121	1,014	440	27	78	84	226	142
	1904	13	186	14	19	153	1,091	394	13	77	76	206	130
	1899	17	260	15	27	218	1,446	584	17	100	98	290	192
Boots and shoes, including cut stock and findings.	1909	55	7,195	20	540	6,026	3,810	7,284	693	3,210	9,941	15,509	5,568
	1904	58	6,363	42	371	5,950	3,010	4,043	382	2,473	8,435	12,608	4,173
	1899	53	6,870	46	302	6,468	.....	5,186	353	2,670	8,445	12,481	3,980
Boxes, fancy and paper.....	1909	10	308	6	22	280	131	252	20	92	125	304	179
	1904	9	237	5	10	222	130	145	0	70	106	236	130
	1899	9	199	6	0	187	.....	95	0	55	99	208	100
Bread and other bakery products.....	1909	186	858	207	65	586	253	661	42	303	1,428	2,235	807
	1904	151	701	172	60	460	146	497	41	220	877	1,489	612
	1899	106	607	122	83	492	.....	461	51	213	644	1,265	561
Brick and tile.....	1909	49	330	44	23	293	880	529	19	150	105	300	285
	1904	66	416	68	18	330	880	569	13	165	118	420	302
	1899	71	494	78	24	392	491	455	8	102	100	440	334
Butter, cheese, and condensed milk....	1909	29	138	11	31	99	523	424	24	48	1,098	1,301	293
	1904	24	123	21	24	78	455	385	0	47	1,045	1,230	185
	1899	61	240	39	39	162	496	430	17	70	1,407	1,728	321
Canning and preserving.....	1909	245	4,410	252	308	3,850	4,355	5,114	321	1,138	5,125	7,689	2,564
	1904	235	4,073	245	341	3,487	3,018	3,452	243	1,306	4,240	7,267	3,027
	1899	170	7,010	230	284	6,490	.....	9,359	105	1,393	3,381	6,170	2,789
Carriages and wagons and materials....	1909	150	667	168	27	472	1,121	1,004	24	257	397	966	560
	1904	158	659	186	14	459	790	692	11	247	400	956	556
	1899	151	.....	.....	17	344	.....	612	11	175	278	720	442
Cars and general shop construction and repairs by steam-railroad companies.	1909	18	1,256	.....	50	1,200	953	1,690	52	793	1,199	2,048	849
	1904	15	891	.....	28	893	829	1,024	27	458	985	1,190	505
	1899	19	608	.....	37	571	427	922	31	301	488	857	399
Clothing, men's, including shirts.....	1909	33	1,148	29	51	1,068	229	600	65	333	597	1,164	567
	1904	34	1,185	41	54	1,090	1,321	440	36	304	407	929	522
	1899	44	.....	.....	44	1,527	.....	476	29	342	770	1,487	717
Clothing, women's.....	1909	7	574	3	39	532	142	388	45	184	338	686	348
	1904	10	512	7	19	485	76	104	10	121	300	554	245
	1899	9	324	11	23	290	18	163	12	73	354	288	134
Confectionery.....	1909	28	278	32	32	214	127	435	31	76	336	711	375
	1904	17	236	21	15	200	62	112	8	50	303	497	194
	1899	10	.....	.....	22	148	.....	99	21	40	158	297	130
Cooperage and wooden goods, not elsewhere specified.	1909	68	444	67	28	349	1,070	870	23	164	435	842	407
	1904	78	458	88	16	354	1,408	400	15	144	291	573	282
	1899	55	.....	.....	5	155	.....	131	5	57	108	249	141
Copper, tin, and sheet-iron products....	1909	16	452	13	65	374	439	5,513	74	190	1,018	1,689	671
	1904	12	176	11	23	142	175	245	23	72	400	509	109
	1899	11	.....	.....	5	45	.....	61	3	21	35	98	63
Cotton goods, including cotton small wares.	1909	16	14,783	.....	149	14,634	53,823	25,653	357	5,718	11,390	21,932	10,542
	1904	15	12,582	.....	200	12,382	37,236	21,643	342	4,037	9,173	16,406	6,233
	1899	15	13,824	.....	100	13,723	39,608	21,087	232	4,330	7,936	14,631	7,595
Flour-mill and gristmill products.....	1909	173	514	220	69	225	7,720	1,016	30	101	4,027	4,507	480
	1904	161	471	209	28	234	6,603	1,423	18	108	3,442	3,933	491
	1899	157	.....	.....	18	182	.....	1,140	12	89	2,023	3,143	520
Foundry and machine-shop products...	1909	125	3,220	116	228	2,885	4,957	6,318	208	1,512	2,344	5,237	2,893
	1904	106	3,294	108	184	3,002	4,371	5,286	222	1,518	2,001	4,888	2,887
	1899	117	.....	.....	147	2,230	.....	4,306	150	1,084	1,783	3,610	1,836
Furniture and refrigerators.....	1909	13	266	8	43	215	554	355	31	116	168	368	200
	1904	11	263	7	19	237	316	414	22	118	145	377	232
	1899	14	385	12	39	334	912	422	36	127	284	581	297
Gas, illuminating and heating.....	1909	19	284	2	66	216	349	2,665	58	120	212	549	337
	1904	15	156	.....	56	190	171	2,058	38	63	129	444	315
	1899	9	108	.....	47	61	.....	1,426	29	38	73	285	212
Glucose and starch.....	1909	64	105	65	10	120	1,838	890	2	68	475	687	212
	1904	65	202	74	21	107	1,946	630	8	47	364	524	160
	1899	45	174	40	17	111	1,517	344	3	35	359	556	197
Leather goods.....	1909	17	342	15	41	286	1,210	738	42	159	391	675	284
	1904	19	382	18	39	325	1,409	697	36	162	291	704	413
	1899	12	.....	.....	29	239	.....	335	26	110	212	489	277
Leather, tanned, curried, and finished..	1909	17	466	10	20	436	1,467	1,729	25	208	1,452	1,905	453
	1904	27	572	28	29	515	1,787	1,465	31	237	1,974	2,500	526
	1899	31	653	30	36	587	1,799	1,876	27	229	1,943	2,452	509

