

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE.

ROBERT P. PORTER,
Superintendent.
Appointed April 20, 1889; resigned July 31, 1893.

Bureau of the Census
Library

CARROLL D. WRIGHT,
Commissioner of Labor in charge.
Appointed October 5, 1893.

REPORT

ON

MANUFACTURING INDUSTRIES

IN

THE UNITED STATES

AT THE

ELEVENTH CENSUS: 1890.

PART I.

TOTALS FOR STATES AND INDUSTRIES.



WASHINGTON, D. C.:
GOVERNMENT PRINTING OFFICE.
1895.

CONTENTS—PART I.

	Page.
Letter of transmittal of the Commissioner of Labor in charge to the Secretary of the Interior.....	v
INTRODUCTION	1-63
Comparisons.....	2-7
Summary of general statistics, by states and territories.....	8
Capital.....	9-11
Miscellaneous expenses.....	12
Employés and wages.....	13-28
Materials.....	28
Products.....	28-55
Selected industries.....	56-63
Agricultural implements.....	56, 57
Boots and shoes, and leather, tanned and curried.....	57-59
Carriages and wagons.....	60
Cheese, butter, and condensed milk.....	60, 61
Flouring and grist mill products.....	61, 62
Paper.....	62
Slaughtering and meat packing.....	62, 63
GENERAL TABLES	65-741
Table 1.—Comparative summary, by states and territories: 1850 to 1890.....	67-69
Table 2.—Comparative summary, by specified industries: 1880 and 1890.....	73-84
Table 3.—Manufactures, by states and territories.....	86-89
Table 4.—Manufactures, by specified industries.....	92-115
Table 5.—Specified industries, by states and territories.....	118-331
Table 6.—Manufactures in states and territories, by specified industries and by counties.....	334-639
Table 7.—Comparative statement of selected industries, by states and territories: 1880 and 1890.....	643-651
Table 8.—Detailed statement for selected industries, by states and territories.....	654-741
MOTIVE POWER USED IN MANUFACTURES	743-1002
Introduction.....	745-753
Table 1.—Power used in manufactures, by states and territories: 1870 to 1890.....	754-756
Table 2.—Power used in manufactures, by selected industries: 1870 to 1890.....	757
Table 3.—Power used in manufactures, by states and territories.....	758, 759
Table 4.—Power used in manufactures, by specified industries.....	760-769
Table 5.—Power used in manufactures, states and territories, by specified industries.....	770-905
Table 6.—Power used in manufactures, specified industries, by states and territories.....	906-1002

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE,

WASHINGTON, D. C., December 12, 1894.

SIR:

I have the honor to transmit herewith the Report on Manufactures, Part I, consisting of totals for all classes of mechanical and manufacturing industries in the United States, with special statistics for selected industries. The compilation of these statistics was commenced by Mr. F. R. Williams, special agent, and Mr. George S. Boudinot, chief of the division of manufactures. Mr. Boudinot severed his connection with the work October 8, 1891, and Mr. Williams, October 4, 1893. The tabulations and the preparation of the text were conducted by Mr. William M. Steuart, chief of division.

I am, very respectfully, your obedient servant,

CARROLL D. WRIGHT,

Commissioner of Labor in charge.

Hon. HOKE SMITH,
Secretary of the Interior.

v

INTRODUCTION.

This volume presents the statistics of the manufacturing and mechanical industries of the United States according to the census of 1890. The statistics are shown by totals for the United States, for the respective states and territories, and for specified industries, and are compared with similar statistics published at previous censuses. With the exception of mining and quarrying, which are shown in the report on "Mineral Industries", the tables include every establishment of manufacturing and mechanical industry returned at the Eleventh Census as having a product valued at \$500 or more, during the census year ending May 31, 1890. So far as practicable, the operations of each establishment have been credited to the locality in which the works were situated. When two or more establishments owned by the same corporation, firm, or individual are located in the same county or city and engaged in the same industry they have been tabulated and counted as one establishment.

Enumerators appointed under the provisions of the act of Congress approved March 1, 1889, providing for taking the Eleventh Census, were charged with the duty of personally visiting every establishment of productive industry in their respective districts (with certain exceptions hereafter noted), to obtain a distinct report from each establishment while engaged in the work of enumerating the population and the products of agriculture. The law required this work to be completed in 30 days.

By virtue of the authority conferred by section 18 of the same act, the collection of statistics of productive industry in 1,042 cities was withdrawn from the enumerators and assigned to special agents, who entered upon duty as soon as practicable after the completion of the count of the people.

The instructions issued by this office to enumerators and special agents with respect to the collection of statistics of manufactures were in part as follows:

It shall be their duty to visit personally every establishment of productive industry in their respective districts (except as noted) and to obtain the required information in the case of each manufacturing establishment.

The term "establishment of productive industry" must be understood in its broadest sense to embrace not only mills and factories but also the operations of all small establishments and the mechanical trades.

Restaurants, saloons, barber shops, the compounding of individual prescriptions by druggists and apothecaries, the operation of mercantile establishments, transportation corporations and lines, and professional services (except mechanical dentistry) are not considered as coming within the meaning of the law in this connection.

Great care must be taken by special agents and enumerators to guard against the omission from their returns of any establishment that comes properly within the scope of this investigation. They should have their eyes open to every indication of the presence of productive industry, and should supplement personal observation by frequent and persistent inquiry.

A large number of returns were received from dentists. These returns purported to represent only the mechanical work, but it was evident that in many cases operative dentistry had been included. This fact, combined with the strenuous objection on the part of the profession to give any information whatever of the character required by the census schedule, on the ground that the census law did not seek to secure returns for professional services, caused the office to discontinue its efforts to obtain returns for the mechanical work. The statistics published are those which were secured prior to the objection referred to.

It was found impracticable to make a complete canvass of the United States for the collection of statistics pertaining to the generation of electricity for lighting and power purposes. The data concerning this industry, therefore, are confined to the state of New York, the city of St. Louis, Mo., and the District of Columbia.

In some cases the office experienced difficulty in securing complete returns, and it was found necessary to close the canvass without obtaining such returns from some establishments. The establishments referred to, with but few exceptions, are unimportant, and their omission from the tables can have but slight effect on the totals. In cases where the totals show a decrease when compared with the reports of the Tenth Census a special investigation, when practicable, was made to verify the accuracy of the canvass. In the rural districts, where the canvass was conducted by the general enumerators, such a verification was impossible. The law required the work of the enumerators to be completed within 30 days. Under these circumstances the canvass of the cities was more thorough than that of the rural districts, and the apparent decrease in some industries and in some states is due, in part at least, to the less efficient canvass by the general enumerators. The defective canvass of the enumerators is more apparent in the totals for the states in which there are comparatively few large cities, such as Nevada, or for industries conducted largely by establishments located in the rural districts, of which "Leather, tanned and curried" is an example.

COMPARISONS.

In comparing the industrial statistics of 1890 with those published at previous censuses, it should be remembered that changes have been made in both the form and the scope of the inquiry adopted at the Eleventh Census as compared with inquiries used at prior censuses.

The great increase shown in the statistics for industries known as "hand trades" is largely due to the fact that no previous census has obtained so complete a report regarding such industries as masonry, carpentering, blacksmithing, cooperage, painting, plumbing, and similar trades using machinery to a limited extent.

The census inquiry of 1880 omitted the following industries: bottling; cars and general shop construction and repairs by steam railroad companies; china, decorating; clothing, women's, dressmaking; coffins and burial cases, trimming and finishing; cotton, cleaning and rehandling; cotton, ginning; cotton waste; drug grinding; druggists' preparations, not including prescriptions; gas, illuminating and heating; hay and straw, baling; millinery, custom work. Petroleum, refining, formed part of a separate report for the census of 1880, and the statistics were not included in the report on manufactures. For the census of 1880 "Mixed textiles" appeared as a distinct classification, but the data were largely duplicated under other heads of textile manufacture. The inclusion of the above industries at the Eleventh Census renders it impracticable to use the total for 1890 as a basis of comparison with the totals reported at previous censuses.

The values reported in 1870 were expressed in a currency which was at a great discount for gold. The average premium on gold during the 12 months ending May 31, 1870, which constituted the census year, was about one-fourth (25.3 per cent). A premium on gold of one-fourth is equal to a discount on currency of one-fifth. For purposes of comparison, therefore, the values of 1870 should be reduced in that ratio.

The individual returns were classified at the census of 1890 according to the product of chief value, and some of the differences which will appear upon comparison of the data with corresponding classes reported at the census of 1880 are due to changes in classification. For instance, an establishment engaged in the manufacture of "Iron and steel" in 1880 was classified as "Iron and steel", irrespective of the character of the finished product. If such an establishment in 1890 manufactured nails as a finished product of chief value it was assigned to the class of "Iron and steel, nails and spikes, cut and wrought, including wire nails", in the general tables (in Part I), and would also be included in the totals for "Iron and steel manufactures", shown in the special report (in Part III).

In 1880 the total value of products for "Iron nails and spikes, cut and wrought", was \$5,629,240, but in the special report on "Iron and Steel" the value of cut nails alone is given as \$16,295,300. The \$5,629,240, therefore, can not be considered as representing the value of product for the nail industry during the census year of 1880. In 1890 the total value of product, \$34,227,517, shown for the same industry reported under the class of "Iron and steel, nails and spikes, cut and wrought, including wire nails", includes the establishments shown in the special report on "Iron and Steel Manufacture" (Part III), as manufacturing nails, provided nails constituted the product of chief value.

The classifications of industries in 1880 and 1890 were not identical, some classes shown in 1880 were subdivided, some consolidated, and the phraseology of others was changed in 1890. In order to compare similar industries reported at the two censuses, the necessary changes and combinations, when possible, have been made in the classifications and figures for the different censuses shown in Tables 1 and 2.

Great care has been exercised in assigning the individual returns to the different classes, and copious cross references are made in the case of those general classes whose minor products are common to each other. When different branches of the same industry follow immediately in alphabetical order, the cross references have been omitted.

While there may appear a given number of establishments in a certain industry, it does not follow that the articles covered by that class are not manufactured by establishments included in other classes. The making of shirts, for instance, is shown as a separate branch of industry; but some establishments classed as "Furnishing goods, men's", and "Clothing, men's", also make shirts. Some of the establishments classed as "Shirts" also manufacture articles classed as "Furnishing goods, men's". Therefore the figures given under the classification of "Shirts" can not be considered as representing all the shirts made in manufacturing establishments during the year, nor should they be considered as representing establishments that manufacture only shirts.

The classification "Iron and steel" must not be considered as representing all of the establishments engaged in manufacturing iron and steel. Some establishments that manufacture iron and steel continue the manipulation of the metal until more highly finished products, such as wire nails and spikes, bolts, nuts, and rivets, are produced. The returns for such establishments are classified according to their finished products, some of them being assigned to the class "Iron and steel, nails and spikes, cut and wrought, including wire nails", others to "Wire", while others may be assigned to "Cotton ties". In the special report on "Iron and Steel Manufacture", all establishments that were engaged in the production of iron and steel, such as blast furnaces, rolling mills, steel works, iron-ore forges, and pig and scrap iron bloomeries, irrespective of the character of their finished products, are combined and presented as a total for the manufacture of iron and steel. Therefore the totals given in the special report (Part III) will not agree with the totals for "Iron and steel" shown in the general tables (Part I).

The totals for "Chemicals and allied products" given in the special report (in Part III) will not agree with the totals for "Chemicals" in the general tables (in Part I), because the special report includes establishments shown in the general tables under the classes of "Dyestuffs and extracts", "Fertilizers", "Gunpowder", "High explosives", "Paints", and "Varnish".

Apparent discrepancies will also appear in comparing the amounts for the different items of some of the industries shown in Part III with the amounts given for apparently the same items in the general tables (in Part I). This is due to the fact that the reports in Part III present the statistics in a detailed form characteristic of the industry treated, but in order to show totals for the same items for all industries it is necessary to make combinations of a different character from those adopted in the special reports.

In the special report on "Forest Industries" (in Part III), the total for "Live assets" in "Lumber mills and saw mills" is given as \$172,260,253. In the general tables (in Part I) the live assets for the same establishments under the classification of "Lumber and other mill products from logs or bolts" is given as \$202,014,080, the total in the general tables exceeding that in the special report by \$29,753,827. This is due to the fact that in the special report the capital invested in "Logging" and that invested in "Mill plant" are shown separately. Two of the classes of investment assigned to "Logging", namely, "Forest products not delivered at mill" and "All other capital invested in logging", amounting to \$29,753,827, should be considered as live assets when presenting the total capital in the form of presentation adopted for the general tables. A similar discrepancy appears for the cost of materials shown for this industry in the two sets of tables, the cost of materials in the general tables exceeding that in the special report by \$45,103,964. In the special report this amount is shown as paid for the keep of animals and wages for employes engaged in logging, these expenses forming a part of the cost of materials as delivered at the mill.

There are 369 classes of industry shown in the general tables. The contributions of the respective states and territories to the grand total for each industry are given in Table 5. In considering these tables it must be remembered that the classes of industry only characterize the principal products of the establishments reporting; also that only the products of distinct establishments are included. "Bread and other bakery products", for instance, is reported for 45 states and territories, but it does not follow that bread is not also made in the remaining 6 states and territories, in private families, hotels, and restaurants, only that it is not made in distinct establishments, such as bakeries. The ginning of cotton is reported by 1,637 establishments, located in 13 states. These establishments, however, are only the public ginneries, and do not include private gins operated for the benefit of single plantations. It also frequently happens that cotton is ginned by a grist or lumber mill, and if in such cases the product of the grist or lumber mill exceeds in value that of the gin, the report is assigned to one of the classes of the lumber industry or to "Flouring and grist mill products".

The territorial diffusion of the establishments engaged in each of the different classes of industry is shown by Table 5. The greater diffusion appears for industries that may be classed as neighborhood industries, such as "Blacksmithing and wheelwrighting", which appears in 49 states and territories; "Clothing, men's, custom work", in 46; "Clothing, women's, dressmaking", in 45; "Furniture, cabinetmaking, repairing and upholstering", in 48, and "Printing and publishing, book and job", in 42.

The industry reporting the largest value of product is "Flouring and grist mill products", for which the product amounts to \$513,971,474, and the industry appears in 48 states and territories. There are 40 classes of industry reported in 1890 for which the product exceeds \$60,000,000. The aggregate product for these industries amounts to \$6,500,155,538, or 69.35 per cent of the total product for the United States. The distribution of the establishments engaged in 10 of the principal industries according to value of product, and the contribution of the product of the 5 leading states in each industry to the total product of the industry, is shown by the following statement:

NUMBER OF ESTABLISHMENTS, VALUE OF PRODUCT, AND NUMBER OF STATES FOR WHICH 10 SELECTED INDUSTRIES ARE REPORTED, WITH PERCENTAGE THAT PRODUCT SHOWN FOR 5 PRINCIPAL STATES IN EACH INDUSTRY IS OF THE TOTAL PRODUCT FOR THE INDUSTRY: 1890.

INDUSTRIES.	Number of establishments reporting.	Value of product.	Number of states in which reported.	Percentage that product for 5 states that report largest product is of total product for the industry.
Boots and shoes, factory product.....	2,082	\$220,649,358	34	78.28
Carpentering.....	16,917	281,195,162	46	52.50
Clothing, men's, factory product.....	4,867	251,019,609	33	79.31
Cotton goods.....	905	207,981,724	29	68.40
Flouring and grist mill products.....	18,470	513,971,474	49	44.68
Foundry and machine shop products.....	6,475	412,701,872	40	63.26
Iron and steel.....	645	430,954,348	29	86.17
Lumber and other mill products from logs or bolts.....	21,011	403,667,575	49	48.15
Masonry, brick and stone.....	5,969	190,704,818	43	58.14
Slaughtering and meat packing, wholesale.....	611	433,252,315	30	74.07

MANUFACTURING INDUSTRIES.

Table 1, presenting totals for the different states and territories for 1850, 1860, 1870, 1880, and 1890, and Table 2, showing totals for specified industries as reported in 1880 and in 1890, are the only general tables in this report in which the statistics for 1890 are placed in comparison with those published at previous censuses. In considering the totals presented in these tables, the differences in the scope of the inquiry previously referred to, and also the changes in the form of the questions respecting capital, employes and wages, materials, and product, referred to in the following pages, should be borne in mind. These two tables can only be accepted as presenting the totals for all classes of manufacturing and mechanical industries as reported at the different censuses. The increase during the different decades is more accurately indicated by the following summary, which shows the totals for 1850, 1860, 1870, 1880, and 1890, with the percentage of increase for the different items during each period of 10 years. In this statement the values for 1870 have been reduced to a gold basis; the figures for 1880 have been modified by the inclusion of petroleum refining and the elimination of certain data duplicated under the head of "Mixed textiles", while the industries enumerated in 1890 but omitted in 1880 have been excluded from the totals for 1890.

STATISTICS OF MANUFACTURES, WITH PERCENTAGES OF INCREASE: 1850 TO 1890.

ITEMS.	1850	1860	Percent- age of increase in the decade.	1870	Percent- age of increase in the decade.	1880	Percent- age of increase in the decade.	1890	Percent- age of increase in the decade.
Number of establishments reporting	123, 025	140, 433	14. 15	252, 148	79. 55	253, 502	0. 54	322, 633	27. 27
Capital	\$533, 245, 351	\$1, 099, 855, 715	89. 33	\$1, 604, 507, 015	67. 80	\$2, 780, 766, 895	64. 10	\$6, 139, 397, 785	129. 78
Miscellaneous expenses								\$615, 337, 620	
Average number of employes (aggregate)	957, 059	1, 311, 246	37. 01	2, 053, 996	56. 64	2, 700, 732	31. 49	74, 476, 884	65. 77
Total wages	\$236, 753, 464	\$378, 878, 966	60. 03	\$620, 407, 474	63. 76	\$939, 402, 252	51. 41	\$2, 171, 750, 183	131. 17
Cost of materials used	\$555, 123, 822	\$1, 031, 605, 092	85. 83	\$1, 990, 741, 794	92. 93	\$3, 395, 925, 123	70. 59	\$5, 021, 453, 326	47. 87
Value of products	\$1, 019, 166, 616	\$1, 835, 861, 676	85. 05	\$3, 585, 869, 354	79. 54	\$5, 349, 191, 458	57. 99	\$9, 056, 764, 996	69. 31

^a Not reported prior to 1860.

^b Includes 461,099 officers, firm members, and clerks, and their wages, amounting to \$381,938,208. These classes of employes were not reported separately at prior censuses.

The percentages of increase in each decade for the items presented in the above statement, also for the net value of product, that is, the value of product after deducting the cost of materials used, are summarized in the following statement, the data on which the computations for 1870, 1880, and 1890, shown in this statement, are based having been modified in the same manner as in the preceding statement:

PERCENTAGES OF INCREASE IN MANUFACTURES: 1850 TO 1890.

PERIODS.	Number of establi- shments reporting.	Capital.	Average number of employes.	Total wages.	Cost of materials used.	Gross value of product.	Net value of product.
1850 to 1860	14. 15	89. 38	37. 01	60. 03	85. 83	85. 05	84. 11
1860 to 1870	79. 55	67. 80	56. 64	63. 76	92. 93	79. 54	63. 81
1870 to 1880	0. 54	64. 10	31. 49	51. 41	70. 59	57. 99	40. 01
1880 to 1890	27. 27	129. 78	65. 77	131. 17	47. 87	69. 31	106. 59
1850 to 1870	104. 96	217. 78	114. 02	162. 07	258. 61	232. 24	200. 68
1850 to 1880	106. 06	421. 48	182. 19	296. 81	511. 74	424. 89	320. 98
1850 to 1890	162. 25	1, 051. 33	367. 78	817. 30	804. 56	788. 70	769. 71
1860 to 1880	80. 51	175. 36	105. 97	147. 96	229. 19	183. 65	128. 65
1860 to 1890	129. 75	507. 95	241. 42	473. 20	386. 76	380. 25	372. 38
1870 to 1890	27. 96	262. 30	117. 96	250. 02	152. 24	167. 49	189. 25

The large percentage of increase for 1890 over 1880 shown in the preceding statements, especially in the item of wages, is probably due in part to the change in the form of inquiry, to which reference is made in the remarks on employes and wages.

The absolute and the relative growth of the manufacturing industries in the different states and territories are indicated by the statement following. This statement shows the rank of each state and territory from 1850 to 1890, inclusive, in gross value and in net value of products (the net value is the value of products less the cost of materials), average number of employes, and total wages. The totals are as published for the different censuses. The values for 1870 have not been reduced here to a gold basis, nor have the figures for 1880 and 1890 been modified, as in preceding statements.

INTRODUCTION.

STATES AND TERRITORIES RANKED ACCORDING TO GROSS VALUE AND NET VALUE OF PRODUCTS, AVERAGE NUMBER OF EMPLOYÉS, AND TOTAL WAGES: 1850 TO 1890.

STATES AND TERRITORIES.	Year.	GROSS VALUE OF PRODUCTS.		NET VALUE OF PRODUCTS.		AVERAGE NUMBER OF EMPLOYÉS.		TOTAL WAGES.	
		Rank.	Value.	Rank.	Value.	Rank.	Number.	Rank.	Amount.
Alabama	1850	26	\$4,528,876	25	\$2,303,916	24	4,936	25	\$1,105,824
	1860	25	10,588,566	25	5,098,603	24	7,889	24	2,132,940
	1870	20	13,040,614	30	5,447,807	28	8,248	29	2,227,968
	1880	32	13,565,504	33	5,019,984	31	10,019	32	2,500,504
	1890	27	51,226,605	27	22,794,324	25	33,821	28	12,676,029
Alaska	1890	51	58,440	51	23,242	51	86	51	22,173
Arizona	1870	46	185,410	46	75,320	47	84	46	45,580
	1880	47	618,365	47	233,342	47	220	47	111,180
	1890	48	947,547	48	593,733	48	523	47	358,127
Arkansas	1850	33	537,908	33	322,119	32	612	33	159,876
	1860	34	2,880,578	32	1,600,075	33	1,877	35	551,240
	1870	38	4,629,234	38	2,092,236	34	3,206	38	673,963
	1880	37	6,756,159	38	2,364,079	37	4,557	38	925,353
	1890	37	22,659,179	37	10,261,918	37	15,972	38	5,749,588
California	1850	16	12,862,522	8	11,661,368	25	3,064	15	3,717,180
	1860	7	68,253,228	7	41,201,554	7	49,226	4	28,402,287
	1870	16	66,594,566	13	31,243,363	19	25,392	15	13,190,722
	1880	12	116,213,973	12	43,611,264	16	43,693	12	21,065,065
	1890	12	213,403,996	12	93,160,313	14	83,642	12	51,538,780
Colorado	1870	39	2,852,820	40	1,259,540	41	876	40	528,221
	1880	31	14,260,159	32	5,453,397	35	5,074	33	2,314,427
	1890	28	42,480,205	30	21,631,689	36	17,067	30	12,285,734
Connecticut	1850	5	47,114,585	5	23,505,614	5	50,731	5	12,435,984
	1860	5	81,924,555	6	41,015,465	5	61,469	6	10,026,196
	1870	8	101,065,474	7	74,645,895	5	89,523	5	38,987,187
	1880	7	185,097,211	7	83,513,870	7	112,915	7	43,501,518
	1890	10	248,336,364	8	125,159,284	8	149,939	8	75,000,666
Dakota (a)	1870	47	178,570	47	72,573	40	91	47	21,106
	1880	41	2,373,970	42	850,290	41	868	42	339,375
	1890								
Delaware	1850	25	4,649,296	26	1,784,689	26	3,888	26	936,024
	1860	26	9,892,902	26	3,869,981	26	6,421	26	1,005,754
	1870	27	16,791,332	26	6,584,985	27	9,710	26	3,692,195
	1880	28	20,514,438	28	7,685,977	27	12,668	26	4,267,349
	1890	35	37,571,818	34	16,410,096	33	21,906	33	8,892,387
District of Columbia	1850	29	2,000,258	29	1,284,387	28	2,570	28	757,584
	1860	30	5,412,102	31	2,527,917	30	3,148	30	1,339,154
	1870	33	9,202,173	32	4,537,290	33	4,685	31	2,067,600
	1880	34	11,882,316	31	6,516,916	32	7,146	28	3,924,612
	1890	32	30,331,437	28	22,136,771	31	24,404	25	14,622,264
Florida	1850	32	668,335	32	447,724	31	991	32	199,452
	1860	35	2,447,969	38	1,573,463	31	2,454	34	619,810
	1870	37	4,686,403	37	2,354,530	37	2,749	37	889,532
	1880	38	5,546,448	37	2,509,329	34	5,504	36	1,270,875
	1890	39	18,222,890	38	10,201,036	39	13,927	37	6,513,068
Georgia	1850	22	7,082,075	24	3,677,158	20	8,368	23	1,709,664
	1860	20	16,925,564	22	6,030,032	21	11,575	22	2,925,148
	1870	22	31,166,115	22	12,612,384	23	17,871	22	4,844,508
	1880	22	30,440,948	23	12,297,009	20	24,875	21	5,266,152
	1890	25	68,917,020	22	33,142,540	21	56,383	22	17,312,190
Idaho	1850								
	1860								
	1870	44	1,047,024	45	355,830	45	265	45	112,372
	1880	45	1,274,317	44	426,443	46	388	46	136,320
1890	46	1,396,096	46	757,423	46	774	48	324,202	
Illinois	1850	15	16,534,272	16	7,574,945	17	11,559	16	3,204,336
	1860	8	57,580,836	8	22,022,104	14	23,968	12	7,637,921
	1870	6	205,620,872	6	78,020,595	6	82,979	7	31,100,244
	1880	4	414,864,673	5	125,020,766	5	141,727	5	57,429,085
	1890	3	908,640,230	4	379,621,101	5	312,198	4	171,523,579
Indiana	1850	14	18,725,423	15	8,355,723	15	14,440	14	3,728,844
	1860	10	42,803,469	15	15,690,872	15	21,295	16	6,318,335
	1870	11	108,617,278	10	45,481,780	10	58,852	11	18,366,780
	1880	10	148,006,411	10	47,743,494	10	69,508	10	21,960,888
	1890	11	226,825,032	11	96,705,976	11	124,940	11	51,749,976
Indian territory	1890	49	248,932	50	121,068	50	175	49	79,830
Iowa	1850	27	3,551,783	30	1,194,002	29	1,707	29	473,016
	1860	24	13,971,325	24	5,350,066	27	6,807	25	1,922,417
	1870	18	46,534,322	18	18,852,226	20	25,032	18	6,803,292
	1880	19	71,045,928	18	22,341,615	19	28,372	18	9,725,962
	1890	17	125,049,183	17	45,756,776	20	59,174	18	25,878,997
Kansas	1860	31	4,357,408	30	2,912,433	34	1,735	31	880,346
	1870	30	11,775,833	28	5,663,670	31	6,344	28	2,377,511
	1880	24	30,843,777	25	9,300,636	30	12,062	27	3,995,010
	1890	18	110,219,895	24	31,374,638	26	32,843	24	16,328,485
Kentucky	1850	13	21,710,212	13	9,545,137	11	21,476	11	5,106,048
	1860	15	37,931,240	16	15,635,481	16	21,258	17	6,020,082
	1870	17	54,625,800	17	25,128,274	16	30,036	17	9,444,524
	1880	17	75,483,877	17	28,021,487	18	37,391	17	11,657,844
	1890	16	126,719,857	16	63,042,274	17	65,579	16	27,761,746

a See North and South Dakota.