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

MANUFACTURES—MAINE.

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

THE STATE—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.													
STATE—Continued.													
Lime.....	1909 1904 1899	12 8	564 698	13 9	25 26	520 663	205 950	\$1,959 1,027	\$48 24	\$197 207	\$729 602	\$1,215 1,174	\$486 572
Lumber and timber products.....	1909 1904 1899	1,065 862 745	17,101 15,307	1,331 1,110	684 620 388	15,086 13,577 10,817	95,363 76,267	26,536 17,810 14,529	656 450 308	7,103 6,155 3,940	10,030 8,912 7,710	20,125 21,337 15,297	15,105 12,425 7,587
Marble and stone work.....	1909 1904 1899	142 61 64	2,063 2,691	163 69	110 90 80	2,381 2,532 2,147	7,785 4,867	4,280 3,008 2,905	123 109 80	1,532 376 1,082	490 376 256	2,565 2,555 2,021	2,075 2,170 1,765
Paper and wood pulp.....	1909 1904 1899	45 37 35	9,146 7,035 5,121	17 11 12	482 350 258	8,647 7,574 4,851	223,787 152,294 92,330	65,133 41,274 17,473	1,019 605 445	5,267 4,053 2,163	20,504 13,868 7,110	33,950 22,951 12,223	13,446 9,083 6,101
Patent medicines and compounds and druggists' preparations.....	1909 1904 1899	37 27 20	213 193	25 20	44 26 25	144 147 127	94 36	725 204 446	43 23 23	40 46 30	197 158 120	756 585 379	559 427 259
Printing and publishing.....	1909 1904 1899	105 217 208	2,350 2,292 2,082	155 182 193	553 306 246	1,651 1,804 1,643	1,565 1,352	2,611 2,177 2,066	383 259 200	779 767 619	1,102 932 680	3,438 3,400 2,688	2,336 2,468 2,008
Shipbuilding, including boat building.....	1909 1904 1899	159 138 115	2,014 1,528	173 173	86 33 28	1,755 1,322 1,300	2,447 1,719	2,304 1,222 1,316	112 34 23	992 759 750	1,169 1,715 1,378	3,062 3,038 2,492	1,893 1,323 1,114
Slaughtering and meat packing.....	1909 1904 1899	20 12 11	152 190 56	19 13 12	26 17 6	107 160 38	213 359 52	197 316 133	21 13 3	58 85 18	785 524 457	957 723 554	172 199 97
Stoves and furnaces, including gas and oil stoves.....	1909 1904 1899	4 4	230 232	1 1	39 24	190 207	298 205	412 382	52 38	113 118	98 72	329 304	231 232
Tobacco manufactures.....	1909 1904 1899	77 64 54	351 327 251	84 75 50	15 8 10	252 244 182	-----	202 137 134	11 5 0	146 123 80	169 182 90	464 450 285	205 268 189
Wood, turned and carved.....	1909 1904 1899	62 58 52	1,424 1,550 941	57 57 50	80 39 34	1,287 1,454 851	4,525 4,049	2,063 1,722 604	69 36 20	572 577 290	809 668 333	1,870 1,641 853	971 973 529
Woolen, worsted, and felt goods, and wool hats.....	1909 1904 1899	65 72 79	9,070 9,062 7,409	22 36 37	294 283 217	8,754 8,743 7,155	22,290 18,176 15,170	19,834 17,552 14,129	424 391 299	3,870 3,514 2,689	11,362 10,811 7,945	18,490 17,580 13,413	7,128 6,759 5,468
All other industries.....	1909 1904 1899	318 264 300	4,005 5,000	296 258	482 5,346 400	4,127 5,346 5,760	13,584 15,523	10,437 9,154 10,647	563 430 400	1,966 2,441 2,332	5,982 6,011 4,629	11,188 10,842 9,530	5,295 4,831 4,901

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

PORTLAND—All industries.....	1909 1904 1899	271 243 234	5,891 5,112	193 208	796 659 406	4,902 4,345 3,763	7,849	\$9,597 6,280 5,318	\$769 485 371	\$2,508 2,073 1,679	\$6,009 4,354 3,603	\$11,950 9,133 7,334	\$5,941 4,779 3,731
Bread and other bakery products.....	1909 1904 1899	27 29 26	178 157 288	28 33 25	14 23 51	136 101 212	42	117 64 234	13 9 35	71 54 97	373 142 293	531 258 535	188 116 212
Brick and tile.....	1909 1904 1899	3 3 3	50 53 40	3 3 4	2 ----- 36	45 50 36	180	80 27 28	2 ----- 16	27 28 16	18 14 11	71 53 48	53 39 37
Canning and preserving.....	1909 1904 1899	7 11 9	96 200	4 0	14 22 8	78 169 86	71	278 209 142	20 18 9	30 47 31	142 264 138	226 401 218	84 137 89
Carriages and wagons and materials.....	1909 1904 1899	4 3 7	67 83	2 3 6	8 2 6	57 78 65	85	107 33 98	6 1 4	34 51 35	60 40 60	127 112 100	61 69 100
Clothing, women's.....	1909 1904 1899	3 3 3	421 323 264	----- 3 3	25 9 20	396 311 241	64	302 69 170	32 6 11	137 84 60	201 136 165	504 270 212	243 145 167
Confectionery.....	1909 1904 1899	12 6 5	190 126	9 5	26 6 20	155 115 112	166	348 39 72	27 3 20	53 33 28	295 225 112	574 347 218	309 122 106
Copper, tin, and sheet-iron products.....	1909 1904 1899	9 6 6	153 45	8 6	21 7 4	124 32 23	94	234 28 31	14 5 2	51 18 14	166 24 25	246 66 75	89 42 50
Flour-mill and gristmill products.....	1909 1904 1899	6 3 4	24 10	3 ----- 3	8 ----- 1	13 4 6	1,023	62 61 35	2 ----- 1	3 2 3	160 128 109	100 142 127	23 14 15

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.

MANUFACTURES—MAINE.