MANUFACTURING INDUSTRIES.

STATES AND TERRITORIES RANKED ACCORDING TO GROSS VALUE AND NET VALUE OF PRODUCTS, AVERAGE NUMBER OF EMPLOYEES, AND TOTAL WAGES: 1850 TO 1890—Continued.

STATES AND TERRITORIES.	Year.	GROSS VALUE OF PRODUCTS.		NET VALUE OF PRODUCTS.		AVERAGE NUMBER OF EMPLOYEES.		TOTAL WAGES.	
		Rank.	Value.	Rank.	Value.	Rank.	Number.	Rank.	Amount.
Louisiana.....	1850	24	\$9,779,417	21	\$4,319,909	22	6,217	21	\$2,033,928
	1860	22	15,587,473	19	8,848,987	23	8,789	19	3,083,679
	1870	23	24,101,905	23	11,749,882	17	30,071	23	4,593,470
	1880	25	24,205,183	24	9,762,677	28	12,167	24	4,300,371
	1890	20	57,806,713	26	24,523,989	27	31,901	26	13,159,564
Maine.....	1850	9	24,661,057	11	11,107,913	9	28,020	7	7,485,588
	1860	14	38,193,254	13	16,640,188	9	34,619	10	8,368,691
	1870	12	79,497,521	14	36,117,704	12	49,180	12	14,282,205
	1880	15	79,829,793	16	28,709,085	14	62,954	16	13,623,318
	1890	19	95,689,500	18	44,168,911	16	75,780	17	26,526,217
Maryland.....	1850	7	83,649,892	7	15,353,056	7	30,212	8	7,403,832
	1860	12	41,735,157	14	16,241,150	12	28,403	13	7,130,672
	1870	14	76,593,013	15	29,696,581	13	44,860	16	12,682,817
	1880	18	109,780,563	14	39,842,717	9	74,945	13	18,994,965
	1890	14	171,842,593	13	79,783,203	12	107,054	13	41,520,332
Massachusetts.....	1850	2	157,743,994	2	71,887,223	2	177,461	2	41,954,736
	1860	3	255,545,922	3	120,492,201	3	217,421	3	56,060,913
	1870	3	553,912,568	3	219,498,586	3	270,389	3	118,051,886
	1880	3	631,135,284	3	244,162,629	3	352,255	3	128,315,362
	1890	4	888,100,403	3	414,960,969	3	485,182	3	230,670,569
Michigan.....	1850	17	11,169,002	17	5,032,674	18	9,344	17	2,717,124
	1860	17	32,658,356	17	15,022,745	13	23,190	14	6,735,047
	1870	9	118,394,676	9	50,252,161	9	63,694	9	21,205,355
	1880	9	150,715,025	8	57,814,756	8	77,591	8	25,313,682
	1890	8	277,896,706	9	123,374,788	7	163,941	9	66,247,798
Minnesota.....	1850	36	58,300	35	34,000	35	63	35	18,540
	1860	32	3,373,172	35	1,469,102	32	2,123	32	712,214
	1870	25	23,110,700	25	9,267,798	26	11,290	25	4,052,837
	1880	16	76,065,198	19	20,404,517	22	21,247	19	8,613,094
	1890	13	192,033,478	14	73,551,537	15	79,629	14	38,189,239
Mississippi.....	1850	28	2,912,068	27	1,636,207	27	3,154	27	771,528
	1860	28	6,590,687	27	3,444,051	28	4,775	27	1,618,320
	1870	34	8,134,758	34	3,790,552	32	5,941	33	1,547,428
	1880	36	7,518,302	36	2,851,119	33	5,827	37	1,192,615
	1890	38	18,705,834	39	8,640,937	38	15,817	39	4,913,863
Missouri.....	1850	10	24,324,418	9	11,526,067	13	15,808	13	4,692,648
	1860	11	41,782,731	11	17,932,790	17	19,681	15	6,969,916
	1870	5	206,213,429	5	90,680,160	8	65,354	8	31,055,445
	1880	8	165,386,205	9	54,587,813	11	63,995	9	24,309,718
	1890	7	324,591,093	7	140,970,011	9	143,139	7	76,417,364
Montana.....	1870	41	2,494,511	41	1,178,180	42	701	42	370,843
	1880	43	1,835,867	43	829,425	42	578	43	318,759
	1890	42	5,507,573	41	3,132,480	41	2,696	41	1,948,213
Nebraska.....	1850	39	607,328	39	370,113	39	336	39	105,332
	1870	39	5,738,512	36	2,836,438	38	2,665	35	1,429,913
	1880	33	12,627,336	34	4,418,858	36	4,793	34	1,742,311
	1890	29	93,037,794	25	25,703,262	30	23,876	27	12,084,571
Nevada.....	1870	28	15,870,539	29	5,551,555	36	2,859	27	2,498,473
	1880	42	2,179,626	41	1,129,832	43	577	41	461,807
	1890	47	1,105,063	47	666,005	47	620	46	445,503
New Hampshire.....	1850	11	23,164,503	12	10,419,037	10	27,092	9	6,123,876
	1860	16	37,586,453	12	17,046,596	11	32,340	11	8,110,561
	1870	15	71,038,249	16	26,460,282	15	40,783	13	13,823,091
	1880	18	73,978,025	13	30,425,566	15	48,831	15	14,814,793
	1890	22	85,770,549	20	38,010,367	18	63,361	19	24,248,054
New Jersey.....	1850	6	39,851,256	6	17,830,385	6	37,830	6	9,864,740
	1860	6	76,366,104	7	34,377,004	7	56,027	7	16,277,337
	1870	7	169,237,732	8	65,822,487	7	75,552	6	32,648,409
	1880	6	254,380,236	6	89,094,457	6	126,038	6	46,083,045
	1890	6	354,573,571	6	165,207,831	6	187,398	6	96,778,736
New Mexico.....	1850	35	249,610	34	133,790	34	81	34	20,772
	1860	37	1,249,123	37	381,231	36	1,074	37	341,306
	1870	43	1,489,868	43	608,911	44	427	44	167,281
	1880	44	1,284,840	45	413,494	44	557	44	218,731
	1890	45	1,516,195	45	824,775	45	944	45	532,727
New York.....	1850	1	237,597,249	1	102,941,575	1	199,349	1	49,131,000
	1860	1	378,879,939	1	164,057,878	1	230,112	1	65,446,759
	1870	1	785,194,651	1	333,129,199	1	351,899	1	142,466,758
	1880	1	1,080,696,595	1	401,084,051	1	531,533	1	198,634,029
	1890	1	1,711,577,671	1	840,313,586	1	850,034	1	466,846,629
North Carolina.....	1850	20	9,111,050	19	4,508,549	14	14,601	18	2,383,456
	1860	21	16,673,638	23	8,475,470	10	14,217	23	2,689,441
	1870	26	19,021,327	27	6,196,634	24	13,022	30	2,195,711
	1880	29	20,695,037	29	7,004,100	23	18,109	31	2,740,768
	1890	31	40,375,450	33	17,586,263	24	30,214	35	7,830,536
North Dakota (a).....	1890	43	5,023,107	43	1,940,946	43	1,847	43	1,002,861
Ohio.....	1850	4	62,692,279	4	28,014,260	4	51,491	4	13,467,156
	1860	4	121,691,148	4	51,890,878	4	75,602	5	22,302,989
	1870	4	269,713,610	4	112,581,913	4	137,202	4	49,068,488
	1880	5	348,238,390	4	132,964,132	4	183,609	4	62,103,890
	1890	5	641,688,064	5	300,671,600	4	331,548	5	159,768,883
Oklahoma (b).....	1890	50	180,445	49	123,927	49	195	50	71,919

a See Dakota.

b Part of Indian territory at previous censuses.

INTRODUCTION.

STATES AND TERRITORIES RANKED ACCORDING TO GROSS VALUE AND NET VALUE OF PRODUCTS, AVERAGE NUMBER OF EMPLOYEES, AND TOTAL WAGES: 1850 TO 1890—Continued.

STATES AND TERRITORIES.	Year.	GROSS VALUE OF PRODUCTS.		NET VALUE OF PRODUCTS.		AVERAGE NUMBER OF EMPLOYEES.		TOTAL WAGES.	
		Rank.	Value.	Rank.	Value.	Rank.	Number.	Rank.	Amount.
Oregon.....	1850	30	\$2,236,640	28	\$1,427,080	33	285	30	\$388,020
	1860	33	2,976,701	34	1,544,800	30	978	33	635,256
	1870	35	6,877,387	35	3,457,631	35	2,884	35	1,120,173
	1880	35	10,931,232	35	3,976,796	38	3,473	35	1,037,046
	1890	30	41,432,174	31	19,038,596	35	18,798	31	11,535,229
Pennsylvania.....	1850	3	155,044,910	3	67,838,533	3	146,766	3	37,163,232
	1860	2	290,121,188	2	136,643,490	2	222,132	2	60,300,165
	1870	2	711,894,344	2	290,690,671	2	319,487	2	127,676,594
	1880	2	744,818,445	2	279,797,882	2	387,072	2	134,055,904
	1890	2	1,331,794,901	2	558,060,204	2	620,562	2	305,691,003
Rhode Island.....	1850	12	22,117,688	14	8,930,985	12	20,907	12	5,047,080
	1860	13	40,711,296	9	20,852,781	10	32,490	8	8,760,125
	1870	10	111,418,354	11	38,261,245	11	40,417	10	19,354,256
	1880	14	104,163,621	11	40,060,178	12	62,878	11	21,355,619
	1890	15	142,500,625	15	66,247,602	13	85,076	15	37,927,921
South Carolina.....	1850	23	7,045,477	22	4,257,943	21	7,066	24	1,127,712
	1860	27	8,615,195	28	3,416,314	25	6,994	28	1,380,627
	1870	32	9,858,981	33	4,003,245	29	8,147	34	1,543,715
	1880	30	16,738,008	30	6,852,470	25	15,828	30	2,836,289
	1890	36	31,026,681	36	13,053,015	29	24,092	36	6,500,983
South Dakota (a).....	1890	41	5,682,748	42	2,158,908	42	2,422	42	1,098,418
Tennessee.....	1850	18	9,725,608	18	4,558,722	16	12,039	19	2,247,492
	1860	19	17,987,225	20	8,570,711	20	12,528	20	3,370,687
	1870	20	34,362,636	20	14,705,600	21	19,412	20	5,300,630
	1880	21	37,074,886	21	13,240,024	21	22,445	22	5,254,775
	1890	23	72,355,286	23	31,891,564	22	42,759	23	16,899,351
Texas.....	1850	31	1,168,538	31	773,896	30	1,006	31	322,368
	1860	29	6,577,202	29	3,200,830	29	3,449	29	1,162,756
	1870	31	11,517,302	31	5,244,109	30	7,927	32	1,787,835
	1880	27	20,719,028	27	7,763,659	29	12,159	29	3,343,087
	1890	24	70,433,551	21	34,281,243	23	39,475	21	18,586,338
Utah.....	1850	34	201,220	(b)		36	51	36	9,984
	1860	38	900,153	38	460,641	38	389	38	231,701
	1870	42	2,343,019	42	1,104,767	39	1,534	41	395,365
	1880	39	4,324,992	39	1,763,255	39	2,495	39	858,863
	1890	40	8,911,047	40	4,059,017	40	4,980	40	2,715,805
Vermont.....	1850	21	8,570,920	20	4,398,368	19	8,445	20	2,202,348
	1860	23	14,037,807	21	7,028,949	22	10,497	21	3,004,986
	1870	21	32,184,006	19	15,176,837	22	18,686	19	6,264,581
	1880	23	31,354,366	22	13,023,689	24	17,540	23	5,164,479
	1890	34	38,340,066	32	17,006,892	28	24,894	32	10,096,540
Virginia.....	1850	8	29,002,507	10	11,501,376	8	29,110	10	5,484,476
	1860	9	50,652,124	10	19,811,593	8	36,174	9	8,544,117
	1870	19	38,364,322	21	14,531,938	18	26,974	21	5,343,099
	1880	20	51,780,992	20	18,897,059	17	40,184	20	7,425,261
	1890	21	88,363,824	19	38,215,530	19	59,591	20	10,644,850
Washington.....	1860	36	1,406,921	36	904,000	37	870	36	459,061
	1870	40	2,851,052	39	1,415,924	40	1,028	39	574,936
	1880	40	3,250,134	40	1,282,665	40	1,147	40	532,290
	1890	29	41,708,022	29	21,850,965	34	20,866	29	12,658,014
	West Virginia (c).....	1870	24	24,102,201	24	9,598,500	25	11,672	24	4,322,164
1880		26	22,867,126	26	8,839,738	26	14,311	25	4,313,065
1890		33	38,702,125	35	14,973,036	32	21,969	34	8,330,997
Wisconsin.....	1850	19	9,293,068	23	3,878,137	23	6,089	22	1,712,406
	1860	18	27,849,467	18	10,712,133	18	15,414	18	4,268,708
	1870	13	77,214,326	12	31,363,060	14	43,016	14	13,575,642
	1880	11	128,255,480	13	42,450,302	13	57,109	14	18,814,917
	1890	9	248,546,164	10	103,100,148	10	132,031	10	51,843,768
Wyoming.....	1870	45	765,424	44	485,268	43	502	43	347,878
	1880	46	898,494	46	297,280	45	391	45	187,798
	1890	44	2,367,001	44	1,263,169	44	1,144	44	878,046

a See Dakota.

b Cost of materials reported exceeded value of product.

c Part of Virginia at previous censuses.

The greatest advance in the relative rank both according to gross value and according to net value of products is shown for Minnesota, which has advanced from the thirty-sixth place in gross value and thirty-fifth in net value of products in 1850 to the thirteenth and fourteenth places, respectively, in 1890. The same state also shows the greatest advance in the number of employes and in the amount paid for wages. New York uniformly ranks first in each of the items. Massachusetts, which was second in 1850, fell to the third place in 1860, and to the fourth place in gross value of products in 1890, but continues to hold the third place in the other items. Pennsylvania has held the second place in each of the items since 1860, and Illinois takes the third place in gross value of products in 1890.

At the census of 1880 internal revenue taxes were in many instances included in the cost of materials, while they are reported as miscellaneous expenses in 1890. This has some effect on the changes in the rank of the respective states in net value of products, especially those in which the liquor industries predominate.

MANUFACTURING INDUSTRIES.

In the following statement the general statistics of manufactures for 1890 are shown, with the states and territories arranged by geographical divisions:

STATISTICS OF MANUFACTURES, BY STATES AND TERRITORIES: 1890.

STATES AND TERRITORIES.	Number of establishments reporting.	Capital.	Miscellaneous expenses.	AVERAGE NUMBER OF EMPLOYEES AND TOTAL WAGES.		Cost of materials used.	Value of products.
				Number.	Wages.		
The United States.....	355,415	\$6,525,156,486	\$631,225,035	4,712,622	\$2,283,216,529	\$5,162,044,076	\$9,372,487,283
North Atlantic division.....	162,796	3,548,288,553	314,596,731	2,543,176	1,283,076,237	2,626,707,914	4,896,743,650
Maine.....	5,010	80,419,809	5,304,094	75,780	26,526,217	51,520,589	95,689,500
New Hampshire.....	3,229	79,375,160	4,363,192	63,361	24,248,054	47,754,152	85,770,549
Vermont.....	3,031	32,763,291	2,188,826	24,894	10,096,549	20,433,174	38,340,066
Massachusetts.....	26,923	630,632,341	63,083,782	485,182	239,670,599	473,199,434	838,160,403
Rhode Island.....	3,377	126,483,401	8,825,407	85,976	37,927,921	76,253,023	142,500,625
Connecticut.....	6,822	227,004,496	15,990,101	149,939	75,990,606	123,183,080	248,336,361
New York.....	65,840	1,130,161,195	122,042,219	850,084	466,846,642	871,264,085	1,711,577,671
New Jersey.....	9,225	250,805,745	18,458,052	187,398	96,778,736	189,365,740	354,573,571
Pennsylvania.....	39,339	991,243,115	74,841,458	620,562	305,591,003	773,734,637	1,331,794,901
South Atlantic division.....	30,213	403,856,774	33,711,900	365,110	132,264,113	289,752,369	535,253,868
Delaware.....	1,003	33,695,400	1,851,875	21,966	9,892,387	21,161,752	37,571,848
Maryland.....	7,485	119,667,316	10,616,347	107,054	41,526,832	92,059,990	171,842,593
District of Columbia.....	2,205	23,865,089	1,529,869	23,404	14,622,264	17,194,666	30,331,437
Virginia.....	5,915	63,456,799	7,421,087	69,591	19,644,850	50,148,285	88,963,824
West Virginia.....	2,376	28,118,030	1,960,929	21,969	8,390,997	23,729,089	38,702,125
North Carolina.....	3,667	32,745,995	3,329,101	36,214	7,830,536	22,789,187	40,375,450
South Carolina.....	2,382	29,276,261	1,792,386	24,662	6,590,983	18,873,666	31,926,681
Georgia.....	4,285	56,921,580	4,019,539	56,383	17,312,196	35,774,489	68,917,020
Florida.....	805	11,110,364	1,131,067	13,927	6,513,068	8,021,854	18,222,890
North Central division.....	121,416	2,027,686,661	230,537,780	1,406,997	672,133,899	1,828,261,023	3,159,209,404
Ohio.....	28,673	492,793,010	45,062,325	331,548	158,768,883	341,016,464	641,688,064
Indiana.....	12,354	131,665,366	16,500,903	124,349	51,749,976	130,119,166	226,825,082
Illinois.....	20,482	592,004,512	79,515,193	312,198	171,523,579	529,019,089	908,640,280
Michigan.....	12,127	262,412,240	18,348,981	163,941	66,347,798	154,521,918	277,896,766
Wisconsin.....	10,417	246,515,404	18,602,764	132,031	51,843,708	146,437,016	248,546,164
Minnesota.....	7,565	127,686,618	12,136,612	79,629	38,189,239	118,481,941	192,033,478
Iowa.....	7,440	77,513,097	5,732,296	59,174	25,878,997	79,292,407	125,049,183
Missouri.....	14,052	189,553,546	22,885,505	143,139	76,417,364	177,582,882	324,561,993
North Dakota.....	382	2,894,533	236,909	1,847	1,002,881	3,687,161	5,028,107
South Dakota.....	499	3,207,796	268,214	2,422	1,098,418	3,523,840	5,682,748
Nebraska.....	3,014	37,569,508	5,395,242	23,876	12,084,571	67,934,532	93,037,704
Kansas.....	4,471	43,926,002	5,853,466	32,843	16,328,485	78,845,167	110,219,805
South Central division.....	27,025	289,147,291	32,055,882	245,694	99,893,527	224,655,218	420,336,402
Kentucky.....	7,745	79,811,980	15,879,728	65,579	27,761,746	63,677,583	126,719,857
Tennessee.....	4,559	51,475,082	4,126,271	42,759	16,890,351	40,463,782	72,355,286
Alabama.....	2,977	46,122,571	2,797,896	33,821	12,676,029	28,432,281	51,226,005
Mississippi.....	1,698	14,890,884	827,627	15,817	4,913,863	10,064,897	18,705,834
Louisiana.....	2,613	34,754,121	3,760,753	31,901	13,159,564	33,282,724	57,809,713
Texas.....	5,268	46,815,181	3,594,940	39,475	18,586,338	36,152,908	70,433,551
Oklahoma.....	72	95,519	21,970	195	71,918	56,518	180,445
Arkansas.....	2,073	14,971,614	1,035,107	15,972	5,749,888	12,397,261	22,659,179
Indian territory.....	20	204,329	11,590	175	79,830	127,864	248,032
Western division.....	18,965	256,177,207	20,322,742	151,645	95,243,753	192,067,552	360,893,959
Montana.....	289	4,293,794	296,684	2,606	1,948,213	2,875,093	5,507,573
Wyoming.....	190	1,411,184	94,073	1,144	878,646	1,084,432	2,367,601
Colorado.....	1,518	20,651,840	1,948,025	17,067	12,285,734	20,848,516	42,480,205
New Mexico.....	127	965,938	76,638	944	532,727	691,420	1,516,195
Arizona.....	76	616,629	49,231	528	358,127	353,814	947,547
Utah.....	531	6,583,022	455,968	4,980	2,715,805	4,252,030	8,911,047
Nevada.....	95	1,211,269	53,809	620	445,503	439,058	1,105,063
Idaho.....	140	1,048,916	69,586	774	324,202	638,073	1,396,096
Washington.....	1,543	34,869,735	2,180,557	20,306	12,658,614	19,917,057	41,768,022
Oregon.....	1,523	32,122,051	2,108,068	18,798	11,635,229	21,793,578	41,432,174
California.....	7,923	146,797,102	12,984,191	83,642	51,538,780	120,243,683	213,403,996
Alaska.....	10	105,727	5,252	86	22,173	80,198	58,440

The percentages that the totals for each geographical group are of the total for the United States are shown in the following statement:

PERCENTAGES TOTALS FOR EACH GEOGRAPHICAL DIVISION ARE OF TOTAL MANUFACTURES FOR UNITED STATES: 1890.