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 employes.	Wage earners (average number).							
Expressed in thousands.													
PORTLAND—Continued.													
Foundry and machine-shop products...	1909	21	590	11	95	483	1,269	\$1,615	\$98	\$260	\$613	\$1,200	\$587
	1904	20	752	20	76	660	.....	1,471	90	386	352	1,200	908
	1899	18	583	10	36	528	.....	986	42	258	268	684	416
Lumber and timber products.....	1909	11	723	1	115	607	1,590	1,557	93	365	920	1,838	918
	1904	11	387	6	63	318	.....	836	44	170	400	948	548
	1899	11	.....	.....	23	260	.....	470	19	146	292	518	226
Marble and stone work.....	1909	9	68	10	5	53	55	83	4	35	34	92	58
	1904	4	31	6	2	23	.....	25	1	19	11	46	35
	1899	10	75	15	3	57	.....	70	3	38	42	114	72
Patent medicines and compounds and druggists' preparations.	1909	13	89	12	24	53	38	171	19	19	120	461	335
	1904	5	31	6	6	19	.....	45	4	9	34	148	114
	1899	6	31	9	4	18	.....	17	6	6	27	59	32
Printing and publishing.....	1909	43	792	31	142	619	486	736	121	290	294	1,010	716
	1904	47	689	33	138	518	.....	581	114	247	265	855	590
	1899	45	581	35	82	464	.....	548	59	223	161	661	500
All other industries.....	1909	103	2,450	71	296	2,083	2,691	3,907	318	1,118	2,562	4,880	2,318
	1904	92	2,231	75	295	1,951	.....	2,792	100	925	2,313	4,218	1,995
	1899	84	.....	.....	148	1,049	.....	2,417	161	724	1,951	3,696	1,745

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

Auburn.....	1909	83	3,778	73	253	3,452	3,445	\$4,085	\$298	\$1,748	\$5,790	\$8,843	\$3,053
	1904	72	2,909	65	152	2,652	.....	2,826	174	1,216	4,417	6,407	1,990
	1899	67	.....	.....	201	2,749	.....	3,246	171	1,150	3,987	5,966	1,979
Augusta.....	1909	40	2,431	30	305	2,096	5,350	3,414	232	1,159	2,484	4,062	2,178
	1904	44	2,025	41	125	1,860	.....	2,286	134	702	1,887	3,887	2,090
	1899	52	.....	.....	94	2,018	.....	3,296	112	607	1,211	3,313	2,102
Bangor.....	1909	122	1,672	117	228	1,327	2,441	3,565	204	735	1,847	3,346	1,499
	1904	87	1,709	85	128	1,496	.....	2,944	129	748	1,737	3,408	1,671
	1899	101	.....	.....	148	1,511	.....	2,125	127	695	1,905	3,336	1,431
Bladesford.....	1909	43	5,178	45	57	5,070	17,038	7,172	122	1,993	4,897	9,012	4,115
	1904	33	4,890	34	92	4,764	.....	7,000	126	1,791	4,136	6,949	2,813
	1899	39	.....	.....	44	4,375	.....	6,924	76	1,487	2,960	5,472	2,596
Lewiston.....	1909	83	7,050	70	180	6,788	19,438	12,639	308	2,741	5,275	10,475	5,290
	1904	81	6,410	85	167	6,167	.....	11,265	230	2,168	4,716	8,528	3,812
	1899	84	.....	.....	152	6,677	.....	10,657	193	2,307	3,718	7,779	4,061
Waterville.....	1909	33	1,907	17	78	1,812	3,184	4,762	89	805	1,771	3,179	1,498
	1904	40	2,122	30	75	2,011	.....	4,051	116	738	1,773	3,069	1,290
	1899	29	.....	.....	48	1,920	.....	3,721	50	627	1,046	2,284	1,238

MANUFACTURES—MAINE.

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, supts. and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	3,546	88,476	3,061	1,988	1,730	1,142	79,955	Oct 85,501	July 70,489	(1)	(1)	(1)	(1)	(1)	459,599		
2 Agricultural implements.....	10	147	8	10	5	3	121	Mar 151	Aug 74	135	133	2			1,014		
3 Artificial stone.....	9	52	8	3		2	39	July 64	Jan 12	40	39		1		12		
4 Baskets, and rattan and willow ware.....	6	20	6				14	July 16	Nov 7	16	9	7			25		
5 Blacking and cleansing and polishing preparations.....	4	5	1	1	1		2	Mar 3	Jan 2	3	2	1			9		
6 Boots and shoes, including cut stock and findings.....	55	7,195	29	148	234	158	6,626	Feb 7,274	July 6,100	7,170	4,682	2,366	92	30	3,810		
7 Boxes, fancy and paper.....	10	308	6	11	1	10	280	Dec 323	Jan 250	323	83	237		3	131		
8 Brass and bronze products.....	3	15	1	1	1		12	July 16	Jan 8	8	7				10		
9 Bread and other bakery products.....	186	858	207	11	25	20	586	July 674	Feb 516	623	471	132	12	8	253		
10 Brick and tile.....	49	330	44	16	4	3	263	July 539	Mar 32	401	398		3		889		
11 Brooms.....	9	23	8	1		1	13	Jan 15	Aug 8	14	14				11		
12 Brushes.....	4	30	4	2		1	23	Aug 26	Nov 20	21	11	10			22		
13 Butter, cheese, and condensed milk.....	29	138	11	18	4	9	96	July 107	Dec 91	99	91	8			523		
14 Canning and preserving.....	245	4,410	252	201	50	57	3,850	Sept 10,131	Jan 588	10,464	5,838	4,482	83	61	4,355		
15 Carriages and wagons and materials.....	150	667	108	14	10	3	472	Feb 526	Aug 388	507	507				1,121		
16 Cars and general shop construction and repairs by steam-railroad companies.....	18	1,256		27	25	4	1,200	Jan 1,249	July 1,141	1,204	1,204				959		
17 Cars and general shop construction and repairs by street-railroad companies.....	13	168		3	4		161	July 175	Jan 150	154	153	1			258		
18 Clothing, men's, including shirts.....	33	1,148	29	18	19	14	1,068	Dec 1,158	Aug 980	1,171	266	905			229		
19 Clothing, women's.....	7	574	3	12	21	6	532	Mar 600	Aug 388	570	75	492		3	142		
20 Coffins, burial cases, and undertakers' goods.....	8	66	12	2	2	1	40	Feb 52	Jan 46	54	54				149		
21 Confectionery.....	28	278	32	6	17	9	214	Dec 242	May 198	242	82	150	1		127		
22 Cooperage and wooden goods, not elsewhere specified.....	68	444	67	15	4	9	340	Feb 451	Aug 210	466	386	79	1		1,470		
23 Copper, tin, and sheet-iron products.....	16	452	13	14	38	13	374	Sept 504	Jan 130	203	196		5	2	439		
24 Cotton goods, including cotton small wares.....	16	14,783		84	55	10	14,034	Aug 14,922	Jan 14,474	14,626	6,957	6,819	477	373	53,823		
25 Cutlery and tools, not elsewhere specified.....	16	100	21	9	4	2	64	Oct 67	July 59	75	75				789		
26 Flour-mill and gristmill products.....	173	514	220	30	26	13	225	Dec 232	July 220	237	236	1			7,730		
27 Foundry and machine-shop products.....	125	3,229	116	95	71	62	2,885	Oct 3,003	Jan 2,628	3,053	3,005	43	5		4,957		
28 Furnishing goods, men's.....	6	49	8	1			40	Oct 54	Jan 19	53	5	48			9		
29 Furniture and refrigerators.....	13	266	8	19	17	7	215	Oct 263	Feb 183	229	210	19			554		
30 Gas, illuminating and heating.....	19	284	2	24	30	12	216	July 327	Mar 143	186	186				319		
31 Glucose and starch.....	64	195	65	10			120	Oct 623	Jan 0	636	618	18			1,838		
32 Hosiery and knit goods.....	5	50	7	2	2		45	Aug 52	Mar 38	62	23	27		2	69		
33 Jewelry.....	3	14	4	2		1	7	Nov 9	Jan 6	8	7	1			3		
34 Leather goods.....	17	342	15	10	23	8	286	Dec 320	Jan 270	311	285	26			1,210		
35 Leather, tanned, curried, and finished.....	17	466	10	15	4	1	436	Dec 507	July 308	521	521				1,467		
36 Lime.....	12	564	13	14	9	2	526	Sept 607	July 448	474	474				295		
37 Lumber and timber products.....	1,065	17,101	1,331	370	186	128	15,086	Jan 17,352	Aug 12,146	22,401	22,286	80	34	1	95,863		
38 Marble and stone work.....	142	2,663	163	63	40	16	2,381	Sept 3,036	Feb 1,315	2,770	2,770				7,785		
39 Mattresses and spring beds.....	10	92	11	5	2	2	72	My 70	Jan 59	72	59	11	2		69		
40 Models and patterns, not including paper patterns.....	3	5	3				2	July 4	Mar 1	2	2				5		
41 Musical instruments, pianos and organs and materials.....	3	26	1	2	2	1	20	Dec 27	Apr 10	27	27				135		
42 Paint and varnish.....	4	28	4	3	4	2	15	July 17	Jan 14	15	15				157		
43 Paper and wood pulp.....	45	9,146	17	165	252	65	8,647	Dec 8,841	Sept 8,334	8,892	8,399	477	16		234,787		
44 Patent medicines and compounds and druggists' preparations.....	37	213	25	15	19	10	144	Jan 184	Aug 89	191	57	133	1		94		
45 Printing and publishing.....	195	2,359	155	120	146	287	1,651	Mar 1,789	Aug 1,537	1,814	1,126	677	0	2	1,525		
46 Shipbuilding, including boat building.....	156	2,014	173	38	28	20	1,755	Apr 1,755	Dec 1,530	1,738	1,736	2			2,447		
47 Slaughtering and meat packing.....	20	152	19	8	11	7	107	Nov 123	July 96	123	123				213		
48 Stoves and furnaces, including gas and oil stoves.....	4	230	1	9	25	5	190	Nov 204	July 151	203	203				268		
49 Tobacco manufactures.....	77	351	84	3	8	4	252	July 263	Mar 242	262	200	57	4	1			
50 Wood, turned and carved.....	62	1,424	57	43	21	16	1,287	Mar 1,411	July 1,184	1,415	1,253	158	2	2	4,525		
51 Woolen, worsted, and felt goods, and wool hats.....	65	9,070	22	100	94	40	8,754	Dec 9,373	Jan 8,021	9,397	5,868	3,332	80	111	22,263		
52 All other industries.....	212	4,156	197	135	187	88	3,549								11,842		