GEOGRAPHICAL DIVISIONS.	PERCENTAGES OF TOTAL FOR UNITED STATES.						
	Number of establishments reporting.	Capital.	Miscellaneous expenses.	Average number of employes.	Total wages.	Cost of materials used.	Value of products.
The United States.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00
North Atlantic.....	45.81	54.38	49.84	53.96	56.22	50.89	52.25
South Atlantic.....	8.50	6.19	5.34	7.75	5.79	5.61	5.71
North Central.....	34.16	31.67	36.52	29.86	29.44	35.42	33.71
South Central.....	7.60	4.43	5.08	5.21	4.38	4.35	4.48
Western.....	3.93	3.93	3.22	3.22	4.17	3.73	3.85

In 1850, 8 of the first 10 states according to gross value of product were eastern states, while in 1890 only 5 of the eastern states were found among the first 10, the remaining places having been taken by western states. In 1850 the gross value of products reported for the states in the North and South Atlantic divisions was 79.19 per cent of the total product for the United States. In 1860 they reported 72.16 per cent; in 1870, 68.43 per cent; in 1880, 64.56 per cent, and in 1890, 57.96 per cent. This steady decrease in the proportion of the total product of the United States contributed by the North and South Atlantic divisions indicates the gradual movement of the center of manufactures from east to west. By a rough calculation, based on the gross value of products, the center of manufactures at the several censuses was as follows:

LATITUDE AND LONGITUDE.	1850	1860	1870	1880	1890
Latitude west.....	40° 41' 42"	40° 33' 01"	40° 47' 13"	40° 50' 00"	40° 42' 22"
Longitude north.....	77 25 09	79 18 50	79 25 58	79 53 00	81 33 37

The center in 1850 was 0.5 mile east, 6 miles north of Mifflintown, Pa.; in 1860, 5.5 miles west, 6.5 miles south of Indiana, Pa.; in 1870, 6 miles east, 3.75 miles south of Kittanning, Pa.; in 1880, 2 miles east, 2 miles south of Butler, Pa.; and in 1890, 8.5 miles west, 7 miles south of Canton, Ohio.

CAPITAL.

The amount of capital reported as invested in the manufacturing and mechanical industries in the United States at the census of 1880 was \$2,790,272,606; the value of products being \$5,369,579,191, it appeared that each \$100 of the value of products required the employment of \$51.96 of capital. At the census of 1890, \$6,525,156,486 was reported as capital and the value of products as \$9,372,437,283, each \$100 of products requiring \$69.62 of capital.

In commenting on the statistics of capital invested in manufactures at the census of 1880, Hon. Francis A. Walker remarked as follows:

The statistics of capital invested in manufactures, as obtained by a popular canvass, in which the statements of individual proprietors are necessarily accepted, and indeed are by the law intended to be accepted, are always likely to be partial and defective far beyond the limit of error which pertains to other classes of statistics derived from the manufacturing schedule. The liability to error in this respect inheres in the very nature of the subject and is probably ineradicable. * * *

A host of illustrations might be offered, showing the hopelessness of securing anything like complete and accurate returns of capital invested. Take a single class of difficulties: here are 2 shoe factories in the same town, each employing 200 workmen. In one case the manufacturer owns the building in which his operations are carried on, and reports his capital at \$75,000, being the value of his stock and machinery plus the value of the building; the other reports his capital at \$25,000, being the value of stock and machinery only. The latter would not, and could not rightfully, report the value of the building as a part of his capital, for it does not belong to him. Yet that building is devoted to manufacturing uses, and any summary of the manufacturing capital of the country which omits consideration of it is in so far defective.

In order to overcome, as far as practicable, the difficulties referred to in the preceding extract, the inquiry used at the Eleventh Census relating to capital contained a series of questions designed to obtain a complete statement for each establishment of all the property or assets used in the business strictly pertaining to manufacturing, whether such property was owned, borrowed, or hired. These questions were as follows:

Capital invested (both owned and borrowed):

Value of plant (the value should be estimated at what the works would cost in 1890 if then to be erected, with such allowance for depreciation as may be suitable in the individual case).

Land	\$
Buildings .....	.....
Machinery, tools, and implements .....	.....
Total	\$

Live capital:

Raw materials on hand	\$
Stock in process and finished products on hand .....	.....
Cash on hand, bills receivable, unsettled ledger accounts and sundries not included in any of the foregoing items .....	.....
Total	\$

Average annual allowance since June 1, 1880, for depreciation of buildings and machinery (a)

The inquiry concerning capital used at the Tenth Census was not uniform; it was generally as follows: "Capital (real and personal) invested in the business". In the schedule for some of the principal industries a separate statement was required concerning the value of land and buildings and other form of investment. While the questions of 1880 apparently cover the same ground as the more detailed questions of 1890, it becomes evident upon an inspection of the data obtained at the former census that they are incomplete, and that materials on hand, goods in process of manufacture, and other items were, to some extent, overlooked.

The questions used at the Eleventh Census did not call specifically for the value of hired property, but the amount paid for tenancy was called for and the value of hired property may be estimated upon the basis of the amount reported as paid for rent. The value of hired property is not shown in the general tables (in Part I), but is given for the 165 principal cities, also for selected industries in Parts II and III. The value of hired property in the 165 cities is given as \$833,173,008, and for the country exclusive of the cities it is estimated at \$323,052,049, making a total of \$1,156,225,057. Adding this to the "total capital, direct investment", gives an aggregate capital of \$7,681,381,543 for the United States, of which hired property forms 15.05 per cent. Omitting the value of hired property, the average capital per establishment for all classes of manufacturing and mechanical industries at the Eleventh Census was \$18,359, as compared with \$10,992 at the Tenth Census. Including the value of hired property in 1890, the average capital per establishment is found to be \$21,612, and each \$100 of product to require, on an average, \$81.96 of capital.

Borrowed cash is also included in the capital reported at the census of 1890, but it is impossible to state in which of the different items it is included, as the schedule of inquiry did not require such a statement. The amount can be estimated by a computation based on the amount of interest reported as paid. Considering 5 per cent as the average rate of interest, the figures indicate that cash to the amount of \$823,874,916, or 12.63 per cent of the "capital, direct investment", is borrowed, the average amount of borrowed capital for each establishment being \$2,318.

In the presentation of capital for all classes of manufactures in the general tables following (Part I), the different items enumerated under "Live capital" have been consolidated, and the total has been shown under the caption of "Live assets". In Table S, Part I, also in the statistics of cities and reports on selected industries in Parts II and III, the amounts are shown for each of the different items enumerated under "Live capital".

The total capital reported as invested in manufactures in 1880 was \$2,790,272,606, an increase of \$3,734,883,880, or 133.85 per cent, as compared with \$6,525,156,486 in 1890. Excluding from 1890 the capital reported for the industries previously mentioned as not having been reported in 1880, and modifying the figures for 1880 by eliminating the duplications in the data for "Mixed textiles" and including "Petroleum refining", the amount of capital appears to have increased 120.78 per cent, as compared with an increase of 69.31 per cent in the value of product. Neither of these percentages, however, can be accepted as indicating the exact increase in capital. The increase was probably somewhat in excess of that of value of products, allowance being necessary in measuring the relations of the two items for the fall in values. As stated in the reports of the Tenth Census, the full amount of capital was not ascertained, nor was it possible to estimate the amount by which the figures fall short of the true value.

For reasons previously given, the difference between the capital reported at the census of 1880 and that reported in 1890 should not be considered as the exact increase during the decade.

^a The data furnished in the individual reports relating to depreciation of manufacturing plants were not sufficient to form a basis for correct computations and therefore are omitted from this report.

INTRODUCTION.

The following statement, however, shows the number of establishments, total capital, average capital per establishment, and the average amount of capital required for a product valued at \$100, for 25 selected industries as reported at the censuses of 1880 and 1890:

NUMBER OF ESTABLISHMENTS, TOTAL CAPITAL, AVERAGE CAPITAL PER ESTABLISHMENT, AND AVERAGE AMOUNT OF CAPITAL REQUIRED FOR A PRODUCT VALUED AT \$100, IN 25 SELECTED INDUSTRIES: 1880 AND 1890.

INDUSTRIES.	Year.	Number of establishments reporting.	Total capital.	Average capital per establishment.	Average amount of capital required for a product valued at \$100.
Agricultural implements.....	1880	1,943	\$2,109,068	\$31,966	\$90.49
	1890	910	145,313,997	159,686	178.80
Boots and shoes, factory product.....	1880	1,959	42,904,028	21,947	25.89
	1890	2,082	95,282,311	45,765	43.18
Brick and tile.....	1880	5,031	27,073,616	4,915	84.28
	1890	5,828	82,578,566	14,169	121.85
Cheese, butter, and condensed milk, factory product (a).....	1880	3,932	9,604,803	2,443	37.31
	1890	4,712	16,624,163	3,528	26.52
Clothing, men's (b).....	1880	6,166	79,861,096	12,952	38.11
	1890	18,653	182,552,938	9,784	48.29
Cotton goods.....	1880	1,005	219,504,794	218,413	104.00
	1890	905	354,020,843	391,183	132.11
Flouring and grist mill products.....	1880	24,338	177,361,878	7,287	35.11
	1890	18,470	208,473,500	11,287	40.56
Foundry and machine shop products.....	1880	4,958	154,519,484	31,166	73.08
	1890	6,475	382,798,337	59,119	92.75
Glass.....	1880	211	19,844,699	94,051	93.81
	1890	294	40,966,850	139,343	99.80
Hosiery and knit goods.....	1880	350	15,579,591	43,397	53.41
	1890	796	50,607,738	63,578	75.26
Leather, tanned and curried.....	1880	65,424	67,100,574	12,371	36.33
	1890	1,596	81,201,006	50,916	58.77
Liquors, distilled.....	1880	844	24,247,595	28,729	59.05
	1890	440	31,009,176	70,469	29.76
Liquors, malt.....	1880	2,191	91,208,224	41,629	96.25
	1890	1,248	232,471,200	186,275	127.22
Lumber and other mill products from logs or bolts.....	1880	25,768	181,186,122	7,048	77.67
	1890	21,011	496,339,968	23,623	122.96
Lumber, planing mill products, including sash, doors, and blinds.....	1880	2,491	38,070,593	15,283	51.85
	1890	3,670	120,271,440	32,772	65.48
Paper.....	1880	692	46,241,202	66,823	89.91
	1890	567	82,374,099	145,281	116.85
Shipbuilding.....	1880	2,188	20,979,874	9,589	57.01
	1890	1,010	53,393,074	52,864	132.35
Shirts.....	1880	549	6,841,778	12,462	33.99
	1890	869	14,273,011	16,435	42.43
Silk and silk goods.....	1880	382	19,125,300	50,006	46.61
	1890	472	51,007,537	108,067	58.43
Slaughtering and meat packing (d).....	1880	872	49,419,213	56,673	16.28
	1890	1,367	118,016,066	86,332	20.90
Sugar and molasses, refining.....	1880	49	27,432,500	559,847	17.64
	1890	393	24,013,008	61,102	19.50
Tobacco, chewing, smoking, and snuff.....	1880	477	17,207,401	36,074	32.59
	1890	395	36,841,316	78,079	46.84
Tobacco, cigars and cigarettes.....	1880	7,145	21,698,549	3,037	33.91
	1890	10,956	59,517,827	5,432	45.89
Woolen goods.....	1880	1,990	96,095,564	48,289	59.83
	1890	1,311	130,989,940	99,916	98.00
Worsted goods.....	1880	70	26,374,043	268,080	69.73
	1890	143	68,985,116	476,120	85.97

a In 1890 includes 160 establishments reported as "Cheese and butter, urban dairy product", and 4,552 as "Cheese, butter, and condensed milk, factory product".

b In 1890 includes 13,591 establishments reported as "Clothing, men's, custom work and repairing"; 4,867 as "Clothing, men's, factory product", and 200 as "Clothing, men's, factory product, buttonholes".

c In 1880 an establishment engaged in both tanning and currying leather was counted as 2 distinct establishments.

d In 1890 includes 249 establishments reported as "Sausage"; 611 as "Slaughtering and meat packing, wholesale"; and 507 as "Slaughtering, wholesale, not including meat packing".

MANUFACTURING INDUSTRIES.

MISCELLANEOUS EXPENSES.

Previous census reports show no items entering into the cost of manufacture other than the amounts paid for wages and materials. The present inquiry was designed to cover, as far as possible, the entire cost of production. With this end in view, a series of questions pertaining to miscellaneous expenses was included in the schedule. The form of these questions was as follows:

Miscellaneous items:

Amount paid for rent, power, and heat.....	\$	_____
Amount paid for taxes.....	\$	_____
Amount paid for insurance.....	\$	_____
Amount paid for repairs, ordinary, of buildings and machinery.....	\$	_____
Amount paid to contractors.....	\$	_____
Amount paid for interest on cash used in the business.....	\$	_____
Amount paid for all sundries (not reported in any of the foregoing items).....	\$	_____
Total.....	\$	_____

Only the totals of the amounts reported for the items enumerated in the above questions are presented in Tables 2, 3, 4, 5, and 6. In general Table 8, Part I, also in Part II, statistics of cities, and in the special reports in Part III, the totals for each item are given.

The questions in regard to miscellaneous expenses were generally answered, though, in some cases, where a mercantile, mining, or other industry was conducted in connection with manufacturing, accurate reports were not obtained, the manufacturers claiming it was impossible to determine what part of the amount paid for taxes, interest on cash used in the business, and other sundry expenditures should be charged to each of the several branches of industry. Therefore the amounts reported for the different items by some establishments include not only the expenses connected with manufacturing, but also similar data properly chargeable to classes of industry not covered by this report. The total amount reported as paid for miscellaneous expenses is \$631,225,035, and represents 7.82 per cent of the total cost of manufacture. The amount includes internal revenue tax, which was probably included in the cost of materials at previous censuses.

The amount paid contractors, which is included in the total of miscellaneous expenses, if reported at previous censuses was included in the amounts shown for wages. The total for this item is not given for the United States, but it is probable that the \$27,287,929 shown for the 165 principal cities represents, practically, the entire amount paid to independent contractors by the establishments reporting.

The proportion expended for miscellaneous expenses in a product of a given value in different states and industries is shown in the remarks on "Products".

EMPLOYÉS AND WAGES.

The form of inquiry respecting employés and wages used at the Eleventh Census was as follows:

LABOR AND WAGES.

NOTE.—Hands employed on piecework and their earnings should be separately reported below. Wages paid should include board or rent furnished as part compensation.

CLASSES.	Average number employed during the year.	Total amount paid in wages during the year.
Operatives, engineers, and other skilled workmen, overseers, and foremen or superintendents (not general superintendents or managers):		
Males above 16 years		\$
Females above 15 years		
Children		
Officers or firm members:		
Males		
Females		
Clerks:		
Males above 16 years		
Females above 15 years		
Children		
Watchmen, laborers, teamsters, and other unskilled workmen:		
Males above 16 years		
Females above 15 years		
Children		
Piecework (not included in the foregoing statement):		
Males above 16 years		
Females above 15 years		
Children		
Total		

Weekly rates of wages paid and average number of hands employed at each rate (not including those employed on piecework):

RATES PER WEEK.	Males above 16 years.	Females above 15 years.	Children.
Under \$5.00			
\$5.00 and over, but under \$6.00			
\$6.00 and over, but under \$7.00			
\$7.00 and over, but under \$8.00			
\$8.00 and over, but under \$9.00			
\$9.00 and over, but under \$10.00			
\$10.00 and over, but under \$12.00			
\$12.00 and over, but under \$15.00			
\$15.00 and over, but under \$20.00			
\$20.00 and over, but under \$25.00			
\$25.00 and over			

Months in operation:

NOTE.—The entire 12 months of the year should be accounted for, thus: 12 months on full time, or 8 months on full time and 4 months on half time, or 10 months on full time and 2 months idle.

On full time	
On three-fourths time only	
On one-half time only	
On one-fourth time only	
Idle	
Number of hours in the ordinary day of labor:	
May to November	
November to May	

In addition to the above questions, the schedules designed for a few selected industries, such as glass and refining of petroleum, contained questions concerning the daily wages of different classes of employés.

The inquiry concerning employés and wages used at the Tenth Census was not uniform; the majority of the schedules called only for the "greatest number of hands employed at any one time during the year", also "the average number of hands employed, males above 16 years, females above 15 years, and children and youths, and the total wages paid", without designating the different classes of employés. The schedules for some selected industries contained additional questions concerning the number of "officers and clerks", "operatives, mechanics, watchmen, and laborers". It is believed the questions adopted at the Eleventh Census have more fully developed the true

average number of employes and the total amount paid in wages; they have obtained a more complete return of the officers, firm members, and clerks and their salaries than was reported at previous censuses. The number of this class of wage earners included in the reports of previous censuses, with the exception of two or three special inquiries at the census of 1880, were only those reported when the manufacturer considered that they should be included in answer to a general question as to the number of employes and the total amount of wages.

The questions used in 1880 tended to obtain a number of employes that would be in excess of the true average, while it is believed the questions used in 1890 have obtained, as nearly as possible, the average number. The questions for 1890 also tended to obtain a large amount of wages as compared with 1880, thus making a comparison of the average annual earnings for all classes of employes as obtained from the reports of the two censuses impracticable.

The statistics concerning employes and wages will not be given in the detailed form reported, except in the case of selected industries. With the exception of comparative tables and those for selected industries, the statistics show the average number of males above 16 years, females above 15 years, and children, respectively, and the total wages, by classes, of officers, firm members, and clerks; operatives, including skilled and unskilled workmen, and pieceworkers. Table 8, giving detailed statistics for 8 selected industries, shows for each industry the average number of males above 16 years, females above 15 years, and children, and total wages, by classes, and gives the average weekly earnings per employe for each class, the average number of employes at specified weekly rates of wages, and the average number of hours in an ordinary day of labor. In making comparisons of employes at specified weekly rates of wages with the average weekly earnings per employe, it must be remembered that it is not practicable to obtain true average weekly earnings from a table of weekly rates, due in part to the fact that the terms of employment vary for employes reported at the respective rates.

The method used to compute the average weekly earnings shown for selected industries is as follows: the number of weeks reported by individual establishments as their term of operation is multiplied by the average number of employes in each class; the product is the number of weeks required for 1 employe to perform the labor. The sum of these products of individual establishments divided into the sum of wages for the same establishments produces the true average weekly earnings per employe.

The average number of employes is the number necessary to be continually employed during the time the establishment is reported as being in operation in the census year to perform the work of a varying number employed.

While changes in the form and scope of the inquiry of 1890 as compared with that used at previous censuses will not permit of the use of the totals to ascertain the percentage of gain, the statistics can be used to show the changes in the proportion of males, females, and children employed in manufactures. The following statement shows the total number of employes and the number and percentage of males, females, and children reported at the censuses of 1850 to 1890, inclusive:

TOTAL EMPLOYÉS AND NUMBER AND PERCENTAGE OF MALES, FEMALES, AND CHILDREN: 1850 TO 1890.

YEARS.	Total employés.	MALES.		FEMALES.		CHILDREN.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
1850.....	957,050	731,137	76.39	225,922	23.61	(a)	.....
1860.....	1,311,246	1,040,349	79.34	270,897	20.66	(a)	.....
1870.....	2,053,996	1,615,598	78.66	323,770	15.76	114,628	5.58
1880.....	2,732,595	2,019,035	73.89	531,039	19.45	181,921	6.66
1890.....	4,712,622	3,745,123	79.47	846,614	17.96	120,885	2.57
1880 (b).....	2,700,732	2,011,516	74.48	512,247	18.97	176,969	6.55
1890 (b).....	4,476,884	3,599,292	80.40	767,687	16.92	119,905	2.68

a Not reported.

b The duplications occurring in "Mixed textiles" in 1880 have been eliminated and the figures for "petroleum refining" added, and the industries not reported in 1880 have been excluded from the totals for 1890.

The following statement shows the percentage of increase in the aggregate number of employes, also in the number of males, females, and children, reported at the different censuses. In making the computations shown in this statement the modified figures for 1880 and 1890 given in the preceding statement have been used.

PER CENT OF INCREASE IN TOTAL EMPLOYÉS AND IN NUMBER OF MALES, FEMALES, AND CHILDREN: 1850 TO 1890.

YEARS.	Total employés.	Males.	Females.	Children.
1850 to 1860.....	37.01	42.29	10.91	(a)
1860 to 1870.....	56.04	55.29	19.52	(a)
1870 to 1880.....	31.49	24.51	58.21	54.39
1880 to 1890.....	65.77	78.93	47.91	632.25

a Not reported.

b Décrease.

From the preceding statements it appears that while the absolute number of females reported at the different censuses as employed in manufactures has increased, the per cent has decreased; the decrease being due to the large absolute and relative increase in the number of male employes.

The two following statements show the percentage the males above 16 years, females above 15 years, and children are of the total employes reported in 1880 and 1890 for each of 15 states reporting a large number of females, and also for 15 states reporting a small number of females in 1880. In these statements the modified totals for 1880 and 1890 have been used.

AVERAGE NUMBER OF EMPLOYÉS AND NUMBER AND PER CENT OF MALES, FEMALES, AND CHILDREN FOR 15 STATES REPORTING A LARGE NUMBER OF FEMALES IN 1880: 1880 AND 1890.

STATES.	Year.	Average number of employes.	MALES ABOVE 16 YEARS.		FEMALES ABOVE 15 YEARS.		CHILDREN.	
			Average number.	Per cent.	Average number.	Per cent.	Average number.	Per cent.
Connecticut	1880	109,901	73,001	67.19	27,918	25.33	3,172	7.43
	1890	146,542	108,666	74.15	34,799	23.75	3,077	2.10
Illinois	1880	144,632	120,525	83.33	15,186	10.50	8,021	6.17
	1890	293,950	258,024	87.78	30,542	10.39	5,334	1.83
Maine	1880	51,887	34,046	67.35	13,328	25.69	3,613	6.96
	1890	74,420	51,227	68.83	20,755	27.89	2,438	3.28
Maryland.....	1880	74,923	46,692	62.32	21,689	28.95	6,542	8.73
	1890	102,049	72,277	70.82	25,073	25.10	4,099	4.02
Massachusetts.....	1880	345,535	225,421	65.23	103,106	29.85	16,698	4.92
	1890	468,661	331,010	70.82	128,114	27.34	8,637	1.84
Michigan.....	1880	77,591	53,445	88.21	4,784	6.17	4,362	5.62
	1890	158,893	144,788	91.12	11,477	7.22	2,628	1.66
Missouri	1880	63,995	54,200	84.70	5,474	8.55	4,321	6.75
	1890	135,354	115,653	85.45	16,287	12.03	3,414	2.52
New Hampshire.....	1880	47,339	28,708	60.64	15,624	33.01	3,007	6.35
	1890	61,806	39,985	64.60	20,255	32.72	1,656	2.68
New Jersey.....	1880	124,268	86,266	69.42	26,193	21.08	11,809	9.50
	1890	176,768	135,139	76.45	36,401	20.59	5,228	2.96
New York.....	1880	621,676	361,339	58.13	132,103	21.25	28,234	4.54
	1890	800,002	613,489	76.67	183,495	22.93	12,018	1.50
Ohio.....	1880	183,596	152,215	82.91	18,556	10.11	12,325	6.73
	1890	312,029	267,341	85.68	38,508	12.33	6,880	2.20
Pennsylvania.....	1880	372,844	279,003	74.83	66,110	17.73	27,731	7.44
	1890	585,312	478,522	81.75	84,802	14.49	21,988	3.76
Rhode Island.....	1880	61,235	36,243	59.19	17,607	28.75	7,385	12.06
	1890	83,753	53,212	63.54	24,717	29.51	5,823	6.95
Virginia.....	1880	40,139	28,751	71.63	6,127	15.26	5,261	13.11
	1890	56,703	44,353	78.14	9,167	16.15	3,243	5.71
Wisconsin.....	1880	57,059	48,230	84.53	6,222	10.90	2,607	4.57
	1890	127,035	113,556	89.38	11,575	9.11	1,904	1.50

MANUFACTURING INDUSTRIES.

AVERAGE NUMBER OF EMPLOYÉS AND NUMBER AND PER CENT OF MALES, FEMALES, AND CHILDREN FOR 15 STATES REPORTING A SMALL NUMBER OF FEMALES IN 1880: 1880 AND 1890.