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 None reported for one or more other months.

4 All other industries embrace—

Awnings, tents, and sails.....	23	Dyestuffs and extracts.....	2	Galvanizing.....	1
Barbitt metal and solder.....	1	Electrical machinery, apparatus, and supplies.....	2	Glass, cutting, staining, and ornamenting.....	2
Bags, paper.....	1	Electroplating.....	1	Glue.....	2
Belt and hose, leather.....	1	Enameling and japanning.....	1	Grease and tallow.....	3
Bluing.....	1	Fancy articles, not elsewhere specified.....	2	Grindstones.....	1
Carpets, rag.....	2	Fertilizers.....	5	Hair work.....	2
Carriages and sleds, children's.....	1	Files.....	2	Hammocks.....	1
Charcoal.....	1	Fireworks.....	1	Hand stamps and stencils and brands.....	2
Chemicals.....	1	Flavoring extracts.....	1	Hats, fur-felt.....	1
Clothing, horse.....	1	Food preparations.....	9	Hones and whetstones.....	1
Coffee and spice, roasting and grinding.....	1	Foundry supplies.....	1	House-furnishing goods, not elsewhere specified.....	3
Cordage and twine and jute and linen goods.....	2	Fur goods.....	1	Iron and steel, steel works and rolling mills.....	1
Dyeing and finishing textiles.....	1	Furs, dressed.....	1	Kaolin and ground earths.....	1

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	\$202,259,592	\$154,821,250	\$3,540,705	\$2,255,740	\$37,632,284	\$4,887,240	\$92,213,984	\$900,915	\$1,157,339	\$2,562,345	\$9,670,020	\$176,029,393	\$78,928,169
2	448,622	204,987	12,104	14,088	78,350	11,003	73,209	700	2,510	-----	12,053	226,308	142,036
3	43,510	57,305	4,290	510	31,211	257	17,913	600	107	-----	2,378	70,120	51,950
4	18,149	9,134	-----	-----	4,845	242	3,533	145	59	-----	310	14,893	11,118
5	11,109	8,707	900	820	509	221	3,609	504	28	-----	2,026	8,651	4,821
6	7,284,376	14,706,825	257,262	435,580	3,210,048	68,363	9,872,142	11,748	18,925	4,737	828,020	15,508,771	5,568,260
7	251,773	252,539	14,195	5,376	91,934	4,639	119,961	2,337	1,351	500	12,240	303,778	179,178
8	12,208	14,665	832	312	6,561	1,000	4,784	755	-----	-----	421	14,100	8,385
9	660,714	1,906,661	12,788	29,088	302,877	41,518	1,390,170	35,212	4,106	-----	94,833	2,234,718	807,021
10	528,785	300,432	14,930	4,475	150,142	97,560	7,444	1,830	3,453	5,861	14,737	390,167	285,163
11	28,665	36,750	1,248	413	6,041	327	25,893	826	122	340	1,540	40,182	22,962
12	40,950	41,185	1,050	400	14,890	364	22,557	614	165	-----	1,175	46,402	23,541
13	424,405	1,209,521	17,518	6,083	47,624	14,269	1,083,741	2,808	2,210	208	34,001	1,391,027	203,017
14	5,113,760	6,996,964	265,362	55,389	1,137,879	97,483	5,927,435	23,297	27,317	4,061	367,841	7,688,833	2,563,915
15	1,003,664	718,346	15,559	7,999	257,293	16,097	381,061	8,701	5,446	5,813	20,407	906,093	568,935
16	1,690,688	2,048,194	35,294	17,067	762,610	45,577	1,153,375	-----	12,334	-----	21,908	2,048,194	849,242
17	297,175	201,426	2,441	2,522	99,060	1,787	83,662	-----	3,017	-----	8,937	201,426	115,977
18	690,145	1,088,694	45,569	19,820	332,770	9,477	587,003	9,759	2,160	22,364	59,272	1,163,693	566,713
19	388,201	618,653	13,892	30,882	183,571	4,239	333,330	7,718	873	-----	44,148	680,329	348,790
20	165,673	136,890	2,600	2,242	31,106	1,105	80,598	1,592	741	-----	7,960	164,455	73,752
21	435,404	501,417	13,363	18,107	76,041	6,777	329,240	5,401	1,922	-----	50,500	711,391	375,368
22	870,151	695,919	15,994	6,800	163,939	5,180	430,053	6,581	5,440	6,158	55,756	842,430	407,206
23	5,512,627	1,610,307	26,510	47,035	189,956	16,511	1,091,252	6,857	2,033	2,318	316,935	1,688,985	671,222
24	25,653,080	18,914,490	258,205	98,549	5,717,776	341,762	11,048,717	600	267,037	271,753	910,097	21,632,225	10,541,746
25	231,167	124,193	9,328	3,112	38,237	6,548	55,573	1,320	1,477	170	8,410	158,177	96,056
26	1,916,415	4,217,880	15,635	14,198	101,317	33,575	3,993,541	11,286	10,519	358	37,421	4,507,216	480,100
27	6,318,373	4,513,940	199,591	77,880	1,511,590	103,183	2,240,739	14,569	28,599	3,276	343,522	5,236,762	2,892,830
28	25,733	43,625	780	-----	6,097	539	29,576	302	126	3,000	3,295	56,164	26,049
29	354,631	347,681	20,280	10,318	115,950	4,248	163,830	2,714	1,780	2,640	25,915	368,134	200,059
30	2,664,690	450,399	31,096	27,093	120,172	133,269	78,699	-----	19,983	5,146	35,040	548,691	336,732
31	1,959,387	567,460	2,330	-----	67,815	26,983	447,050	-----	4,723	820	16,829	686,096	211,673
32	128,593	65,357	2,500	4,090	14,621	2,078	30,467	300	353	8,919	2,119	78,586	46,041
33	10,978	16,745	2,690	572	3,730	116	8,114	705	53	-----	855	20,507	12,277
34	737,569	624,255	16,380	26,039	159,288	14,121	376,742	4,377	2,485	62	24,761	674,701	283,834
35	1,728,823	1,791,076	20,733	3,800	207,869	33,556	1,418,647	17	5,141	311	100,953	1,905,372	453,109
36	1,959,345	1,040,491	40,436	7,107	197,204	228,860	399,843	5,977	14,218	7,720	39,124	1,214,703	480,000
37	26,535,890	22,709,838	470,719	185,622	7,103,269	32,441	10,807,734	55,682	199,335	1,893,547	1,880,489	26,124,640	15,194,465
38	4,279,952	2,292,720	85,869	36,683	1,531,952	80,008	409,232	6,497	10,974	6,994	84,911	2,565,024	2,075,184
39	127,796	138,443	3,914	2,494	30,386	1,127	30,368	1,500	610	-----	5,154	148,243	63,758
40	5,325	4,352	-----	-----	2,028	156	1,649	173	38	-----	308	8,971	7,160
41	85,496	37,800	1,872	1,728	10,283	381	18,368	228	199	-----	4,741	43,274	24,525
42	83,149	129,789	7,940	4,024	10,491	1,097	98,340	2,510	320	-----	4,167	140,087	39,760
43	65,133,247	29,280,896	650,026	368,018	5,296,650	2,628,561	17,875,652	525,124	282,020	84,873	1,608,066	33,950,230	13,446,017
44	724,586	508,923	27,400	15,545	49,040	2,972	193,932	3,787	2,536	-----	1,350	755,878	558,974
45	2,610,654	2,825,084	187,578	195,489	778,961	41,143	1,090,477	51,126	14,110	33,737	462,463	3,437,812	2,336,192
46	2,303,770	2,527,170	80,458	31,299	992,328	47,464	1,121,629	6,792	9,395	104,872	132,993	3,061,635	1,892,542
47	196,648	889,119	12,566	8,838	57,634	6,452	778,695	2,472	1,370	756	20,436	950,955	171,908
48	412,148	303,146	30,500	21,203	113,330	6,867	90,863	-----	2,695	-----	37,698	329,499	231,779
49	292,310	385,440	5,000	6,276	140,100	1,973	167,495	9,158	34,322	-----	15,110	463,017	294,440
50	2,063,059	1,652,034	49,692	19,174	571,861	4,360	894,766	2,797	9,846	13,210	86,388	1,870,393	671,327
51	19,833,906	16,654,758	313,749	110,442	3,869,785	397,760	10,963,837	12,750	90,967	23,704	871,764	18,490,120	7,128,523
52	9,121,709	8,419,683	227,999	270,430	1,657,246	259,663	5,118,639	50,188	46,818	41,858	746,833	9,964,787	4,586,485