STATES.	Year.	Average number of employés.	MALES ABOVE 16 YEARS.		FEMALES ABOVE 15 YEARS.		CHILDREN.	
			Average number.	Per cent.	Average number.	Per cent.	Average number.	Per cent.
Alabama.....	1880	10,019	8,368	83.52	842	8.40	800	8.08
	1890	30,877	28,032	90.79	1,439	4.66	1,406	4.55
Arkansas.....	1880	4,557	4,307	94.51	90	1.98	160	3.51
	1890	14,157	13,464	95.11	303	2.14	390	2.75
California.....	1880	43,058	38,300	87.73	3,008	8.95	1,450	3.32
	1890	76,858	64,929	84.48	10,097	13.14	1,332	2.38
Colorado.....	1880	5,074	4,652	91.68	266	5.24	156	3.08
	1890	15,176	13,875	91.43	1,031	6.79	270	1.78
Delaware.....	1880	12,006	10,227	81.13	1,419	11.26	960	7.61
	1890	20,704	16,551	79.94	2,783	13.44	1,370	6.62
Indiana.....	1880	68,951	61,864	89.72	3,400	4.93	3,687	5.35
	1890	114,566	100,464	87.69	10,805	9.43	3,297	2.88
Iowa.....	1880	28,372	25,382	89.46	1,431	5.04	1,559	5.50
	1890	53,709	47,590	88.61	4,502	8.38	1,617	3.01
Kansas.....	1880	12,062	11,139	92.35	302	3.25	531	4.40
	1890	20,088	20,153	99.91	2,056	7.07	870	3.02
Louisiana.....	1880	12,167	10,171	83.60	1,335	10.97	661	5.43
	1890	30,632	23,613	77.09	6,426	20.98	593	1.93
Minnesota.....	1880	21,247	18,937	89.13	1,636	7.70	674	3.17
	1890	74,230	69,587	93.74	3,895	5.25	748	1.01
Nebraska.....	1880	4,793	4,464	93.14	120	2.50	200	4.36
	1890	21,174	19,259	90.95	1,202	5.68	713	3.37
Oregon.....	1880	3,473	3,280	94.44	96	2.77	97	2.79
	1890	17,331	16,450	94.92	681	3.93	200	1.15
Tennessee.....	1880	22,417	19,566	87.25	1,188	5.30	1,069	7.45
	1890	39,727	35,360	89.01	2,806	7.06	1,501	3.93
Texas.....	1880	12,159	11,645	95.77	116	0.96	398	3.27
	1890	33,263	30,988	93.16	1,358	4.08	917	2.76
West Virginia.....	1880	14,311	12,900	90.14	340	2.42	1,065	7.44
	1890	20,329	18,215	89.60	1,328	6.53	786	3.87

Selecting 15 industries that reported a large proportion of females in 1880, the following statement presents the average number of employes and the average number and per cent of males above 16 years, females above 15 years, and children reported at both censuses for the respective industries:

AVERAGE NUMBER OF EMPLOYÉS AND NUMBER AND PER CENT OF MALES, FEMALES, AND CHILDREN FOR 15 INDUSTRIES REPORTING A LARGE PROPORTION OF FEMALES IN 1880: 1880 AND 1890.

INDUSTRIES.	Year.	Average number of employes.	MALES ABOVE 16 YEARS.		FEMALES ABOVE 15 YEARS.		CHILDREN.	
			Average number.	Per cent.	Average number.	Per cent.	Average number.	Per cent.
Boots and shoes, factory product.....	1880	111,152	82,547	74.27	25,122	22.60	3,483	3.13
	1890	139,333	96,480	69.24	40,418	29.01	2,435	1.75
Boxes, fancy and paper.....	1880	9,678	2,194	22.67	6,836	70.63	648	6.70
	1890	19,954	6,505	32.60	12,933	64.81	516	2.59
Clothing, men's (a).....	1880	160,813	77,255	48.04	80,994	50.37	2,564	1.59
	1890	243,857	144,395	59.21	97,381	39.94	2,081	0.85
Clothing, women's, factory product.....	1880	25,192	2,594	10.30	22,253	88.33	345	1.37
	1890	42,008	15,422	36.71	26,313	62.64	273	0.65
Corsets.....	1880	8,892	776	8.82	7,487	85.06	599	6.12
	1890	11,370	2,010	17.68	9,259	81.41	104	0.91
Cotton goods.....	1880	185,472	64,107	34.57	91,148	49.14	30,217	16.29
	1890	221,585	91,464	41.28	106,689	48.15	23,432	10.57
Furnishing goods, men's.....	1880	11,174	1,274	11.40	9,565	85.60	335	3.00
	1890	22,211	5,489	24.71	16,511	74.34	211	0.95
Gloves and mittens.....	1880	7,697	2,192	27.31	5,249	68.20	346	4.49
	1890	8,609	3,454	39.84	5,117	59.03	98	1.13
Hosiery and knit goods.....	1880	28,885	7,517	26.02	17,707	61.30	3,661	12.68
	1890	61,209	16,366	26.74	40,927	66.86	3,916	6.40
Millinery and lace goods.....	1880	6,555	971	14.81	5,248	80.06	336	5.13
	1890	11,827	3,193	26.21	8,682	73.41	42	0.35
Shirts.....	1880	25,087	2,878	11.20	22,186	86.37	623	2.43
	1890	32,750	6,813	20.80	25,730	78.57	207	0.63
Silk and silk goods.....	1880	31,337	9,375	29.92	16,396	52.32	5,566	17.70
	1890	50,913	18,998	37.31	29,049	57.06	2,866	5.63
Tobacco, chewing, smoking, and snuff.....	1880	32,756	14,886	45.44	10,776	32.90	7,094	21.66
	1890	31,267	16,394	52.43	10,589	33.87	4,284	13.70
Woolen goods.....	1880	68,504	45,978	64.31	29,372	33.95	10,154	11.74
	1890	79,351	44,485	56.06	30,240	38.11	4,626	5.83
Worsted goods.....	1880	18,803	6,435	34.22	9,473	50.38	2,895	15.40
	1890	43,593	19,658	45.10	20,110	46.13	3,825	8.77

^a In 1890 includes 13,591 establishments reported as "Clothing, men's, custom work and repairing"; 4,867 establishments reported as "Clothing, men's, factory product", and 200 establishments reported as "Clothing, men's, factory product, buttonholes".

MANUFACTURING INDUSTRIES.

The following statement shows the average number of employes and the average number and per cent of males above 16 years, females above 15 years, and children for 15 industries reporting a small proportion of females in 1880, reported at the censuses of 1880 and 1890:

AVERAGE NUMBER OF EMPLOYÉS AND NUMBER AND PER CENT OF MALES, FEMALES, AND CHILDREN FOR 15 INDUSTRIES REPORTING A SMALL PROPORTION OF FEMALES IN 1880: 1880 AND 1890.

INDUSTRIES	Year.	Average number of employes.	MALES ABOVE 16 YEARS.		FEMALES ABOVE 15 YEARS.		CHILDREN.	
			Average number.	Per cent.	Average number.	Per cent.	Average number.	Per cent.
Agricultural implements.....	1880	39,580	38,313	96.80	73	0.18	1,194	3.02
	1890	42,544	41,856	98.38	470	1.12	212	0.50
Brick and tile.....	1880	66,355	59,032	88.97	268	0.40	7,055	10.63
	1890	109,181	104,119	95.39	266	0.24	4,766	4.37
Cooperage.....	1880	25,973	24,435	94.08	42	0.16	1,496	5.76
	1890	24,652	24,114	97.82	298	0.84	330	1.34
Cutlery and edge tools.....	1880	10,519	9,458	89.91	380	3.61	681	6.48
	1890	9,487	9,112	96.05	203	2.77	112	1.18
Dyeing and finishing textiles.....	1880	16,698	12,788	76.58	2,038	12.21	1,872	11.21
	1890	20,267	17,146	84.00	2,328	11.49	793	3.91
Flouring and grist mill products.....	1880	58,407	58,239	99.71	42	0.07	126	0.22
	1890	63,481	62,901	98.93	474	0.75	206	0.32
Foundry and machine shop products.....	1880	145,351	140,459	96.63	675	0.47	4,217	2.90
	1890	247,764	244,472	98.68	1,737	0.70	1,545	0.62
Furniture, including cabinetmaking, repairing and upholstering. (a)	1880	52,087	47,042	91.47	1,607	3.08	2,838	5.45
	1890	78,907	74,575	94.80	2,536	3.22	1,556	1.98
Glass.....	1880	24,177	17,778	73.53	741	3.07	5,658	23.40
	1890	45,987	37,117	80.71	1,927	4.19	6,943	15.10
Hardware.....	1880	16,801	14,481	86.19	814	4.85	1,506	8.90
	1890	19,071	17,376	88.33	1,534	8.05	711	3.62
Jewelry.....	1880	12,697	10,950	79.15	1,098	15.74	649	5.11
	1890	15,761	12,408	78.73	3,137	19.90	216	1.37
Leather, tanned and curried.....	1880	34,865	34,095	97.79	265	0.76	505	1.45
	1890	34,348	34,143	99.40	126	0.37	79	0.23
Liquors, malt.....	1880	26,220	26,001	99.17	29	0.11	190	0.72
	1890	34,860	33,974	97.63	310	0.89	516	1.48
Painting and paper hanging.....	1880	17,711	17,271	97.52	131	0.74	309	1.74
	1890	56,281	55,646	98.87	378	0.67	257	0.46
Saddlery and harness.....	1880	21,446	20,024	93.37	561	2.62	861	4.01
	1890	30,326	28,953	95.47	1,039	3.43	334	1.10

a In 1880 includes 4,843 establishments reported as "Furniture"; also 781 establishments reported as "Upholstering". In 1890 includes 4,054 establishments reported as "Furniture, cabinetmaking, repairing and upholstering"; also 1,579 establishments reported as "Furniture, factory product".

From the four preceding statements it appears—

First. That the absolute number of females employed in manufacturing establishments has almost invariably increased, both in the industries and in the states for which either a large or small proportion of females were reported in 1880.

Second. That the relative number of females has increased in the states and industries that reported a small number of females in 1880, and that the relative decrease in the number of females reported for the states and industries showing a large number of females in 1880 is caused by the large absolute and relative increase in the number of male employes.

Third. That the largest percentage of increase in female employes is found in the industries and in the states that reported a small proportion of females in 1880.

Fourth. That the per cent of children employed in manufacturing establishments has decreased in all sections and in all industries, and that the absolute number of children employed has increased only in those states that employed a small number of females and children in 1880.

Referring to the presentation of the statistics of employes and wages adopted for the general tables, the following statement shows for the United States the average number and total wages of all employes and the average number and the wages of males, females, and children, with the percentages, by classes:

EMPLOYÉS AND WAGES, BY CLASSES, AND PERCENTAGES MALES, FEMALES, AND CHILDREN OF EACH CLASS AND THEIR WAGES ARE OF THE AGGREGATE FOR ALL CLASSES: 1890.

CLASSES.	AGGREGATES.		MALES ABOVE 16 YEARS.			
	Average number.	Total wages.	Average number.	Per cent of aggregate average number.	Wages.	Per cent of total wages.
Total	4,712,622	\$2,283,216,520	3,745,123	79.47	\$2,031,403,924	88.97
Officers, firm members, and clerks.....	461,009	391,988,208	418,081	8.87	372,169,441	16.30
Operatives, skilled and unskilled.....	3,492,029	1,590,516,997	2,881,795	61.15	1,430,482,387	62.91
Pieceworkers.....	759,584	300,711,324	445,247	9.45	232,752,096	9.76

CLASSES.	FEMALES ABOVE 16 YEARS.				CHILDREN.			
	Average number.	Per cent of aggregate average number.	Wages.	Per cent of total wages.	Average number.	Per cent of aggregate average number.	Wages.	Per cent of total wages.
Total	816,614	17.06	\$235,186,743	10.30	120,385	2.57	\$16,625,862	0.73
Officers, firm members, and clerks.....	42,928	0.91	10,818,767	0.87				
Operatives, skilled and unskilled.....	505,712	10.73	130,329,719	6.10	104,522	2.22	14,704,891	0.64
Pieceworkers.....	267,974	6.32	76,038,257	3.33	16,363	0.35	1,920,971	0.09

Of the aggregate employes, the officers, firm members, and clerks form 9.78 per cent, and they receive 17.17 per cent of the total wages; operatives, skilled and unskilled, form 74.10 per cent of the employes, and they receive 69.66 per cent of the total wages; and pieceworkers form 16.12 per cent of the employes, and they receive 13.17 per cent of the total wages.

The following statement shows the average number and total wages of all employes, with percentages of number and wages of males, females, and children, by classes:

PERCENTAGES MALES, FEMALES, AND CHILDREN AND THEIR WAGES ARE OF TOTAL EMPLOYÉS AND WAGES FOR THE RESPECTIVE CLASSES: 1890.

CLASSES.	AGGREGATES.		PER CENT OF TOTAL FOR CLASS.					
			Males above 16 years.		Females above 15 years.		Children.	
	Average number.	Total wages.	Number.	Wages.	Number.	Wages.	Number.	Wages.
Total	4,712,622	\$2,283,216,520	79.47	88.97	17.96	10.30	2.57	0.73
Officers, firm members, and clerks.....	461,009	391,988,208	90.69	94.94	9.31	5.06		
Operatives, skilled and unskilled.....	3,492,029	1,590,516,997	82.53	90.32	14.48	8.76	2.09	0.92
Pieceworkers.....	759,584	300,711,324	58.62	74.07	39.23	25.29	2.15	0.64

From the two preceding statements it appears that the male employes are 79.47 per cent of the total employes and receive 88.97 per cent of the aggregate wages. The females are 17.96 per cent of the total employes and they receive 10.30 per cent of the aggregate wages. The male operatives are 61.15 per cent of the total and they receive 62.91 per cent of the aggregate wages. The female operatives are 10.73 per cent of the total and they receive 6.10 per cent of the aggregate wages. The male operatives are 82.53 per cent of all operatives and they receive 90.32 per cent of the aggregate wages of operatives, while the female operatives are 14.48 per cent of the total and they receive 8.76 per cent of the aggregate wages of operatives.

The average annual earnings per employe, as obtained from the totals for 1880, was \$346.91, while the average obtained for all employes in 1890 was \$484.49, and for the employes exclusive of the officers, firm members, and clerks, \$444.83. Owing to the differences in the form and the scope of the inquiry of 1890, as compared with that of 1880, previously referred to, neither of these average annual earnings for 1890 should be accepted as the exact increase during the decade.

MANUFACTURING INDUSTRIES.

While the number of employes reported for 1890 is, as nearly as possible, the true average number employed during the year, the result obtained by using this number as a divisor into the total wages must not be accepted as the actual annual wages per employe for any particular class or occupation. The total number of employes and the total wages include not only officers, firm members, and clerks and their salaries, but the number and wages of males and females, apprentices, children, and adults, employes working the entire year, and those engaged for only short periods, also pieceworkers. The average annual earnings is also affected by the difference in the proportions of these different classes of employes, as well as by the conditions prevailing in the different industries and in different localities, some industries requiring a larger proportion of skilled and high-paid employes than others. With these cautions in accepting the figures, the following statement is presented, which shows for the United States the average annual earnings for all employes for each class, and for the males, females, and children in each class:

AVERAGE ANNUAL EARNINGS PER EMPLOYE, BY CLASSES: 1890.

CLASSES.	AGGREGATES.			MALES ABOVE 16 YEARS.			FEMALES ABOVE 15 YEARS.			CHILDREN.		
	Average number.	Total wages.	Average annual earnings.	Average number.	Wages.	Average annual earnings.	Average number.	Wages.	Average annual earnings.	Average number.	Wages.	Average annual earnings.
Total	4,712,622	\$2,283,216,529	\$484	3,745,123	\$2,031,403,924	\$542	846,614	\$235,186,743	\$278	120,885	\$16,625,862	\$138
Officers, firm members, and clerks.	461,009	391,988,208	850	418,081	372,169,441	890	42,928	19,818,767	462	.....	.....	.....
Operatives, skilled and unskilled.	3,492,029	1,590,516,997	455	2,881,795	1,436,482,387	498	505,712	139,329,719	276	104,522	14,704,891	141
Pieceworkers	750,584	300,711,324	396	445,247	222,752,096	500	297,974	76,038,257	255	16,363	1,920,971	117

Considering the 15 industries presented in a previous statement that employ a large proportion of females, the following statement shows the average annual earnings per employé for the males, females, and children in each of the 3 classes of employés:

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ, BY CLASSES, IN 15 INDUSTRIES SHOWING A LARGE PROPORTION OF FEMALES: 1890.

INDUSTRIES.	AVERAGE ANNUAL EARNINGS PER EMPLOYÉ.							
	Officers, firm members, and clerks.		Operatives, skilled and unskilled.			Pieceworkers.		
	Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Boots and shoes, factory product.....	\$1,075	\$442	\$535	\$320	\$147	\$495	\$347	\$165
Boxes, fancy and paper.....	1,081	428	497	251	150	287	254	163
Clothing, men's (a).....	914	439	580	282	149	499	223	90
Clothing, women's, factory product.....	1,289	595	621	350	150	503	262	254
Corsets.....	1,633	602	633	333	156	364	267	121
Cotton goods.....	1,395	456	381	272	130	368	290	152
Furnishing goods, men's.....	1,100	425	585	322	163	337	217	127
Gloves and mittens.....	934	482	528	296	136	463	200	115
Hosiery and knit goods.....	1,080	435	419	257	138	363	238	130
Millinery and lace goods.....	1,463	610	573	358	205	581	359	.....
Shirts.....	1,037	508	587	289	137	366	245	120
Silk and silk goods.....	1,327	486	545	277	153	505	272	178
Tobacco, chewing, smoking, and snuff.....	1,110	375	322	193	83	260	193	93
Woolen goods.....	981	303	404	277	153	423	279	153
Worsted goods.....	1,574	498	440	287	166	480	335	160

a Includes 13,591 establishments reported as "Clothing, men's, custom work and repairing"; 4,867 establishments reported as "Clothing, men's, factory product", and 200 establishments reported as "Clothing, men's, factory product, buttonholes".

The following statement shows facts similar to those just presented for the 15 industries employing a small proportion of females:

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ, BY CLASSES, IN 15 INDUSTRIES SHOWING A SMALL PROPORTION OF FEMALES: 1890.

INDUSTRIES.	AVERAGE ANNUAL EARNINGS PER EMPLOYÉ.							
	Officers, firm members, and clerks.		Operatives, skilled and unskilled.			Pieceworkers.		
	Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Agricultural implements.....	\$1,024	\$476	\$457	\$222	\$163	\$518	\$279	\$206
Brick and tile.....	903	392	293	142	109	300	264	125
Cooperage.....	768	616	452	217	174	453	160	134
Cutlery and edge tools.....	931	410	525	258	157	440	249	100
Dyeing and finishing textiles.....	1,245	446	494	267	181	445	309	.....
Flouring and grist mill products.....	555	441	387	236	106	292	210	83
Foundry and machine shop products.....	1,177	494	561	279	194	581	306	218
Furniture, cabinetmaking, repairing and upholstering.....	715	396	509	344	155	464	280	156
Glass.....	1,156	366	438	168	141	757	228	199
Hardware.....	1,096	448	509	255	147	509	243	151
Jewelry.....	1,261	435	644	317	170	820	332	21
Leather, tanned and curried.....	1,018	495	478	275	158	598	282	47
Liquors, malt.....	1,700	795	701	243	180	443	183	153
Painting and paper hanging.....	822	375	644	303	179	552	215	118
Saddlery and harness.....	672	415	403	285	142	506	257	133

MANUFACTURING INDUSTRIES.

The average annual earnings for all classes of employes and for males above 16 years, females above 15 years, and children in each class, in the different states and territories, are shown in the following statement:

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY STATES AND TERRITORIES: 1890.

STATES AND TERRITORIES.	AVERAGE ANNUAL EARNINGS PER EMPLOYÉ.								
	All classes.	Officers, firm members, and clerks.		Operatives, including skilled and unskilled.			Pieceworkers.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
The United States	\$184	\$890	\$462	\$498	\$276	\$141	\$500	\$255	\$117
Alabama.....	375	713	420	362	234	100	435	145	112
Alaska.....	253	444	.....	239	.....	.....	.....	.....	.....
Arizona.....	678	800	.....	674	493	87	780	.....	.....
Arkansas.....	300	602	536	341	230	112	311	57	34
California.....	616	980	607	651	306	173	550	241	98
Colorado.....	720	1,208	698	685	422	187	761	383	.....
Connecticut.....	507	1,062	451	543	292	173	535	303	204
Delaware.....	452	923	407	485	195	126	570	95	47
District of Columbia.....	623	818	509	614	420	172	701	757	212
Florida.....	468	702	443	419	304	114	626	347	120
Georgia.....	307	678	404	302	221	99	342	199	97
Idaho.....	419	641	520	401	183	100	265	.....	.....
Illinois.....	549	938	504	547	292	145	529	278	142
Indiana.....	416	687	418	412	209	126	460	184	97
Indian territory.....	456	826	.....	460	261	82	432	.....	.....
Iowa.....	437	690	390	430	216	125	502	148	85
Kansas.....	497	676	422	511	210	117	524	166	18
Kentucky.....	423	742	471	414	229	120	437	213	100
Louisiana.....	413	802	484	434	212	112	388	147	139
Maine.....	350	695	348	380	266	134	380	189	65
Maryland.....	388	788	417	449	221	98	370	150	60
Massachusetts.....	494	965	457	540	299	171	520	316	162
Michigan.....	405	770	407	389	215	126	395	206	110
Minnesota.....	480	842	462	445	284	141	555	297	50
Mississippi.....	311	536	421	318	238	101	189	157	102
Missouri.....	534	924	462	532	266	154	538	226	70
Montana.....	723	968	742	681	505	237	888	674	.....
Nebraska.....	544	815	487	540	270	138	467	182	27
Nevada.....	719	1,109	531	800	292	120	339	.....	.....
New Hampshire.....	383	700	427	416	292	153	437	260	122
New Jersey.....	516	1,062	423	554	274	149	538	250	157
New Mexico.....	564	675	235	565	359	155	512	529	.....
New York.....	549	1,039	508	582	300	155	532	270	163
North Carolina.....	216	408	360	231	144	86	252	155	62
North Dakota.....	543	721	346	517	267	172	667	520	.....
Ohio.....	470	836	426	489	231	155	445	213	145
Oklahoma.....	369	408	.....	381	207	95	400	.....	.....
Oregon.....	614	980	714	603	302	162	355	379	263
Pennsylvania.....	492	873	412	511	273	152	529	261	148
Rhode Island.....	441	1,062	440	498	287	159	550	300	158
South Carolina.....	267	610	334	270	192	96	284	228	96
South Dakota.....	454	654	367	429	255	101	480	350	129
Tennessee.....	395	645	412	387	205	113	418	219	104
Texas.....	471	744	581	457	273	181	445	173	61
Utah.....	545	870	562	556	272	138	578	143	57
Vermont.....	406	611	435	401	202	152	376	202	91
Virginia.....	390	653	343	340	145	91	320	176	71
Washington.....	622	980	577	600	388	176	561	351	75
West Virginia.....	370	549	400	375	184	134	443	162	138
Wisconsin.....	393	772	406	378	218	123	433	161	121
Wyoming.....	768	774	610	806	285	196	746	647	.....

Apparent inconsistencies in the averages given in the above statement may be explained by reference to general Table 6, which shows the number and the wages of the different classes of employes in the different industries reported for each state and territory. For instance, the average annual earnings of children (pieceworkers) in Kansas is reported as \$18. It appears, however, that there were only 278 children (pieceworkers) reported for the state, and of this number 253 are shown for "Fruits and vegetables, canning and preserving". The establishments engaged in this industry were in operation only a few months during the year, making the average earnings in this occupation for the entire year exceedingly low.

The statement following shows the average annual earnings per employe for all classes and for males above 16 years, females above 15 years, and children in each of the different classes of industry in which there were 3 or more establishments reported. In considering the averages given in this statement reference should be made to general Table 5 to ascertain the number and wages of the different classes of employes for a given industry in the different states and territories.

AVERAGE ANNUAL EARNINGS PER EMPLOYE FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY SPECIFIED INDUSTRIES: 1890.

INDUSTRIES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, INCLUDING SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
All industries	\$184	\$890	\$462	\$498	\$276	\$141	\$500	\$255	\$117
Agricultural implements.....	513	1,021	476	457	222	153	518	270	206
Ammunition.....	490	1,318	682	565	272	189	350	155	98
Artificial leathers and flowers.....	302	1,280	507	497	317	133	322	319	92
Artificial limbs.....	757	1,018	365	678	433	191	304	200	.....
Artists' materials.....	540	1,031	559	539	368	138	304	125	96
Awnings, tents, and sails.....	570	860	439	656	282	159	353	204	100
Axle grease.....	996	1,080	.....	520	232	200	.....	.....	.....
Babbitt metal and solder.....	721	1,194	639	492	313	.....	136	.....	.....
Bagging, flux, hemp, and jute.....	287	1,353	.....	327	223	153	.....	358	.....
Bags, other than paper.....	388	1,126	397	516	266	182	379	254	160
Bags, paper.....	420	1,015	577	456	243	172	255	247	.....
Baking and yeast powders.....	536	1,049	377	503	254	142	322	236	250
Baskets and rattan and willow ware.....	340	625	437	416	221	110	298	165	87
Bellows.....	610	811	520	575	.....	309	645	.....	.....
Bells.....	552	783	385	498	294	250	709	.....	.....
Belting and hose, leather.....	688	1,223	426	599	317	136	227	160	.....
Belting and hose, linen.....	525	1,620	520	733	292	127	.....	.....	.....
Belting and hose, rubber.....	537	1,545	628	491	263	208	556	346	200
Bicycle and tricycle repairing.....	528	646	259	492	.....	159	250	.....	.....
Bicycles and tricycles.....	574	985	513	530	293	193	1,572	260	.....
Billiard tables and materials.....	732	1,192	360	642	222	233	1,410	.....	.....
Blacking.....	541	1,168	458	575	294	159	329	287	145
Blacksmithing and wheelwrighting.....	527	547	485	517	346	153	288	.....	94
Bluing.....	449	795	376	373	223	142	232	237	.....
Bone, ivory, and lamp black.....	562	1,036	.....	475	.....	217	588	.....	113
Bookbinding and blank-book making.....	500	1,067	547	570	299	164	583	293	153
Boot and shoe cut stock.....	422	881	392	496	271	172	369	229	139
Boot and shoe findings.....	338	884	486	378	189	164	295	154	109
Boot and shoe uppers.....	526	832	507	561	340	166	465	338	.....
Boots and shoes, custom work and repairing.....	473	506	377	453	303	151	424	316	138
Boots and shoes, factory product.....	476	1,075	442	535	320	147	495	347	165
Boots and shoes, rubber.....	428	1,293	539	477	255	132	528	352	.....
Bottling.....	578	862	651	512	249	178	321	75	.....
Boxes, cigar.....	385	812	624	496	274	144	410	261	160
Boxes, fancy and paper.....	344	1,081	428	407	251	150	287	254	163
Boxes, wooden packing.....	465	652	486	467	248	160	506	185	111
Brass.....	533	900	.....	505	.....	.....	985	.....	.....
Brass and copper, rolled.....	563	1,080	500	548	278	208	510	257	206
Brass castings and brass finishing.....	582	1,228	473	530	282	180	581	330	250
Brassware.....	540	1,442	455	582	281	166	522	314	150
Bread and other bakery products.....	546	762	357	535	256	175	368	258	144
Brick and tile.....	360	603	362	363	142	109	300	264	125
Bridges.....	637	1,800	345	591	.....	118	694	.....	267
Bronze castings.....	316	1,486	364	736	253	183	697	.....	.....
Brooms and brushes.....	393	720	430	423	225	143	370	194	108
Buttons.....	415	1,330	502	572	280	151	394	253	140
Calcium lights.....	511	907	.....	447	.....	.....	120	.....	.....
Cardboard.....	627	2,059	.....	692	361	.....	.....	.....	.....
Card cutting and designing.....	498	883	.....	489	312	154	281	159	182
Carpentering.....	675	891	457	618	215	180	541	275	60
Carpets and rugs, other than rag.....	399	1,340	472	478	321	183	472	344	164
Carpets, rag.....	369	465	329	370	211	118	342	145	206
Carpets, wood.....	474	1,063	416	443	475	.....	.....	.....	.....
Carriage and wagon materials.....	477	922	380	435	308	177	503	247	137
Carriages and sleds, children's.....	453	874	401	459	270	139	394	177	114
Carriages and wagons, including custom work and repairing.....	547	827	452	513	283	176	510	304	157
Cars and general shop construction and repairs by steam railroad companies.....	569	820	397	502	306	230	623	333	.....
Cars and general shop construction and repairs by street railroad companies.....	705	927	.....	702	.....	240	772	.....	.....
Cars, steam railroad, not including operations of railroad companies.....	525	1,089	528	501	308	178	562	276	.....
Cars, street railroad, not including operations of railroad companies.....	641	1,740	.....	592	399	260	940	.....	.....
Celluloid and celluloid goods.....	606	2,091	460	560	238	260	538	278	.....
Cheese and butter, urban dairy product.....	498	619	351	482	238	208	100	.....	.....
Cheese, butter, and condensed milk, factory product.....	356	406	259	359	189	120	337	232	23
Chemicals.....	572	1,291	562	544	271	182	463	311	156
China, decorating.....	545	819	774	507	295	162	616	520	.....
Chocolate and cocoa products.....	620	2,047	664	649	297	150	.....	.....	.....
Cigar molds.....	475	961	.....	466	193	168	510	215	.....
Clay and pottery products.....	500	984	450	488	225	148	600	311	204
Cleansing and polishing preparations.....	454	846	290	394	239	131	133	183	.....
Clock cases and materials.....	647	1,083	.....	601	.....	.....	.....	.....	.....
Clocks.....	540	1,441	449	580	333	183	518	307	244
Cloth, sponging and refinishing.....	617	1,067	.....	572	300	182	.....	.....	.....
Clothing, horse.....	329	1,084	539	345	319	149	313	241	110
Clothing, men's, custom work and repairing.....	564	834	415	622	290	157	586	273	235
Clothing, men's, factory product.....	399	1,028	450	554	279	142	420	212	77
Clothing, men's, factory product, buttonholes.....	384	602	494	453	270	147	379	263	.....
Clothing, women's, dressmaking.....	331	820	473	622	295	119	462	258	124
Clothing, women's, factory product.....	448	1,280	595	621	350	150	503	262	254
Coffee and spice, roasting and grinding.....	637	1,087	453	570	271	175	356	294	.....
Coffins and burial cases, trimming and finishing.....	618	762	541	541	275	168	292	197	72

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY SPECIFIED INDUSTRIES: 1890—Continued.

INDUSTRIES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, INCLUDING SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Coffins, burial cases, and undertakers' goods.....	\$553	\$1,080	\$550	\$529	\$333	\$106	\$539	\$310	\$182
Coke.....	457	798	800	427	.....	143	481	.....	165
Collars and cuffs, paper.....	534	1,624	520	529	224	.....	.....	263	.....
Combs.....	537	1,054	.....	545	307	189	461	162	195
Confectionery.....	428	807	350	476	230	142	423	198	113
Cooperage.....	473	768	616	452	217	174	453	100	134
Cordage and twine.....	354	1,374	538	399	255	153	345	259	160
Corlials and sirups.....	602	1,197	483	450	254	190	402	.....	.....
Cork, cutting.....	357	1,062	312	464	220	184	330	.....	.....
Corsets.....	357	1,633	602	633	333	156	364	267	121
Cotton, cleaning and rehandling.....	257	740	1,200	273	187	50	.....	230	.....
Cotton, compressing.....	410	874	.....	275	.....	47	584	.....	.....
Cotton, ginning.....	102	177	75	06	58	40	70	29	81
Cotton goods.....	314	1,305	456	381	272	130	368	200	152
Cotton ties.....	175	283	.....	400	.....	150	80	.....	.....
Cotton waste.....	469	1,040	680	439	205	156	150	.....	.....
Crucibles.....	587	1,623	.....	474	100	50	786	.....	.....
Cutlery and edge tools.....	513	931	410	535	258	157	449	240	100
Dentistry, mechanical.....	735	859	431	572	318	164	459	166	.....
Dentists' materials.....	715	1,619	417	618	307	146	628	338	.....
Druggists' preparations, not including prescriptions.....	492	579	316	443	254	150	108	206	.....
Drug grinding.....	599	1,155	.....	535	251	182	.....	300	.....
Dyeing and cleaning.....	489	757	431	542	288	180	499	276	.....
Dyeing and finishing textiles.....	479	1,245	440	494	267	181	445	309	.....
Dye stuffs and extracts.....	500	1,343	511	496	234	98	278	.....	.....
Electrical apparatus and supplies.....	566	1,292	615	558	251	171	575	308	.....
Electric light and power.....	777	1,309	611	717	210	250	.....	.....	.....
Electroplating.....	683	938	612	525	324	203	599	435	.....
Emery wheels.....	625	1,046	412	558	208	260	.....	.....	.....
Enameled goods.....	491	1,145	.....	501	296	150	300	.....	.....
Enameling.....	500	912	.....	520	306	208	.....	.....	.....
Engravers' materials.....	605	994	500	555	280	125	.....	.....	.....
Engraving and diesinking.....	715	1,018	641	609	245	140	724	.....	.....
Engraving, steel, including plate printing.....	735	1,248	710	741	422	175	1,207	385	.....
Engraving, wood.....	744	1,058	363	669	383	131	554	780	.....
Envelopes.....	423	1,462	517	575	292	231	211	261	.....
Fancy articles, not elsewhere specified.....	425	979	489	538	276	100	398	229	158
Felt goods.....	469	1,304	358	481	265	158	591	266	203
Fertilizers.....	469	1,114	438	382	294	142	209	.....	20
Fires.....	542	1,011	436	526	364	173	511	257	.....
Firearms.....	616	1,264	1,049	605	318	187	538	138	.....
Fire extinguishers, chemical.....	706	1,267	600	460	315	.....	.....	.....	.....
Fireworks.....	393	1,262	550	390	252	150	112	126	.....
Fish, canning and preserving.....	240	666	486	284	148	71	236	142	47
Flags and banners.....	392	1,090	750	448	363	156	241	80	.....
Flavoring extracts.....	574	938	450	500	228	143	706	213	.....
Flax, dressed.....	439	1,479	300	528	322	83	.....	.....	.....
Flouring and grist mill products.....	426	555	441	387	230	106	292	210	53
Food preparations.....	438	918	329	431	211	154	373	251	246
Foundry and machine shop products.....	599	1,177	494	561	279	194	581	306	218
Foundry supplies.....	721	1,248	.....	562	.....	.....	.....	.....	.....
Fruit jar trimmings.....	302	1,920	.....	344	89	93	291	176	.....
Fruits and vegetables, canning and preserving.....	103	554	160	141	93	30	109	63	27
Fur goods.....	588	1,203	523	695	349	159	708	340	.....
Furnishing goods, men's.....	342	1,100	425	585	322	163	337	217	127
Furniture, cabinetmaking, repairing and upholstering.....	583	715	396	569	344	155	464	280	156
Furniture, chairs.....	415	951	458	440	206	124	433	114	48
Furniture, factory product.....	539	1,089	407	514	344	164	526	218	185
Furs, dressed.....	658	1,314	.....	577	233	280	644	156	.....
Galvanizing.....	559	1,328	500	476	220	332	625	.....	.....
Gas and lamp fixtures.....	659	1,398	613	500	308	212	614	.....	.....
Gas, illuminating and heating.....	716	1,172	420	666	.....	160	150	.....	125
Gas machines and meters.....	602	1,161	600	659	455	.....	502	125	.....
Gas stoves.....	610	1,196	549	553	250	.....	516	.....	.....
Glass.....	481	1,156	300	438	168	141	757	228	199
Glass, cutting, staining, and ornamenting.....	658	1,167	537	612	336	197	464	243	.....
Gloves and mittens.....	959	934	482	528	296	136	463	206	115
Glucose.....	554	2,066	.....	524	305	.....	600	.....	.....
Glue.....	449	1,063	670	416	243	141	404	100	.....
Gold and silver, leaf and foil.....	534	1,148	622	669	314	155	717	304	.....
Gold and silver, reducing and refining, not from the ore.....	708	1,752	.....	710	416	231	742	225	.....
Graphite.....	497	478	.....	511	320	.....	.....	.....	.....
Grease and tallow.....	604	800	488	549	328	257	44	.....	.....
Grindstones.....	432	651	.....	420	.....	90	.....	.....	.....
Gunpowder.....	580	1,568	650	513	.....	164	681	.....	.....
Hairwork.....	448	880	538	545	326	224	312	273	91
Hammocks.....	213	626	.....	411	200	.....	570	95	.....
Hand knit goods.....	277	823	356	491	167	61	371	142	.....
Hand stamps.....	609	895	689	526	260	157	611	532	.....
Hardware.....	504	1,096	448	500	255	147	509	243	151
Hardware, saddlery.....	487	1,131	404	477	254	141	434	201	180
Hat and cap materials.....	495	1,284	510	471	271	177	601	331	416
Hats and caps, not including wool hats.....	519	1,172	534	564	316	157	597	330	293
Hay and straw, baling.....	193	429	.....	232	22	18	101	.....	25
High explosives.....	667	1,613	670	584	230	214	717	116	90

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY SPECIFIED INDUSTRIES: 1890—Continued.

INDUSTRIES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, INCLUDING SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Hones and whetstones.....	\$394	\$659		\$348	\$245		\$333		
Hooks and eyes.....	611	1,884	\$305	645	301	\$133			
Horsehoes, factory product.....	574	2,157		569		224			
Hosiery and knit goods.....	298	1,080	435	419	257	133	363	\$238	\$120
House furnishing goods, not elsewhere specified.....	485	1,100	726	430	296	195	521	318	200
Ice, artificial.....	441	787	480	415		91	63		
Ink, printing.....	883	1,380	656	725	481		460		
Ink, writing.....	593	1,218	472	500	243	125	538	268	
Instruments, professional and scientific.....	677	1,090	318	613	286	169	791	270	
Iron and steel.....	535	1,501	533	534	283	193			
Iron and steel, bolts, nuts, washers, and rivets.....	473	1,270	474	474	274	170	433	285	204
Iron and steel, doors and shutters.....	724	1,089		608		125	1,800		
Iron and steel, forgings.....	593	1,372	415	559	245	195			185
Iron and steel, nails and spikes, cut and wrought, including wire nails.....	457	1,335	436	447	265	183	618	253	187
Iron and steel, pipe, wrought.....	485	1,213	442	466	469	203	505		200
Ironwork, architectural and ornamental.....	640	1,154	447	601	347	185	580		236
Ivory and bone work.....	511	928	279	526	300	151	420	297	174
Japanning.....	535	1,041		484	313	185	530	357	194
Jewelry.....	652	1,261	435	641	317	170	820	332	21
Jewelry and instrument cases.....	566	1,104	416	615	231	166	643	150	234
Jute and jute goods.....	323	1,278		485	271	130		307	
Kaolin and other earth grinding.....	509	1,045	367	429		126	535		
Kindling wood.....	428	830	903	444	258	131	318	193	190
Labels and tags.....	535	1,028	510	597	246	104	780	185	87
Lamps and reflectors.....	578	1,318	516	537	232	193	433	461	
Lapidary work.....	771	1,093	1,509	605		156	670		
Lard, refined.....	637	1,511	664	599	263	196	225	314	
Lasts.....	730	1,124	275	659		208	805		
Lead, bar, pipe, and sheet.....	708	1,211	628	602			575	363	
Leather board.....	498	986	500	440	300		460		
Leather, dressed skins.....	585	826		560	296	201	660		
Leather goods.....	476	1,104	474	486	265	180	547	173	109
Leather, morocco.....	558	1,097	610	524	313	191	656	485	205
Leather, patent and enameled.....	648	1,626	312	577			678		
Leather, tanned and curried.....	519	1,018	495	478	275	158	598	282	47
Lightning rods.....	630	1,280	564	479		145	415		
Lime and cement.....	390	796	507	378	363	140	445		
Linen goods.....	399	1,452		447	228	182	802	270	179
Liquors, distilled.....	527	985	563	470	130	103	530		100
Liquors, malt.....	816	1,700	795	701	243	180	443	183	153
Liquors, vinous.....	375	781	465	297	308	61	109	160	
Lithographing and engraving.....	675	1,468	449	683	255	180	1,103	559	204
Lock and gun smithing.....	587	644	460	549	690	152	411	364	
Looking-glass and picture frames.....	614	836	335	523	258	175	514	300	150
Lumber and other mill products from logs or bolts.....	307	550	447	292	180	128	283	138	102
Lumber, planing mill products, including sash, doors, and blinds.....	564	980	474	536	271	153	552	329	158
Malt.....	569	1,465	300	479			424		
Mantels, slate, marble, and marbleized.....	681	1,143	507	617	241	324	776		
Marble and stone work.....	780	1,101	398	706	388	201	565	260	117
Masonry, brick and stone.....	652	1,025	483	628	367	379	669		
Matches.....	310	1,322	504	412	181	146	349	172	80
Mats and matting.....	502	690		473	179	179	499	241	
Mattresses and spring beds.....	493	898	448	490	303	155	448	317	344
Millinery and lace goods.....	461	1,463	610	573	353	205	581	369	
Millinery, custom work.....	373	778	493	395	309	116	299	243	127
Millstones.....	638	1,275		532					
Mineral and soda waters.....	545	801	530	487	243	165	285	169	68
Mirrors.....	670	1,383		606	203	151	833		
Models and patterns.....	710	938	449	654	326	144	585	208	
Monuments and tombstones.....	653	823	412	615	300	185	655	60	75
Mucilage and paste.....	404	866	421	432	160	25	320	254	
Musical instruments and materials, not specified.....	624	805	371	588	303	181	655	438	
Musical instruments, organs and materials.....	621	1,173	401	622	429	188	542	347	
Musical instruments, pianos and materials.....	716	1,591	705	657	335	177	762	581	
Needles and pins.....	433	1,147	664	493	307	230	575	246	237
Nets and seines.....	335	875	750	591	256		150	235	
Oakum.....	378	1,144		352	50	213			
Oil, castor.....	694	1,124	435	578					
Oil, cottonseed and cake.....	303	1,054	463	253	175	121	576		
Oil, essential.....	170	373		148			113		
Oil, illuminating, not including petroleum, refining.....	825	1,742	583	600					
Oil, lard.....	685	1,116		563			698		
Oil, linseed.....	620	1,666	740	515	260		746		
Oil, lubricating.....	818	1,236	483	638	277	231	612		
Oil, resin.....	706	1,076		596					
Oilcloth, enameled.....	579	1,142		536	643	150	555		
Oilcloth, floor.....	529	1,507	250	480	335	208	548		104
Oleomargarine.....	750	1,526	541	599	261	350			
Optical goods.....	457	912	417	475	198	155	439	293	196
Ordnance and ordnance stores.....	753	1,125		742	470	182	766		
Oysters, canning and preserving.....	203	1,161	250	316	310	80	134	97	86
Painting and paper hanging.....	670	822	375	644	303	179	552	215	118
Paints.....	642	1,240	435	530	277	162	502	254	169
Paper.....	465	1,384	502	486	248	157	422	261	46
Paper goods, not elsewhere specified.....	465	1,241	522	500	261	153	434	298	156

MANUFACTURING INDUSTRIES.

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY SPECIFIED INDUSTRIES: 1890—Continued.

INDUSTRIES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, INCLUDING SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Paper hangings.....	\$524	\$1,363	\$454	\$532	\$246	\$143	\$268	\$600	\$150
Paper patterns.....	843	1,362	484	773	201	156	390	186	72
Patent medicines and compounds.....	543	990	432	546	255	146	311	255	72
Paving and paving materials.....	460	1,021	456	434	312	126	440	.....	.....
Pencil cases.....	675	1,308	.....	615	294	.....	.....	.....	.....
Pencils, lead.....	400	2,259	475	568	235	151	371	223	200
Pens, fountain and stylographic.....	584	1,236	468	542	230	.....	468	413	.....
Pens, gold.....	718	1,002	371	633	302	104	713	.....	.....
Pens, steel.....	208	1,343	.....	610	364	159	262	207	.....
Perfumery and cosmetics.....	500	1,089	655	519	263	129	283	272	297
Petroleum, refining.....	560	1,066	428	550	311	163	428	.....	217
Photographic apparatus.....	563	1,114	541	569	219	126	623	.....	.....
Photographic materials.....	599	1,053	358	622	317	160	492	280	.....
Photography.....	614	882	496	582	351	100	421	316	120
Photolithographing and engraving.....	781	1,153	466	711	321	166	543	500	.....
Pickles, preserves, and sauces.....	416	919	468	447	197	113	253	168	163
Pipes, tobacco.....	543	1,183	530	516	251	125	531	165	130
Plastering and stuccowork.....	644	809	360	618	349	147	446	38	.....
Plated and britannia ware.....	546	1,471	465	556	283	175	556	303	131
Plumbers' supplies.....	602	1,227	543	544	312	238	575	285	150
Plumbing and gas fitting.....	677	983	402	627	397	192	324	156	.....
Pocketbooks.....	491	1,247	350	508	253	87	566	257	185
Printing and publishing, book and job.....	617	1,075	487	614	333	180	573	506	.....
Printing and publishing, music.....	640	1,026	442	519	309	172	701	532	.....
Printing and publishing, newspapers and periodicals.....	647	950	424	642	318	108	776	410	134
Printing materials.....	561	1,011	501	576	323	194	666	170	.....
Printing, tip.....	543	1,152	500	488	299	137	520	.....	.....
Pulp goods.....	504	1,190	180	471	187	115	466	228	.....
Pulp, wood.....	431	1,024	526	412	212	136	312	.....	.....
Pulp from fiber, other than wood.....	555	1,013	150	421	.....	150	641	.....	.....
Pumps, not including steam pumps.....	535	831	399	472	200	137	526	.....	.....
Refrigerators.....	528	1,139	355	486	216	156	530	303	146
Regalia and society banners and emblems.....	439	1,101	558	518	232	132	610	257	93
Registers, car fare.....	634	1,053	450	604	.....	72	.....	.....	.....
Registers, cash.....	585	846	624	640	185	160	650	.....	.....
Rice, cleaning and polishing.....	430	1,002	.....	352	147	102	197	.....	86
Roofing and roofing materials.....	642	879	480	600	207	175	346	.....	109
Rubber and elastic goods.....	461	1,435	530	511	293	182	509	307	207
Rules, ivory and wood.....	455	827	692	450	214	156	400	239	166
Saddlery and harness.....	529	672	415	493	285	142	506	257	133
Safes and vaults.....	580	876	408	566	720	105	528	.....	.....
Salt.....	400	955	292	388	250	169	325	280	140
Sand and emery paper and cloth.....	619	1,112	.....	530	239	.....	.....	.....	.....
Sausage.....	508	748	439	440	279	126	252	.....	.....
Saws.....	632	1,069	455	617	283	167	634	240	364
Scales and balances.....	538	988	373	508	275	187	666	.....	130
Screws, machine.....	481	1,133	396	482	132	35	423	.....	.....
Screws, wood.....	379	1,109	239	480	188	149	455	232	.....
Sewing machine cases.....	481	1,779	312	517	438	185	452	333	.....
Sewing machine repairing.....	600	639	455	605	317	130	520	.....	.....
Sewing machines and attachments.....	567	1,538	504	566	355	299	530	369	260
Shipbuilding.....	618	1,009	588	605	325	151	524	125	.....
Shirts.....	327	1,037	508	537	289	137	366	245	120
Shoddy.....	373	1,046	458	428	296	208	224	158	64
Show cases.....	584	952	390	554	247	221	591	.....	92
Silk and silk goods.....	387	1,327	486	545	277	153	505	272	178
Silversmithing.....	808	1,662	563	729	450	166	.....	.....	.....
Silverware.....	702	1,530	443	671	307	177	812	.....	.....
Slaughtering and meat packing, wholesale.....	581	1,117	500	556	294	186	517	284	52
Slaughtering, wholesale, not including meat packing.....	710	1,279	494	609	265	212	881	.....	250
Smelting and refining.....	630	1,449	735	580	300	133	.....	.....	200
Soap and candles.....	532	1,067	401	499	246	151	336	328	179
Soda water apparatus.....	783	1,219	471	659	270	216	775	426	.....
Sporting goods.....	401	953	418	401	237	194	481	163	.....
Springs, steel, car and carriage.....	621	1,383	418	584	.....	198	514	.....	115
Stamped ware.....	437	1,108	460	516	222	174	372	248	84
Starch.....	361	1,064	715	362	194	108	554	263	169
Stationery goods, not elsewhere specified.....	474	1,199	487	531	259	142	408	281	118
Steam fittings and heating apparatus.....	645	1,257	465	587	372	209	624	280	.....
Steam packing.....	548	759	433	518	277	205	332	.....	.....
Stencils and brands.....	692	973	374	627	400	164	534	187	.....
Stereotyping and electrotyping.....	725	1,359	514	660	597	205	775	416	.....
Straw goods, not elsewhere specified.....	278	1,704	.....	555	295	221	200	179	.....
Sugar and molasses, refining.....	374	905	310	353	62	43	321	189	.....
Surgical appliances.....	602	919	395	641	303	164	493	325	150
Tar and turpentine.....	192	550	.....	195	58	50	134	75	51
Taxidermy.....	660	360	.....	573	256	172	228	225	.....
Teasels.....	300	347	.....	318	312	312	225	.....	.....
Timber products, not manufactured at mill.....	246	567	.....	235	174	199	258	164	186
Tinsmithing, coppersmithing, and sheet-iron working.....	547	774	443	528	221	161	423	260	221

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ FOR ALL CLASSES AND FOR MALES, FEMALES, AND CHILDREN IN EACH CLASS, BY SPECIFIED INDUSTRIES: 1890—Continued.