* All other industries embrace—Continued

Lapidary work.....	3	Photo-engraving.....	2	Steam packing.....	2
Lasts.....	2	Pottery, terra-cotta, and fire-clay products.....	2	Stereotyping and electrotyping.....	1
Liquors, malt.....	2	Pulp goods.....	1	Surgical appliances and artificial limbs.....	1
Looking-glass and picture frames.....	1	Pumps, not including steam pumps.....	1	Toys and games.....	1
Machineries.....	1	Sand and emery paper and cloth.....	1	Typefoundries and supplies.....	1
Matcheries.....	1	Saws.....	2	Upholstering materials.....	3
Millinery and lace goods.....	1	Shoddy.....	1	Vault lights and ventilators.....	1
Mineral and soda waters.....	45	Show cases.....	2	Wagon and elder.....	14
Musical instruments and materials, not specified.....	1	Silk and silk goods, including throwsters.....	2	Wall plaster.....	1
Oil, not elsewhere specified.....	1	Silverware and plated ware.....	1	Waste.....	1
Oilcloth and linoleum.....	2	Soap.....	1	Wirework, including wire rope and cable.....	1
Optical goods.....	1	Sporting and athletic goods.....	10	Wool pulling.....	2
Paper goods, not elsewhere specified.....	2				
Paving materials.....	1				