INDUSTRIES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, INCLUDING SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Tobacco, chewing, smoking, and snuff.....	\$274	\$1,110	\$375	\$322	\$193	\$83	\$260	\$193	\$63
Tobacco, cigars and cigarettes.....	456	750	438	467	273	129	495	809	132
Tobacco, stemming and rehandling.....	224	626	1,567	230	155	120	147	152	73
Tools, not elsewhere specified.....	584	979	417	549	325	180	577	387	174
Toys and games.....	392	986	372	408	234	162	325	247	104
Trunks and valises.....	518	974	483	502	256	155	440	295	195
Type founding.....	645	1,354	473	683	530	184	633	447	152
Typewriters and supplies.....	621	1,434	411	628	394	127	565	350	.....
Umbrellas and canes.....	467	971	483	518	314	170	398	318	.....
Upholstery materials.....	418	940	442	426	305	148	501	233	154
Varnish.....	945	1,480	570	651	288	169	463	234	234
Vault lights and ventilators.....	783	1,446	.....	669	600	100	.....	.....	.....
Vinegar and cider.....	339	573	274	291	63	43	154	61	.....
Washing machines and clothes wringers.....	476	765	471	458	230	131	382	150	130
Watch and clock materials.....	520	1,162	375	533	209	191	574	200	133
Watch cases.....	547	1,230	408	600	297	158	490	207	241
Watch, clock, and jewelry repairing.....	638	606	391	618	310	157	419	780	.....
Watches.....	553	1,370	450	685	394	270	633	378	.....
Whalebone and raitan.....	680	1,570	.....	665	289	.....	.....	.....	.....
Wheelbarrows.....	480	910	435	435	.....	147	488	.....	.....
Whips.....	601	1,008	328	494	287	184	450	288	.....
Windmills.....	534	700	490	503	501	195	492	.....	.....
Window shades.....	699	1,135	600	529	335	136	683	401	.....
Wire.....	536	1,603	573	595	301	156	673	400	.....
Wirework, including wire rope and cable.....	503	948	595	482	279	178	484	263	110
Wood, preserving.....	442	846	.....	366	.....	.....	.....	.....	.....
Wood, turned and carved.....	591	879	427	475	187	149	447	129	135
Woodenware, not elsewhere specified.....	399	865	501	392	245	141	380	136	75
Wood hats.....	320	1,266	435	397	227	113	545	223	149
Woolen goods.....	359	681	363	404	277	153	423	279	153
Worsted goods.....	364	1,574	406	440	287	166	480	335	160
Zinc.....	604	1,276	.....	588	.....	233	100	.....	.....
All other industries (a).....	356	1,392	433	567	222	130	115	184	.....

a Industries in which less than 3 establishments are reported are grouped, in order to avoid disclosing the operations of individual establishments. These industries are as follows: fuel, artificial; phonographs and graphophones; racking hose; rubber, vulcanized; sugar and molasses, beet; thread, linen; tinfoil.

MANUFACTURING INDUSTRIES.

The average annual earnings for different industries in the same state and for the same industry in different states are shown by the following statement, in which the average annual earnings are given for males, females, and children, exclusive of officers, firm members, and clerks, in 6 selected industries common to the 10 states reporting the largest number of employes, by states:

AVERAGE ANNUAL EARNINGS FOR MALES, FEMALES, AND CHILDREN (EXCLUDING OFFICERS, FIRM MEMBERS, AND CLERKS), FOR 6 INDUSTRIES COMMON TO 10 STATES HAVING THE LARGEST AGGREGATE NUMBER OF EMPLOYÉS, BY STATES: 1890.

STATES.	CARPENTERING.			CARRIAGES AND WAGONS, INCLUDING CUSTOM WORK AND REPAIRING.			CLOTHING, MEN'S, FACTORY PRODUCT.			FOUNDRY AND MACHINE SHOP PRODUCTS.			MASONRY, BRICK AND STONE.			TOBACCO, CIGARS AND CIGARETTES.		
	Males above 16 years.	Fe- males above 15 years.	Chil- dren.	Males above 16 years.	Fe- males above 15 years.	Chil- dren.	Males above 16 years.	Fe- males above 15 years.	Chil- dren.	Males above 16 years.	Fe- males above 15 years.	Chil- dren.	Males above 16 years.	Fe- males above 15 years.	Chil- dren.	Males above 16 years.	Fe- males above 15 years.	Chil- dren.
Connecticut	\$682	\$306	-----	\$570	\$338	\$208	\$497	\$240	-----	\$591	\$290	\$217	\$685	-----	-----	\$560	\$300	\$155
Illinois	644	225	\$131	543	327	127	401	262	\$160	554	245	202	614	-----	\$171	516	284	197
Massachusetts	683	468	150	609	297	300	637	276	208	581	324	185	680	\$223	300	545	327	178
Michigan	518	153	60	446	299	167	461	214	-----	526	259	168	548	-----	-----	490	255	185
Missouri	670	-----	216	498	\$320	189	466	230	91	568	280	180	649	301	686	494	302	133
New Jersey	724	-----	236	574	417	75	521	280	113	565	304	177	769	-----	-----	483	234	140
New York	737	102	157	553	287	171	596	275	129	598	272	220	654	624	487	515	345	150
Ohio	588	-----	202	483	299	193	295	187	236	530	223	199	583	-----	260	410	265	127
Pennsylvania	668	200	256	489	189	140	583	284	187	563	281	188	649	-----	127	377	245	113
Wisconsin	539	-----	21	459	242	187	374	162	-----	502	321	183	470	120	30	455	245	120

MATERIALS.

The cost shown for materials is the cost at the place of consumption of all materials used during the year. With the exception of the schedules on which a few selected industries were reported at the census of 1880, the question concerning materials was as follows: "Value of materials used (including mill supplies and fuel)". At the census of 1890 the schedule contained separate questions as to the kind, quantity, and cost of the "Principal materials", and the cost of "Mill supplies", "Fuel", and "All other materials". The amounts paid for rent of power and heat are also included under this head in 1890. It is probable that some of the items included in the cost of materials at the census of 1880 are included in "Miscellaneous expenses" in the inquiry of 1890. This is especially true of the item of internal revenue taxes reported in industries such as liquors, malt and distilled, and tobacco.

The propriety of including as materials the amounts expended for mill supplies, fuel, and for rent of power and heat in some industries may be questioned, but these articles are so closely allied with other materials in many industries that it is impossible to make a separation, especially in view of the manner in which the information was reported by the manufacturers.

The proportion expended for materials in manufacturing a product of a given value in different states and industries, and the percentage of the cost of materials of the total cost of manufacture, also the relation existing between the cost of materials and the value of products, are shown in the remarks on "Products".

PRODUCTS.

The value given under the head of products is the value at the factory, not including any allowance for commissions or expenses of selling. With the exception of the schedules on which a few selected industries were reported at the census of 1880, the question concerning the value of products was as follows: "Value of products (including jobbing and repairing)". The question used at the Eleventh Census required a separate statement as to the quantity and value of the "Principal products" and the value of "All other products, including amounts received for custom work and repairing".

As previously stated, the value of the product is the value at the factory; therefore these statistics can not be taken as showing the profit or earnings of capital, because many items of expense enter into the mercantile portion of the business which is not within the scope of the census inquiry. The inquiry conducted by this office was intended to ascertain only the relations which capital, wages, cost of materials, and miscellaneous expenses bear to the value at the works of the products of manufacturing industry.

The total value of products for 1890 amounts to \$9,372,437,283; but this amount must not be accepted as the value added to the cost of raw materials by manufacturing processes. The product of one industry frequently becomes the material for another; thus the original value of the material, as purchased by the first manufacturer, is duplicated many times before the material reaches a finished state and is delivered to the consumer. It is

impossible to arrive at the exact extent of this duplication, but the value added to the cost of the materials as they first entered a factory is fairly indicated by deducting from the value of products given above the total cost of materials, reported as amounting to \$5,162,044,076. This will leave \$4,210,393,207 as the value of products, which may be designated the "Net value". This net value of products will appear larger in states where the predominating industries are of a character in which the outlay for labor forms a larger proportion of the cost of manufacture than the outlay for materials. This is indicated by the statement presented on a preceding page, which gives the ranks of the different states and territories in the gross value and the net value of products, number of employés, and total wages. The state of Kansas, for instance, is ranked as number 18 in the gross value of products, 24 in net value, 26 in the number of employés, and 24 in total wages. The high rank of the state in the gross value of products as compared with its rank in the other items is due to the slaughtering and meat packing industry. In this industry the cost of materials forms a large per cent of the value of product. The product reported for slaughtering and meat packing forms 40.55 per cent of the total products for the state. Excluding this industry, Kansas would rank 25 in gross and 26 in net value of products. The difference in the rank of Nebraska in the gross value and its rank in the net value of products is due to the smelting and refining industry, in which the cost of materials also forms a large percentage of the product. Excluding this industry, the state would rank 22 in gross and 25 in net value of products.

The three tables following show, respectively—

1. The general relation between the cost of materials and the value of products in different industries of the same state, which gives the rank of the 6 leading industries, first according to the gross value and then according to the net value of product in each state and territory.

2. The relative size of the establishments in the total for the United States and in the different states and territories, which gives for each state and territory the average capital, number of employés, gross value and net value of product per establishment; also the average gross value and net value of product and average annual earnings per employé. All classes of establishments are included in the totals on which the averages shown in this statement are based. In many establishments no employés other than officers or firm members are reported, and no labor except that of this class of employés enters into the value of the product. Therefore in many establishments, possibly in all, the officers, firm members, and clerks should be considered in computing the average gross value and the average net value of product per employé. To meet any objection to this method the averages are presented: first, including officers, firm members, and clerks in the total employés used as a divisor; second, excluding these classes. In computing the average annual earnings per employé, the officers, firm members, and clerks have been excluded. In considering these average annual earnings, reference should be made to the remarks under "Employés and wages" concerning averages of this character.

3. The size of the average establishment in the different industries, which gives for each of the different classes of industry in which 3 or more establishments were reported averages of the same character as presented in the preceding statement for the different states. From this statement it appears there were 161 industries in which the average gross value of annual product per establishment exceeded \$50,000. There were 45,708 establishments reported as engaged in these industries, and their aggregate gross value of products amounted to \$5,485,230,802; the establishments being 12.86 per cent in number and the products 84.06 per cent in value of the totals for the United States.

STATES AND TERRITORIES ARRANGED ACCORDING TO GROSS VALUE OF PRODUCTS AND 6 PRINCIPAL STATE AND

STATES AND TERRITORIES.		SIX PRINCIPAL INDUSTRIES ACCORDING TO GROSS VALUE OF PRODUCT.			
1	New York	Clothing, men's, factory product	Foundry and machine shop products	Liquors, malt	
2	Pennsylvania	Iron and steel	Foundry and machine shop products	Sugar and molasses, refining	
3	Illinois	Slaughtering and meat packing, wholesale	Liquors, distilled	Foundry and machine shop products	
4	Massachusetts	Boots and shoes, factory product	Cotton goods	Foundry and machine shop products	
5	Ohio	Iron and steel	Foundry and machine shop products	Flouring and grist mill products	
6	New Jersey	Silk and silk goods	Foundry and machine shop products	Petroleum, refining	
7	Missouri	Flouring and grist mill products	Carpentering	Liquors, malt	
8	Michigan	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Foundry and machine shop products	
9	Wisconsin	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Liquors, malt	
10	Connecticut	Cotton goods	Foundry and machine shop products	Hardware	
11	Indiana	Flouring and grist mill products	Slaughtering, wholesale, not including meat packing	Lumber and other mill products from logs or bolts	
12	California	Sugar and molasses, refining	Flouring and grist mill products	Lumber and other mill products from logs or bolts	
13	Minnesota	Flouring and grist mill products	Lumber and other mill products from logs or bolts	Masonry, brick and stone	
14	Maryland	Clothing, men's, factory product	Masonry, brick and stone	Fruits and vegetables, canning and preserving	
15	Rhode Island	Cotton goods	Worsted goods	Foundry and machine shop products	
16	Kentucky	Liquors, distilled	Flouring and grist mill products	Lumber and other mill products from logs or bolts	
17	Iowa	Slaughtering and meat packing, wholesale	Flouring and grist mill products	Lumber and other mill products from logs or bolts	
18	Kansas	Slaughtering and meat packing, wholesale	Flouring and grist mill products	Gold and silver, reducing and refining, not from the ore	
19	Maine	Cotton goods	Lumber and other mill products from logs or bolts	Boots and shoes, factory product	
20	Nebraska	Slaughtering and meat packing, wholesale	Smelting and refining	Flouring and grist mill products	
21	Virginia	Tobacco, chewing, smoking, and snuff	Flouring and grist mill products	Tobacco, stemming and rehandling	
22	New Hampshire	Cotton goods	Boots and shoes, factory product	Woolen goods	
23	Tennessee	Flouring and grist mill products	Lumber and other mill products from logs or bolts	Foundry and machine shop products	
24	Texas	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Carpentering	
25	Georgia	Cotton goods	Lumber and other mill products from logs or bolts	Flouring and grist mill products	
26	Louisiana	Sugar and molasses, refining	Lumber and other mill products from logs or bolts	Rice, cleaning and polishing	
27	Alabama	Iron and steel	Lumber and other mill products from logs or bolts	Flouring and grist mill products	
28	Colorado	Lumber, planing mill products, including sash, doors, and blinds	Flouring and grist mill products	Printing and publishing, newspapers and periodicals	
29	Washington	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Timber products, not manufactured at mill	
30	Oregon	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Carpentering	
31	North Carolina	Cotton goods	Lumber and other mill products from logs or bolts	Flouring and grist mill products	
32	District of Columbia	Carpentering	Printing and publishing, book and job	Ordnance and ordnance stores	
33	West Virginia	Iron and steel	Lumber and other mill products from logs or bolts	Flouring and grist mill products	
34	Vermont	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Woolen goods	
35	Delaware	Leather, morocco	Cars, steam railroad, not including operations of railroad companies	Foundry and machine shop products	
36	South Carolina	Cotton goods	Fertilizers	Flouring and grist mill products	
37	Arkansas	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Oil, cottonseed and cake	
38	Mississippi	Lumber and other mill products from logs or bolts	Oil, cottonseed and cake	Cotton goods	
39	Florida	Tobacco, cigars and cigarettes	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	
40	Utah	Flouring and grist mill products	Lumber, planing mill products, including sash, doors, and blinds	Printing and publishing, newspapers and periodicals	
41	South Dakota	Flouring and grist mill products	Printing and publishing, newspapers and periodicals	Lumber and other mill products from logs or bolts	
42	Montana	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	Lumber, planing mill products, including sash, doors, and blinds	
43	North Dakota	Flouring and grist mill products	Printing and publishing, newspapers and periodicals	Carpentering	
44	Wyoming	Cars and general shop construction and repairs by steam railroad companies	Iron and steel	Carpentering	
45	New Mexico	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Flouring and grist mill products	
46	Idaho	Lumber and other mill products from logs or bolts	Flouring and grist mill products	Timber products, not manufactured at mill	
47	Nevada	Cars and general shop construction and repairs by steam railroad companies	Chemicals	Printing and publishing, newspapers and periodicals	
48	Arizona	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Printing and publishing, newspapers and periodicals	
49	Indian territory	Flouring and grist mill products	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	
50	Oklahoma	Printing and publishing, newspapers and periodicals	Blacksmithing and wheelwrighting	Lumber and other mill products from logs or bolts	
51	Alaska	Lumber and other mill products from logs or bolts			

INDUSTRIES ACCORDING TO GROSS VALUE AND ACCORDING TO NET VALUE OF PRODUCT IN EACH TERRITORY: 1890.

SIX PRINCIPAL INDUSTRIES ACCORDING TO GROSS VALUE OF PRODUCT—continued.

Flouring and grist mill products.....	Tobacco, cigars and cigarettes.....	Clothing, women's, factory product.....	1
Flouring and grist mill products.....	Leather, tanned and curried.....	Iron and steel, pipe, wrought.....	2
Flouring and grist mill products.....	Iron and steel.....	Clothing, men's, factory product.....	3
Woolen goods.....	Carpentering.....	Worsted goods.....	4
Carpentering.....	Clothing, men's, factory product.....	Carriages and wagons, including custom work and repairing.....	5
Carpentering.....	Slaughtering, wholesale, not including meat packing.....	Liquors, malt.....	6
Tobacco, chewing, smoking, and snuff.....	Slaughtering and meat packing, wholesale.....	Foundry and machine shop products.....	7
Cars, steam railroad, not including operations of railroad companies.....	Lumber, planing mill products, including sash, doors, and blinds.....	Furniture, factory product.....	8
Leather, tanned and curried.....	Timber products, not manufactured at mill.....	Foundry and machine shop products.....	9
Brassware.....	Silk and silk goods.....	Carpentering.....	10
Foundry and machine shop products.....	Carriages and wagons, including custom work and repairing.....	Cars and general shop construction and repairs by steam railroad companies.....	11
Foundry and machine shop products.....	Slaughtering, wholesale, not including meat packing.....	Printing and publishing, newspapers and periodicals.....	12
Carpentering.....	Lumber, planing mill products, including sash, doors, and blinds.....	Printing and publishing, newspapers and periodicals.....	13
Flouring and grist mill products.....	Fertilizers.....	Tinsmithing, coppersmithing, and sheet-iron working.....	14
Woolen goods.....	Jewelry.....	Dyeing and finishing textiles.....	15
Tobacco, chewing, smoking, and snuff.....	Carpentering.....	Foundry and machine shop products.....	16
Cheese, butter, and condensed milk, factory product.....	Carpentering.....	Cars and general shop construction and repairs by steam railroad companies.....	17
Cars and general shop construction and repairs by steam railroad companies.....	Foundry and machine shop products.....	Printing and publishing, newspapers and periodicals.....	18
Woolen goods.....	Leather, tanned and curried.....	Flouring and grist mill products.....	19
Slaughtering, wholesale, not including meat packing.....	Liquors, distilled.....	Printing and publishing, newspapers and periodicals.....	20
Lumber and other mill products from logs or bolts.....	Iron and steel.....	Tobacco, cigars and cigarettes.....	21
Lumber and other mill products from logs or bolts.....	Hosiery and knit goods.....	Leather, tanned and curried.....	22
Iron and steel.....	Lumber, planing mill products, including sash, doors, and blinds.....	Cotton goods.....	23
Masonry, brick and stone.....	Oil, cottonseed and cake.....	Cars and general shop construction and repairs by steam railroad companies.....	24
Fertilizers.....	Tar and turpentine.....	Lumber, planing mill products, including sash, doors, and blinds.....	25
Bread and other bakery products.....	Clothing, men's, factory product.....	Foundry and machine shop products.....	26
Coke.....	Foundry and machine shop products.....	Cotton goods.....	27
Slaughtering and meat packing, wholesale.....	Brick and tile.....	Cars and general shop construction and repairs by steam railroad companies.....	28
Lumber, planing mill products, including sash, doors, and blinds.....	Masonry, brick and stone.....	Carpentering.....	29
Masonry, brick and stone.....	Cars and general shop construction and repairs by steam railroad companies.....	Fish, canning and preserving.....	30
Tobacco, chewing, smoking, and snuff.....	Tobacco, cigars and cigarettes.....	Tar and turpentine.....	31
Painting and paper hanging.....	Flouring and grist mill products.....	Bread and other bakery products.....	32
Iron and steel, nails and spikes, cut and wrought, including wire nails.....	Cars, steam railroad, not including operations of railroad companies.....	Petroleum, refining.....	33
Paper.....	Lumber, planing mill products, including sash, doors, and blinds.....	Marble and stone work.....	34
Iron and steel.....	Iron and steel, pipe, wrought.....	Shipbuilding.....	35
Lumber and other mill products from logs or bolts.....	Tar and turpentine.....	Carpentering.....	36
Lumber, planing mill products, including sash, doors, and blinds.....	Cars and general shop construction and repairs by steam railroad companies.....	Printing and publishing, newspapers and periodicals.....	37
Cars and general shop construction and repairs by steam railroad companies.....	Flouring and grist mill products.....	Woolen goods.....	38
Cars and general shop construction and repairs by steam railroad companies.....	Lumber, planing mill products, including sash, doors, and blinds.....	Cars, steam railroad, not including operations of railroad companies.....	39
Slaughtering, wholesale, not including meat packing.....	Brick and tile.....	Plumbing and gas fitting.....	40
Bread and other bakery products.....	Oil, linseed.....	Brick and tile.....	41
Cars and general shop construction and repairs by steam railroad companies.....	Flouring and grist mill products.....	Clothing, men's, custom work and repairing.....	42
Cars and general shop construction and repairs by steam railroad companies.....	Blacksmithing and wheelwrighting.....	Tobacco, cigars and cigarettes.....	43
Printing and publishing, newspapers and periodicals.....	Masonry, brick and stone.....	Flouring and grist mill products.....	44
Printing and publishing, newspapers and periodicals.....	Foundry and machine shop products.....	Liquors, malt.....	45
Printing and publishing, newspapers and periodicals.....	Blacksmithing and wheelwrighting.....	Tinsmithing, coppersmithing, and sheet-iron working.....	46
Gas, illuminating and heating.....	Oil, lubricating.....	Blacksmithing and wheelwrighting.....	47
Lumber, planing mill products, including sash, doors, and blinds.....	Flouring and grist mill products.....	Blacksmithing and wheelwrighting.....	48
Printing and publishing, newspapers and periodicals.....	Lumber, planing mill products, including sash, doors, and blinds.....	Coke.....	49
Saddlery and harness.....	Brick and tile.....	Tinsmithing, coppersmithing, and sheet-iron working.....	50
.....	.....	.....	51

MANUFACTURING INDUSTRIES.

STATES AND TERRITORIES ARRANGED ACCORDING TO GROSS VALUE OF PRODUCTS AND 6 PRINCIPAL STATE AND

STATES AND TERRITORIES.		SIX PRINCIPAL INDUSTRIES ACCORDING TO NET VALUE OF PRODUCT.			
1	New York	Clothing, men's, factory product	Foundry and machine shop products	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
2	Pennsylvania	Iron and steel	Foundry and machine shop products	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
4	Illinois	Liquors, distilled	Slaughtering and meat packing, wholesale	Foundry and machine shop products	Foundry and machine shop products
4	Massachusetts	Boots and shoes, factory product	Cotton goods	Foundry and machine shop products	Foundry and machine shop products
5	Ohio	Foundry and machine shop products	Iron and steel	Clothing, men's, factory product	Clothing, men's, factory product
6	New Jersey	Silk and silk goods	Foundry and machine shop products	Carpentering	Carpentering
7	Missouri	Liquors, malt	Carpentering	Foundry and machine shop products	Foundry and machine shop products
8	Michigan	Lumber and other mill products from logs or bolts	Foundry and machine shop products	Furniture, factory product	Furniture, factory product
9	Wisconsin	Lumber and other mill products from logs or bolts	Liquors, malt	Timber products, not manufactured at mill	Timber products, not manufactured at mill
10	Connecticut	Foundry and machine shop products	Hardware	Cotton goods	Cotton goods
11	Indiana	Lumber and other mill products from logs or bolts	Foundry and machine shop products	Liquors, distilled	Liquors, distilled
12	California	Printing and publishing, newspapers and periodicals	Foundry and machine shop products	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
13	Minnesota	Flouring and grist mill products	Lumber and other mill products from logs or bolts	Carpentering	Carpentering
14	Maryland	Clothing, men's, factory product	Masonry, brick and stone	Liquors, malt	Liquors, malt
15	Rhode Island	Cotton goods	Worsted goods	Foundry and machine shop products	Foundry and machine shop products
16	Kentucky	Liquors, distilled	Tobacco, chewing, smoking, and snuff	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
17	Iowa	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	Carpentering	Carpentering
18	Kansas	Slaughtering and meat packing, wholesale	Flouring and grist mill products	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
19	Maine	Cotton goods	Lumber and other mill products from logs or bolts	Boots and shoes, factory product	Boots and shoes, factory product
20	Nebraska	Liquors, distilled	Slaughtering and meat packing, wholesale	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
21	Virginia	Tobacco, chewing, smoking, and snuff	Lumber and other mill products from logs or bolts	Tobacco, cigars and cigarettes	Tobacco, cigars and cigarettes
22	New Hampshire	Cotton goods	Boots and shoes, factory product	Woolen goods	Woolen goods
23	Tennessee	Lumber and other mill products from logs or bolts	Foundry and machine shop products	Flouring and grist mill products	Flouring and grist mill products
24	Texas	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	Carpentering	Carpentering
25	Georgia	Cotton goods	Tar and turpentine	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
26	Louisiana	Lumber and other mill products from logs or bolts	Sugar and molasses, refining	Liquors, malt	Liquors, malt
27	Alabama	Iron and steel	Lumber and other mill products from logs or bolts	Foundry and machine shop products	Foundry and machine shop products
28	Colorado	Printing and publishing, newspapers and periodicals	Lumber, planing mill products, including sash, doors, and blinds	Brick and tile	Brick and tile
29	Washington	Lumber and other mill products from logs or bolts	Timber products, not manufactured at mill	Brick and tile	Brick and tile
30	Oregon	Lumber and other mill products from logs or bolts	Carpentering	Masonry, brick and stone	Masonry, brick and stone
31	North Carolina	Cotton goods	Tobacco, chewing, smoking, and snuff	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
32	District of Columbia	Printing and publishing, book and job	Carpentering	Ordnance and ordnance stores	Ordnance and ordnance stores
33	West Virginia	Lumber and other mill products from logs or bolts	Iron and steel	Iron and steel, nails and spikes, cut and wrought, including wire nails	Iron and steel, nails and spikes, cut and wrought, including wire nails
34	Vermont	Lumber and other mill products from logs or bolts	Woolen goods	Monuments and tombstones	Monuments and tombstones
35	Delaware	Cars, steam railroad, not including operations of railroad companies	Foundry and machine shop products	Leather, morocco	Leather, morocco
36	South Carolina	Cotton goods	Fertilizers	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
37	Arkansas	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Oil, cottonseed and cake	Oil, cottonseed and cake
38	Mississippi	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Oil, cottonseed and cake	Oil, cottonseed and cake
39	Florida	Tobacco, cigars and cigarettes	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
40	Utah	Printing and publishing, newspapers and periodicals	Lumber, planing mill products, including sash, doors, and blinds	Brick and tile	Brick and tile
41	South Dakota	Printing and publishing, newspapers and periodicals	Flouring and grist mill products	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
42	Montana	Lumber and other mill products from logs or bolts	Printing and publishing, newspapers and periodicals	Cars and general shop construction and repairs by steam railroad companies	Cars and general shop construction and repairs by steam railroad companies
43	North Dakota	Flouring and grist mill products	Printing and publishing, newspapers and periodicals	Carpentering	Carpentering
44	Wyoming	Cars and general shop construction and repairs by steam railroad companies	Printing and publishing, newspapers and periodicals	Iron and steel	Iron and steel
45	New Mexico	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
46	Idaho	Lumber and other mill products from logs or bolts	Timber products, not manufactured at mill	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
47	Nevada	Cars and general shop construction and repairs by steam railroad companies	Chemicals	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
48	Arizona	Printing and publishing, newspapers and periodicals	Lumber and other mill products from logs or bolts	Cars and general shop construction and repairs by steam railroad companies	Cars and general shop construction and repairs by steam railroad companies
49	Indian territory	Flouring and grist mill products	Cars and general shop construction and repairs by steam railroad companies	Printing and publishing, newspapers and periodicals	Printing and publishing, newspapers and periodicals
50	Oklahoma	Printing and publishing, newspapers and periodicals	Blacksmithing and wheelwrighting	Lumber and other mill products from logs or bolts	Lumber and other mill products from logs or bolts
51	Alaska	Lumber and other mill products from logs or bolts			

INDUSTRIES ACCORDING TO GROSS VALUE AND ACCORDING TO NET VALUE OF PRODUCT IN EACH TERRITORY: 1890—Continued.

SIX PRINCIPAL INDUSTRIES ACCORDING TO NET VALUE OF PRODUCT—continued.			
Liquors, malt	Tobacco, cigars and cigarettes	Carpentering	1
Masonry, brick and stone	Carpentering	Cars and general shop construction and repairs by steam railroad companies.	2
Clothing, men's, factory product	Agricultural implements	Printing and publishing, newspapers and periodicals.	3
Carpentering	Woolen goods	Masonry, brick and stone	4
Carpentering	Liquors, malt	Liquors, distilled	5
Liquors, malt	Hats and caps, not including wool hats	Petroleum, refining	6
Tobacco, chewing, smoking, and snuff	Masonry, brick and stone	Printing and publishing, newspapers and periodicals.	7
Timber products, not manufactured at mill	Lumber, planing mill products, including sash, doors, and blinds.	Printing and publishing, newspapers and periodicals.	8
Foundry and machine shop products	Flouring and grist mill products	Agricultural implements	9
Brassware	Carpentering	Hats and caps, not including wool hats	10
Flouring and grist mill products	Carrriages and wagons, including custom work and repairing.	Furniture, factory product	11
Clothing, men's, custom work and repairing	Carpentering	Lumber, planing mill products, including sash, doors, and blinds.	12
Masonry, brick and stone	Printing and publishing, newspapers and periodicals.	Liquors, distilled	13
Foundry and machine shop products	Fruits and vegetables, canning and preserving	Tinsmithing, coppersmithing, and sheet-iron working.	14
Jewelry	Woolen goods	Dyeing and finishing textiles	15
Carpentering	Foundry and machine shop products	Printing and publishing, newspapers and periodicals.	16
Slaughtering and meat packing, wholesale	Cars and general shop construction and repairs by steam railroad companies.	Cheese, butter, and condensed milk, factory product.	17
Cars and general shop construction and repairs by steam railroad companies.	Foundry and machine shop products	Masonry, brick and stone	18
Woolen goods	Foundry and machine shop products	Shipbuilding	19
Brick and tile	Flouring and grist mill products	Cars and general shop construction and repairs by steam railroad companies.	20
Flouring and grist mill products	Carpentering	Foundry and machine shop products	21
Lumber and other mill products from logs or bolts.	Hosiery and knit goods	Foundry and machine shop products	22
Lumber, planing mill products, including sash, doors, and blinds.	Printing and publishing, newspapers and periodicals.	Iron and steel	23
Masonry, brick and stone	Cars and general shop construction and repairs by steam railroad companies.	Flouring and grist mill products	24
Fertilizers	Lumber, planing mill products, including sash, doors, and blinds.	Printing and publishing, newspapers and periodicals.	25
Printing and publishing, newspapers and periodicals.	Foundry and machine shop products	Tobacco, cigars and cigarettes	26
Cars and general shop construction and repairs by steam railroad companies.	Cars, steam railroad, not including operations of railroad companies.	Cotton goods	27
Foundry and machine shop products	Cars and general shop construction and repairs by steam railroad companies.	Liquors, malt	28
Printing and publishing, newspapers and periodicals.	Lumber, planing mill products, including sash, doors, and blinds.	Foundry and machine shop products	29
Cars and general shop construction and repairs by steam railroad companies.	Printing and publishing, newspapers and periodicals.	Flouring and grist mill products	30
Tobacco, cigars and cigarettes	Flouring and grist mill products	Tar and turpentine	31
Painting and paper hanging	Printing and publishing, newspapers and periodicals.	Engraving, steel, including plate printing	32
Tobacco, chewing, smoking, and snuff	Cars, steam railroad, not including operations of railroad companies.	Flouring and grist mill products	33
Paper	Marble and stone work	Foundry and machine shop products	34
Shipbuilding	Iron and steel	Tobacco, chewing, smoking, and snuff	35
Tar and turpentine	Carpentering	Printing and publishing, newspapers and periodicals.	36
Printing and publishing, newspapers and periodicals.	Lumber, planing mill products, including sash, doors, and blinds.	Flouring and grist mill products	37
Cotton goods	Woolen goods	Carpentering	38
Cars and general shop construction and repairs by steam railroad companies.	Lumber, planing mill products, including sash, doors, and blinds.	Tar and turpentine	39
Flouring and grist mill products	Plumbing and gas fitting	Woolen goods	40
Brick and tile	Blacksmithing and wheelwrighting	Bread and other bakery products	41
Lumber, planing mill products, including sash, doors, and blinds.	Brick and tile	Clothing, men's, custom work and repairing	42
Cars and general shop construction and repairs by steam railroad companies.	Blacksmithing and wheelwrighting	Tobacco, cigars and cigarettes	43
Carpentering	Masonry, brick and stone	Lumber and other mill products from logs or bolts	44
Flouring and grist mill products	Gas, illuminating and heating	Foundry and machine shop products	45
Flouring and grist mill products	Blacksmithing and wheelwrighting	Tinsmithing, coppersmithing, and sheet-iron working.	46
Gas, illuminating and heating	Liquors, malt	Blacksmithing and wheelwrighting	47
Lumber, planing mill products, including sash, doors, and blinds.	Blacksmithing and wheelwrighting	Flouring and grist mill products	48
Lumber and other mill products from logs or bolts	Coke	Lumber, planing mill products, including sash, doors, and blinds.	49
Brick and tile	Saddlery and harness	Tinsmithing, coppersmithing, and sheet-iron working.	50
			51

MANUFACTURING INDUSTRIES.

AVERAGE CAPITAL, NUMBER OF EMPLOYÉS, AND GROSS AND NET VALUE OF PRODUCT PER ESTABLISHMENT;
STATES AND

	STATES AND TERRITORIES.	Number of establishments reporting.	CAPITAL.		AVERAGE NUMBER OF EMPLOYÉS.		
			Total.	Per establishment.	For all establishments.	Per establishment.	
						Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.
1	The United States.....	355,415	\$6,525,156,486	\$18,359	4,712,622	13	12
2	Alabama.....	2,977	46,122,571	15,493	33,821	11	10
3	Alaska.....	10	105,727	10,573	80	9	8
4	Arizona.....	76	616,629	8,114	528	7	6
5	Arkansas.....	2,073	14,971,614	7,222	15,972	8	7
6	California.....	7,923	146,797,102	18,528	83,642	11	9
7	Colorado.....	1,518	26,651,840	17,557	17,067	11	10
8	Connecticut.....	6,822	227,004,496	33,275	149,939	22	21
9	Delaware.....	1,663	33,635,400	33,595	21,906	22	20
10	District of Columbia.....	2,285	28,865,089	12,577	23,404	10	9
11	Florida.....	805	11,110,304	13,802	13,927	17	16
12	Georgia.....	4,285	56,921,580	13,284	56,383	13	12
13	Idaho.....	140	1,048,916	7,492	774	6	5
14	Illinois.....	20,482	502,004,512	24,510	312,198	15	14
15	Indiana.....	12,354	131,605,366	10,653	124,949	10	9
16	Indian territory.....	20	204,329	10,216	175	9	8
17	Iowa.....	7,440	77,513,097	10,418	59,174	8	7
18	Kansas.....	4,471	43,926,002	9,825	32,843	7	6
19	Kentucky.....	7,745	79,811,980	10,305	65,670	8	7
20	Louisiana.....	2,613	34,754,121	13,360	31,001	12	11
21	Maine.....	5,010	80,419,809	16,052	75,780	15	14
22	Maryland.....	7,485	119,667,316	15,988	107,054	14	13
23	Massachusetts.....	26,923	630,082,341	23,401	485,182	18	17
24	Michigan.....	12,127	202,412,240	21,639	163,441	14	12
25	Minnesota.....	7,505	127,686,618	17,014	79,629	11	9
26	Mississippi.....	1,698	14,896,884	8,773	15,817	9	9
27	Missouri.....	14,052	189,558,546	13,400	143,139	10	9
28	Montana.....	289	4,293,794	14,857	296	9	8
29	Nebraska.....	3,014	37,569,508	12,465	23,876	8	7
30	Nevada.....	95	1,211,269	12,750	620	7	6
31	New Hampshire.....	3,229	79,375,160	24,582	63,361	20	19
32	New Jersey.....	9,225	250,805,745	27,188	187,398	20	19
33	New Mexico.....	127	965,938	7,606	944	7	7
34	New York.....	65,840	1,130,161,195	17,165	850,084	13	11
35	North Carolina.....	3,667	32,745,995	8,690	36,214	10	9
36	North Dakota.....	382	2,894,553	7,577	1,847	5	4
37	Ohio.....	28,673	402,793,019	14,048	331,548	12	10
38	Oklahoma.....	72	95,519	1,327	195	8	2
39	Oregon.....	1,523	32,122,051	21,091	18,798	12	11
40	Pennsylvania.....	39,339	991,243,115	25,197	629,562	16	14
41	Rhode Island.....	3,377	126,483,401	37,454	85,976	25	24
42	South Carolina.....	2,382	29,276,261	12,291	24,662	10	10
43	South Dakota.....	499	3,207,796	6,428	2,422	5	4
44	Tennessee.....	4,559	51,475,092	11,291	42,759	9	8
45	Texas.....	5,268	46,815,181	8,887	39,475	7	7
46	Utah.....	531	6,583,022	12,397	4,980	9	8
47	Vermont.....	3,031	32,763,291	10,809	24,894	8	7
48	Virginia.....	5,915	63,456,799	19,728	59,591	10	9
49	Washington.....	1,543	34,369,735	22,275	20,366	13	12
50	West Virginia.....	2,376	28,118,030	11,834	21,969	9	8
51	Wisconsin.....	10,417	246,515,404	23,665	182,031	13	12
52	Wyoming.....	190	1,411,184	7,427	1,144	6	5

a In obtaining "Net product", miscellaneous expenses are not considered; for this and other reasons given in the text, the difference between the average value of product per employé and average annual earnings can not be considered as profit.

INTRODUCTION.

ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT AND AVERAGE ANNUAL EARNINGS PER EMPLOYÉ, BY TERRITORIES: 1890.

GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT. (a)				Average annual earnings per employé, excluding officers, firm members, and clerks. (a)	
Total.	Per establishment.	Per employé.		Total.	Per establishment.	Per employé. (a)			
		Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.		
\$0,372,437,283	\$26,870	\$1,989	\$2,204	\$4,210,393,207	\$11,846	\$893	\$900	\$445	1
61,296,005	17,207	1,515	1,045	22,704,324	7,057	674	732	347	2
58,440	5,844	680	740	28,242	2,824	328	362	230	3
947,547	12,468	1,795	2,069	593,733	7,812	1,124	1,206	660	4
22,650,179	10,931	1,419	1,602	10,261,618	4,950	642	726	320	5
213,403,996	20,935	2,551	2,936	93,160,313	11,758	1,114	1,282	596	6
42,480,205	27,984	3,489	2,829	21,631,680	14,250	1,207	1,441	657	7
248,356,354	36,402	1,656	1,767	125,153,284	18,340	835	891	473	8
37,571,848	37,459	1,715	1,835	10,410,056	10,361	749	801	421	9
39,331,437	17,138	1,681	1,927	22,130,771	9,616	916	1,085	601	10
18,222,890	22,637	1,308	1,389	10,201,036	12,072	732	778	451	11
68,917,020	16,083	1,222	1,318	33,142,540	7,735	588	634	280	12
1,396,096	9,972	1,804	2,093	757,423	5,410	979	1,136	884	13
908,640,280	44,363	2,910	3,243	379,621,191	18,534	1,216	1,355	510	14
226,825,082	18,960	1,824	2,051	96,705,976	7,828	778	874	385	15
248,932	12,447	1,422	1,491	121,068	6,053	692	725	438	16
125,040,183	16,808	2,113	2,450	45,756,776	6,150	773	807	400	17
110,219,805	24,652	3,356	3,903	31,374,638	7,017	955	1,111	471	18
126,719,857	16,362	1,932	2,241	63,042,274	8,140	961	1,116	377	19
57,806,713	22,123	1,812	2,037	24,523,989	9,385	700	864	357	20
95,689,500	19,100	1,263	1,360	44,168,011	8,816	583	628	326	21
171,842,593	22,950	1,605	1,757	19,783,203	10,659	745	816	352	22
888,160,403	32,989	1,331	1,936	414,960,969	15,413	855	928	460	23
277,896,766	22,916	1,095	1,869	123,374,788	10,174	753	830	370	24
192,033,478	25,587	2,412	2,752	73,551,537	9,800	924	1,054	435	25
18,705,834	11,016	1,183	1,293	8,640,937	5,089	546	597	290	26
324,501,993	23,097	2,267	2,613	146,970,611	10,400	1,027	1,183	480	27
5,507,573	10,057	2,043	2,308	3,132,430	10,830	1,162	1,313	693	28
93,037,794	30,869	3,897	4,550	25,703,292	8,528	1,077	1,257	502	29
1,165,063	11,632	1,782	1,980	666,005	7,011	1,074	1,194	675	30
85,770,549	26,563	1,354	1,427	38,016,397	11,773	600	682	365	31
354,573,571	38,436	1,892	2,040	165,207,331	17,000	882	951	477	32
1,516,195	11,939	1,606	1,786	824,775	6,494	874	971	554	33
1,711,577,671	25,996	2,013	2,276	840,313,580	12,763	989	1,117	492	34
49,375,450	11,010	1,115	1,201	17,586,293	4,796	486	523	195	35
5,028,197	19,163	2,722	3,354	1,940,940	5,081	1,051	1,205	566	36
641,688,064	22,386	1,935	2,100	300,671,600	10,485	907	1,026	438	37
180,445	2,566	925	1,228	123,927	1,721	636	843	356	38
41,432,174	27,204	2,204	2,475	19,638,599	12,895	1,045	1,172	570	39
1,331,794,901	33,854	2,146	2,335	558,000,204	14,186	899	978	492	40
142,509,625	42,197	1,657	1,757	69,247,602	19,617	771	817	410	41
31,926,681	13,403	1,295	1,403	13,053,015	5,480	529	574	241	42
5,682,748	11,388	2,340	2,820	2,158,908	4,326	801	1,074	414	43
72,355,286	15,871	1,692	1,930	31,891,504	6,995	746	851	362	44
70,433,551	13,370	1,784	2,024	34,281,243	6,507	668	985	435	45
8,911,047	16,782	1,789	2,049	4,650,017	8,774	936	1,071	504	46
38,340,006	12,649	1,540	1,733	17,906,892	5,908	719	810	381	47
38,363,824	14,039	1,483	1,650	38,215,539	6,461	641	713	295	48
41,768,022	27,069	2,051	2,236	21,850,965	14,161	1,073	1,170	500	49
38,702,125	16,289	1,762	2,001	14,973,036	6,302	682	774	357	50
248,546,164	23,860	1,882	2,071	103,109,148	9,898	781	859	358	51
2,397,001	12,461	2,070	2,317	1,283,169	6,754	1,122	1,256	770	52

MANUFACTURING INDUSTRIES.

AVERAGE CAPITAL, NUMBER OF EMPLOYÉS, AND GROSS AND NET VALUE OF PRODUCT PER ESTABLISHMENT;
SPECIFIED

INDUSTRIES.	Number of establishments reporting.	CAPITAL.	
		Value.	Average per establishment.
1 All industries	355,415	\$0,525,150,486	\$18,359
2 Agricultural implements.....	910	145,313,997	159,686
3 Ammunition.....	45	4,368,529	124,815
4 Artificial leathers and flowers.....	251	3,081,828	12,278
5 Artificial limbs.....	59	186,896	3,168
6 Artists' materials.....	39	361,400	9,268
7 Awnings, tents, and sails.....	581	3,063,009	5,272
8 Axle grease.....	31	451,228	14,553
9 Babbitt metal and solder.....	36	951,654	26,518
10 Bagging, flax, hemp, and jute.....	16	3,332,102	208,256
11 Bags, other than paper.....	64	6,015,685	93,995
12 Bags, paper.....	56	2,321,707	41,461
13 Baking and yeast powders.....	150	3,587,919	23,919
14 Baskets and rattan and willow ware.....	403	2,702,713	6,705
15 Bellows.....	17	146,014	8,591
16 Bells.....	22	590,420	26,837
17 Belting and hose, leather.....	03	4,973,420	53,478
18 Belting and hose, linen.....	9	795,909	88,434
19 Belting and hose, rubber.....	17	5,270,008	310,004
20 Bicycle and tricycle repairing.....	83	172,070	2,073
21 Bicycles and tricycles.....	27	2,058,072	76,225
22 Billiard tables and materials.....	57	1,456,624	25,555
23 Blacking.....	71	1,403,037	19,762
24 Blacksmithing and wheelwrighting.....	28,000	34,500,139	1,232
25 Bluing.....	53	181,472	3,481
26 Bone, ivory, and lamp black.....	24	1,627,651	67,819
27 Bookbinding and blank-book making.....	805	10,062,034	12,499
28 Boot and shoe cut stock.....	314	5,401,834	15,703
29 Boot and shoe findings.....	138	1,793,123	12,994
30 Boot and shoe uppers.....	317	1,216,026	3,836
31 Boots and shoes, custom work and repairing.....	20,803	14,230,081	684
32 Boots and shoes, factory product.....	2,082	95,282,311	45,765
33 Boots and shoes, rubber.....	11	17,700,970	1,617,361
34 Bottling.....	716	5,656,705	7,900
35 Boxes, cigar.....	291	3,374,451	11,596
36 Boxes, fancy and paper.....	588	9,277,973	15,779
37 Boxes, wooden packing.....	636	13,018,456	20,469
38 Brass.....	14	1,208,619	86,330
39 Brass and copper, rolled.....	16	8,041,593	502,000
40 Brass castings and brass finishing.....	453	18,663,286	41,199
41 Brassware.....	113	10,866,001	96,159
42 Bread and other bakery products.....	10,484	45,753,489	4,365
43 Brick and tile.....	5,828	82,578,566	14,169
44 Bridges.....	137	10,960,218	80,002
45 Bronze castings.....	14	710,190	50,728
46 Brooms and brushes.....	1,235	7,743,832	6,270
47 Buttons.....	106	3,089,265	29,144
48 Calcium lights.....	15	73,402	4,803
49 Cardboard.....	5	616,548	123,310
50 Card cutting and designing.....	26	89,584	3,446
51 Carpentering.....	16,917	81,542,845	4,820
52 Carpets and rugs, other than rag.....	173	38,208,812	220,860
53 Carpets, rag.....	854	975,381	1,142
54 Carpets, wood.....	6	333,000	55,560
55 Carriage and wagon materials.....	530	13,028,161	24,171
56 Carriages and sleds, children's.....	87	3,158,412	36,304
57 Carriages and wagons, including custom work and repairing.....	8,614	104,210,602	12,098
58 Cars and general shop construction and repairs by steam railroad companies.....	716	76,192,477	106,414
59 Cars and general shop construction and repairs by street railroad companies.....	78	2,351,162	30,143
60 Cars, steam railroad, not including operations of railroad companies.....	71	43,641,210	614,665
61 Cars, street railroad, not including operations of railroad companies.....	17	2,468,315	145,195
62 Celluloid and celluloid goods.....	12	3,158,487	263,207
63 Cheese and butter, urban dairy product.....	160	607,590	3,797
64 Cheese, butter, and condensed milk, factory product.....	4,552	10,016,573	3,519
65 Chemicals.....	563	55,032,452	97,749
66 China, decorating.....	78	499,647	3,406
67 Chocolatés and cocoa products.....	11	2,630,067	239,097
68 Cigar molds.....	7	210,083	30,012
69 Clay and pottery products.....	707	26,127,194	33,955
70 Cleansing and polishing preparations.....	56	304,160	5,431
71 Clock cases and materials.....	4	43,863	10,966
72 Clocks.....	27	5,727,202	212,119
73 Cloth, sponging and refinishing.....	23	220,335	9,971
74 Clothing, horse.....	31	1,028,523	33,178
75 Clothing, men's, custom work and repairing.....	13,591	54,109,273	3,981
76 Clothing, men's, factory product.....	4,807	128,253,547	26,352

α In obtaining "Net product", miscellaneous expenses are not considered; for this and other reasons given in the text, the difference between the average value of product per employé and average annual earnings can not be considered as profit.

ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT AND AVERAGE ANNUAL EARNINGS PER EMPLOYÉ, BY INDUSTRIES: 1890.

AVERAGE NUMBER OF EMPLOYÉS.			GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT. (a)				Average annual earnings per employé, excluding officers, firm members, and clerks. (a)	
Total.	Average number per establishment.		Total.	Average per establishment.	Average value per employé.		Total.	Average per establishment.	Average value per employé. (a)			
	Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.		
4,712,022	13	12	\$9,372,437,283	\$26,370	\$1,980	\$2,204	\$4,210,393,207	\$11,840	\$893	\$990	\$445	1
42,544	47	43	81,271,051	89,310	1,910	2,093	49,968,386	51,581	1,107	1,279	466	2
2,207	65	62	6,538,950	186,827	2,884	3,030	3,779,177	107,076	1,667	1,667	440	3
0,835	27	25	9,078,683	96,170	1,328	1,428	4,432,833	17,661	640	697	334	4
250	4	3	475,977	8,067	1,904	2,938	382,182	6,478	1,520	2,359	632	5
806	8	0	531,785	13,636	1,738	2,197	340,935	8,742	1,114	1,409	422	6
3,672	7	5	7,829,003	13,475	2,022	2,497	3,678,823	0,382	950	1,173	505	7
104	6	4	816,450	27,305	4,363	6,718	444,562	14,341	2,202	3,528	480	8
261	7	5	2,905,102	80,607	11,131	16,792	619,208	14,422	1,989	3,001	467	9
3,149	197	194	3,852,440	240,778	1,223	1,240	1,331,445	83,215	1,520	4,420	273	10
3,769	59	55	10,355,365	255,553	4,330	4,639	3,693,095	57,783	981	1,049	341	11
1,382	25	21	5,023,793	80,711	3,635	4,180	1,856,076	33,144	1,343	1,547	333	12
1,867	12	10	7,406,800	49,379	3,667	5,140	9,133,010	20,887	1,678	2,174	390	13
3,732	9	8	3,633,592	9,018	974	1,100	2,235,109	5,546	509	677	304	14
101	6	5	249,874	14,669	2,409	3,117	125,229	7,866	1,240	1,565	572	15
430	20	17	823,010	37,410	1,914	2,212	433,309	10,696	1,098	1,165	521	16
1,021	17	14	8,633,634	92,835	5,326	6,433	2,500,930	26,892	1,549	1,864	582	17
292	32	30	777,942	86,438	2,664	2,850	350,077	38,897	1,109	1,282	452	18
1,945	114	108	5,512,840	324,285	2,834	3,004	2,033,302	119,606	1,045	1,108	481	19
306	4	3	801,709	3,635	980	1,423	234,377	2,824	700	1,020	482	20
1,925	71	67	2,508,320	95,123	1,334	1,429	1,849,478	68,499	901	1,099	546	21
1,157	20	18	2,823,278	49,531	2,440	2,776	1,527,336	26,795	1,320	1,502	693	22
1,030	15	12	2,900,402	40,851	2,732	3,488	1,416,199	19,646	1,353	1,702	398	23
50,867	2	1	54,804,639	1,939	1,098	2,046	39,659,543	1,416	780	1,494	500	24
232	4	3	457,251	8,627	1,971	2,950	270,663	5,107	1,167	1,746	307	25
385	10	13	1,031,030	42,900	2,078	3,192	545,163	22,715	1,416	1,088	471	26
13,815	17	15	17,067,780	21,202	1,235	1,368	11,060,363	13,740	801	887	442	27
5,503	16	15	17,903,846	52,046	3,253	3,537	4,159,191	12,091	750	833	679	28
2,283	17	16	3,459,328	25,068	1,515	1,662	1,494,155	10,827	654	718	286	29
1,708	5	4	3,346,062	10,555	1,959	2,473	1,443,076	4,552	845	1,007	450	30
35,448	2	1	34,856,651	1,076	983	2,053	24,453,268	1,176	690	1,440	437	31
139,333	67	64	220,640,358	105,980	1,584	1,650	101,808,527	48,026	761	702	454	32
0,204	842	830	18,632,060	1,693,824	2,011	2,040	6,981,273	634,661	754	754	417	33
3,020	5	4	13,583,418	18,971	3,457	4,462	5,046,417	7,886	1,437	1,854	497	34
5,537	19	18	7,091,048	24,371	1,281	1,384	3,521,628	12,112	637	688	352	35
10,054	34	32	18,805,330	31,982	942	902	10,911,889	18,557	547	576	308	36
13,922	22	20	25,513,180	40,115	1,893	1,962	11,208,077	17,718	809	866	432	37
819	59	56	2,549,800	182,133	3,113	3,209	784,255	56,018	958	1,005	514	38
2,801	175	169	8,351,472	523,842	2,902	3,107	2,888,241	180,515	1,631	1,771	512	39
11,903	26	24	24,344,434	53,740	2,045	2,225	12,094,827	26,699	1,010	1,015	526	40
7,518	67	63	18,015,172	120,488	1,811	1,902	6,525,970	67,752	868	912	497	41
52,702	5	4	128,421,535	12,249	2,494	3,306	55,913,956	5,333	1,060	1,440	492	42
100,151	19	18	67,770,095	11,628	621	651	55,181,098	9,460	505	529	285	43
8,921	65	61	21,868,068	159,021	2,451	2,609	9,097,922	66,408	1,020	1,085	591	44
311	22	19	1,195,163	33,226	3,747	4,209	469,078	33,548	1,510	1,733	722	45
10,084	9	8	14,150,383	11,463	1,289	1,481	7,255,830	5,875	601	760	346	46
4,036	38	36	4,216,795	39,781	1,045	1,101	2,605,192	25,143	660	666	368	47
97	6	5	110,062	7,337	1,135	1,376	75,014	5,001	773	938	427	48
223	45	41	1,070,865	214,161	4,802	5,198	369,041	73,808	1,055	1,701	509	49
214	8	7	243,070	9,349	1,136	1,350	154,884	5,957	724	860	425	50
140,021	8	7	281,195,162	16,622	2,008	2,287	143,348,100	8,474	1,024	1,000	645	51
29,121	108	166	47,770,193	276,128	1,640	1,662	19,125,288	110,551	657	600	887	52
1,704	2	1	1,714,480	2,008	972	1,740	988,061	1,157	500	1,000	316	53
328	55	52	511,700	85,283	1,560	1,656	300,886	50,148	917	974	449	54
10,928	20	19	16,262,293	30,171	1,488	1,627	8,874,389	10,465	812	888	437	55
2,936	34	31	4,094,255	47,060	1,395	1,602	2,193,348	25,211	747	805	424	56
73,453	9	7	114,551,907	13,298	1,500	1,783	64,692,734	7,507	880	1,006	508	57
108,585	152	140	129,461,698	180,812	1,102	1,214	62,900,172	87,849	579	590	505	58
2,034	26	26	2,966,347	35,030	1,468	1,477	1,811,507	23,224	801	902	702	59
32,062	462	442	70,083,737	927,095	2,186	2,235	25,409,251	357,877	793	810	513	60
1,833	108	105	3,302,116	194,242	1,801	1,850	1,692,880	94,287	874	898	611	61
1,023	85	78	2,575,736	214,645	2,518	2,743	1,719,556	143,296	1,681	1,831	476	62
552	3	2	2,050,338	12,815	3,714	5,367	505,005	3,157	915	1,322	454	63
14,369	3	3	60,635,705	13,321	4,220	4,962	10,816,494	2,370	753	885	348	64
16,952	30	27	59,352,548	105,422	3,501	3,947	25,657,621	45,573	1,514	1,708	486	65
497	6	5	847,555	10,866	1,815	2,401	482,777	0,189	1,034	1,368	461	66
963	83	81	4,221,075	333,789	4,384	4,728	1,820,456	120,860	1,381	1,489	511	67
142	20	18	211,000	30,143	1,486	1,702	140,940	20,134	993	1,187	404	68
20,206	29	27	22,057,090	81,198	1,087	1,162	16,438,689	23,251	810	860	467	69
390	7	5	865,904	15,463	2,220	2,877	483,784	8,639	1,240	1,607	340	70
32	7	5	44,038	11,010	1,376	1,510	82,314	8,079	1,010	1,114	601	71
3,585	133	129	4,228,846	156,624	1,180	1,211	2,771,068	102,692	773	794	518	72
306	17	15	399,814	17,883	1,010	1,129	365,082	15,890	923	1,023	567	73
952	31	23	1,672,245	50,718	1,652	1,785	794,695	25,035	835	902	271	74
86,143	6	5	126,219,151	9,237	1,465	1,773	75,724,514	5,572	879	1,064	509	75
156,341	32	30	251,019,609	51,576	1,066	1,732	122,172,752	25,102	781	843	352	76

MANUFACTURING INDUSTRIES.

AVERAGE CAPITAL, NUMBER OF EMPLOYEES, AND GROSS AND NET VALUE OF PRODUCT PER

	INDUSTRIES.	Number of establishments reporting.	CAPITAL.	
			Value.	Average per establishment.
1	Clothing, men's, factory product, buttonholes.....	200	\$100,118	\$951
2	Clothing, women's, dressmaking.....	19,587	12,883,080	658
3	Clothing, women's, factory product.....	1,224	21,259,528	17,369
4	Coffee and spice, roasting and grinding.....	358	16,996,009	47,475
5	Coffins and burial cases, trimming and finishing.....	1,368	6,016,385	4,398
6	Coffins, burial cases, and undertakers' goods.....	194	11,097,736	57,205
7	Coke.....	218	17,462,729	80,104
8	Collars and cuffs, paper.....	3	237,764	79,255
9	Combs.....	31	742,200	23,942
10	Confectionery.....	2,921	23,326,799	7,986
11	Cooperage.....	2,652	17,806,554	6,714
12	Cordage and twine.....	150	23,351,888	155,679
13	Cordials and sirups.....	40	783,567	19,589
14	Cork, cutting.....	65	1,869,360	28,759
15	Corsets.....	205	6,640,056	32,391
16	Cotton, cleaning and rehandling.....	13	116,210	8,930
17	Cotton, compressing.....	52	7,864,373	151,238
18	Cotton, ginning.....	1,637	3,221,987	1,968
19	Cotton goods.....	905	354,020,843	391,183
20	Cotton ties.....	3	22,475	7,492
21	Cotton waste.....	31	711,950	22,966
22	Crucibles.....	10	908,152	90,815
23	Cutlery and edge tools.....	474	12,082,638	25,491
24	Dentistry, mechanical.....	3,214	4,019,637	1,251
25	Dentists' materials.....	21	2,908,113	121,171
26	Druggists' preparations, not including prescriptions.....	1,805	4,624,814	2,562
27	Drug grinding.....	13	337,885	25,991
28	Dyeing and cleaning.....	976	3,041,178	3,116
29	Dyeing and finishing textiles.....	248	38,450,800	155,044
30	Dye stuffs and extracts.....	62	8,645,458	139,443
31	Electrical apparatus and supplies.....	189	18,997,337	100,515
32	Electric light and power.....	144	33,838,549	234,990
33	Electroplating.....	313	2,051,124	6,553
34	Emery wheels.....	17	623,059	48,415
35	Enameled goods.....	19	350,788	18,463
36	Enameling.....	27	71,917	2,664
37	Engravers' materials.....	16	139,920	8,745
38	Engraving and diesinking.....	382	704,554	2,080
39	Engraving, steel, including plate printing.....	134	2,924,135	21,822
40	Engraving, wood.....	285	480,960	1,688
41	Envelopes.....	41	3,218,466	78,499
42	Fancy articles, not elsewhere specified.....	377	2,386,317	6,330
43	Felt goods.....	34	4,460,621	131,195
44	Fertilizers.....	300	40,594,168	104,088
45	Files.....	140	2,961,988	21,371
46	Firearms.....	34	4,672,424	137,424
47	Fire extinguishers, chemical.....	9	405,733	45,081
48	Fireworks.....	22	507,206	23,038
49	Fish, canning and preserving.....	110	3,186,975	28,973
50	Flags and banners.....	29	376,130	12,970
51	Flavoring extracts.....	148	1,361,800	9,201
52	Flax, dressed.....	6	1,361,635	226,939
53	Flouring and grist mill products.....	18,470	208,473,500	11,387
54	Food preparations.....	302	6,715,535	22,237
55	Foundry and machine shop products.....	6,475	382,798,337	59,119
56	Foundry supplies.....	21	679,817	32,372
57	Fruit jar trimmings.....	5	1,025,697	205,139
58	Fruits and vegetables, canning and preserving.....	880	15,315,185	17,286
59	Fur goods.....	484	11,115,840	22,967
60	Furnishing goods, men's.....	586	12,209,011	20,988
61	Furniture, cabinetmaking, repairing and upholstering.....	4,054	12,861,208	8,172
62	Furniture, chairs.....	340	14,387,075	42,315
63	Furniture, factory product.....	1,579	66,393,864	42,048
64	Furs, dressed.....	26	266,921	10,266
65	Galvanizing.....	27	1,301,973	48,221
66	Gas and lamp fixtures.....	108	7,218,964	66,842
67	Gas, illuminating and heating.....	742	258,771,795	348,740
68	Gas machines and meters.....	38	1,007,426	42,195
69	Gas stoves.....	24	1,199,528	49,980
70	Glass.....	294	40,986,850	139,343
71	Glass, cutting, staining, and ornamenting.....	279	2,504,089	8,975
72	Gloves and mittens.....	324	5,977,820	18,450
73	Glucose.....	7	5,991,023	855,860
74	Glue.....	62	4,859,266	78,375
75	Gold and silver, leaf and foil.....	81	1,105,198	13,644
76	Gold and silver, reducing and refining, not from the ore.....	38	4,763,397	125,353
77	Graphite.....	3	38,614	12,871
78	Grease and tallow.....	233	4,336,198	18,610
79	Grindstones.....	9	78,750	8,750
80	Gunpowder.....	37	9,609,975	259,729

a O.A. of 1 employé.

INTRODUCTION.

ESTABLISHMENT; ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT, ETC.—Continued.

AVERAGE NUMBER OF EMPLOYÉS.			GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT.				Average annual earnings per employé, excluding officers, firm members, and clerks.	
Total.	Average number per establishment.		Total.	Average per establishment.	Average value per employé.		Total.	Average per establishment.	Average value per employé.			
	Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.		
1,373	7	6	\$784,055	\$3,920	\$571	\$673	\$609,888	\$3,499	\$510	\$601	\$387	1
67,598	8	2	57,071,732	2,014	844	1,174	33,677,903	1,719	498	693	270	2
42,008	34	32	68,164,019	53,090	1,023	1,741	33,886,800	27,685	807	866	394	3
5,122	14	11	75,042,010	209,615	14,651	19,926	9,080,515	25,365	1,773	2,411	482	4
3,234	2	1	7,783,140	5,689	2,407	4,262	4,120,281	3,016	1,276	2,260	518	5
6,424	33	30	12,230,554	63,044	1,904	2,127	6,683,472	34,451	1,040	1,162	494	6
9,159	42	41	16,498,345	75,680	1,801	1,854	4,988,698	22,884	545	554	453	7
91	30	27	301,093	100,304	3,309	3,672	78,016	26,005	857	951	428	8
807	26	24	1,020,835	32,930	1,265	1,376	676,715	21,830	839	912	492	9
27,211	9	7	55,997,101	19,171	2,058	2,578	24,880,472	8,518	914	1,145	358	10
24,652	9	9	38,617,056	14,562	1,567	1,712	17,981,045	6,780	729	797	446	11
12,799	85	83	33,312,550	222,084	2,603	2,600	9,230,993	61,739	724	748	321	12
387	10	7	1,969,200	47,580	4,918	6,773	672,059	16,801	1,737	2,892	395	13
2,138	33	31	2,840,359	43,098	1,329	1,407	1,338,457	20,592	626	663	315	14
11,370	55	53	12,401,576	60,495	1,091	1,135	6,730,435	32,875	593	617	321	15
210	16	15	525,595	40,430	2,503	2,682	110,500	8,507	527	564	221	16
3,000	58	54	2,024,027	50,402	875	942	2,369,718	45,572	790	851	374	17
7,660	5	4	2,307,450	1,440	309	342	1,824,969	1,115	238	264	54	18
221,585	245	242	207,981,724	298,112	1,209	1,224	113,068,745	124,038	510	517	802	19
18	0	5	11,050	3,983	664	797	5,970	1,990	332	398	153	20
329	11	9	1,906,622	61,504	5,795	6,834	314,581	10,148	956	1,128	369	21
254	25	23	726,708	72,671	2,861	3,169	330,412	33,041	1,301	1,437	479	22
9,487	20	18	11,110,614	23,440	1,171	1,276	7,645,490	10,130	806	878	482	23
4,737	1	(a)	7,804,299	2,447	1,060	5,292	6,389,044	1,988	1,349	4,299	517	24
1,214	61	42	2,594,888	108,120	2,137	2,567	1,601,033	66,710	1,919	1,584	537	25
3,940	2	1	6,659,797	3,690	1,680	8,279	4,247,940	2,353	1,078	2,092	413	26
173	13	11	436,706	33,597	2,525	2,951	244,415	18,803	1,413	1,652	505	27
5,189	5	4	5,267,819	5,397	1,015	1,320	4,164,263	4,267	803	1,043	430	28
20,267	82	79	28,900,560	116,535	1,426	1,474	16,515,940	66,594	815	843	455	29
2,302	37	34	9,292,514	149,879	4,037	4,402	2,791,536	45,026	1,213	1,322	492	30
9,485	50	47	19,114,714	101,136	2,015	2,172	10,295,216	54,472	1,085	1,170	513	31
2,004	14	12	4,783,224	33,217	2,387	2,666	3,627,435	25,191	1,810	2,022	716	32
2,162	7	6	3,121,642	9,073	1,444	1,769	2,073,585	6,625	910	1,175	505	33
202	17	14	726,425	42,731	2,488	2,905	539,846	31,756	1,849	2,203	552	34
391	21	19	444,942	23,418	1,138	1,257	326,283	17,173	834	922	422	35
187	7	6	181,942	6,739	973	1,181	128,043	4,776	690	837	484	36
101	10	9	203,764	12,735	1,266	1,466	141,779	8,861	881	1,020	550	37
1,635	4	3	2,187,157	5,726	1,338	1,873	1,752,651	4,588	1,072	1,561	506	38
2,500	19	17	3,347,804	24,994	1,308	1,458	2,605,030	10,441	1,018	1,135	687	39
1,286	5	3	1,555,418	5,458	1,210	1,640	1,397,762	4,904	1,087	1,479	635	40
2,501	61	57	4,855,680	118,431	1,941	2,088	2,324,887	56,705	930	1,000	349	41
3,954	10	9	4,810,450	12,760	1,217	1,417	2,065,804	7,897	750	873	364	42
2,200	67	63	4,654,768	136,905	2,054	2,173	1,844,831	54,260	814	861	412	43
10,158	26	23	39,180,844	100,464	3,857	4,341	14,066,970	38,009	1,885	1,558	379	44
2,606	19	17	3,179,649	22,712	1,193	1,306	2,140,706	15,291	803	879	500	45
2,769	81	78	2,922,514	85,950	1,050	1,099	2,436,598	71,664	888	916	592	46
82	9	6	195,834	21,769	2,388	3,497	138,098	15,344	1,684	2,466	457	47
557	25	24	592,542	26,934	1,064	1,144	403,604	18,346	785	770	319	48
5,202	47	40	6,972,268	63,384	1,340	1,389	2,261,559	20,560	435	451	225	49
304	13	11	455,849	15,710	1,252	1,420	260,292	8,975	715	811	300	50
769	5	3	2,614,514	17,660	3,400	5,157	1,184,394	8,093	1,540	2,336	412	51
517	86	83	981,283	163,547	1,898	1,974	342,998	57,166	663	690	400	52
63,481	3	3	513,971,474	27,827	8,096	10,843	70,819,184	4,322	1,257	1,684	383	53
4,152	14	12	14,105,485	40,707	3,397	4,056	6,975,560	19,787	1,430	1,718	352	54
247,754	38	36	412,701,872	63,738	1,666	1,785	241,556,710	37,306	975	1,045	559	55
212	10	8	672,440	32,021	3,172	4,125	314,566	14,979	1,484	1,930	502	56
552	110	107	802,237	160,447	1,453	1,565	526,493	105,299	954	988	244	57
50,881	57	50	29,862,416	33,705	587	600	11,197,253	12,638	220	225	93	58
8,075	17	14	20,526,988	42,411	2,542	2,955	8,784,480	18,150	1,088	1,264	501	59
22,211	38	35	29,870,946	50,974	1,845	1,438	14,690,374	24,898	657	702	293	60
14,721	4	3	23,884,252	5,892	1,622	2,228	14,127,192	3,485	960	1,318	536	61
13,837	41	38	16,866,358	49,607	1,219	1,291	10,294,059	30,277	744	788	385	62
63,946	40	38	94,876,722	60,687	1,484	1,587	56,080,251	35,516	877	938	502	63
457	17	15	651,296	25,050	1,490	1,628	448,097	17,235	1,025	1,120	597	64
846	31	28	2,957,143	109,524	3,495	3,888	1,019,431	37,046	1,261	1,336	476	65
5,530	51	40	7,825,672	72,460	1,415	1,561	5,617,548	52,014	1,016	1,106	574	66
14,860	20	18	56,987,290	76,802	3,835	4,385	42,950,203	57,884	2,890	3,365	654	67
1,071	28	26	1,838,644	48,385	1,717	1,842	1,163,102	30,608	1,086	1,165	627	68
1,051	43	38	2,137,944	89,081	2,074	2,316	1,297,818	54,076	1,259	1,406	549	69
45,987	156	153	41,051,004	139,629	893	914	28,910,019	98,333	629	644	466	70
3,794	14	12	6,090,378	21,829	1,005	1,884	3,002,091	13,986	1,028	1,175	589	71
8,600	27	25	10,103,821	31,185	1,168	1,234	5,082,677	15,687	586	621	326	72
1,750	251	240	7,756,686	1,108,008	4,410	4,499	2,727,555	389,651	1,551	1,582	523	73
1,896	30	27	4,276,460	68,878	2,320	2,616	1,759,533	28,380	958	1,037	398	74
1,499	19	17	2,977,791	36,763	1,987	2,119	1,143,075	14,112	769	814	497	75
966	25	23	32,035,520	643,040	33,163	36,280	2,030,424	53,422	2,102	2,269	709	76
21	7	6	54,605	18,202	2,600	3,034	28,225	9,408	1,344	1,568	500	77
1,787	8	6	7,474,911	82,081	4,183	5,085	2,339,010	10,039	1,300	1,501	540	78
152	15	14	122,240	13,582	926	986	87,498	9,722	363	700	438	79
1,730	47	44	6,752,343	132,466	3,903	4,163	3,473,339	93,874	2,068	2,141	516	80

AVERAGE CAPITAL, NUMBER OF EMPLOYEES, AND GROSS AND NET VALUE OF PRODUCT PER

	INDUSTRIES.	Number of establishments reporting.	CAPITAL.	
			Value.	Average per establishment.
1	Hairwork.....	492	\$1,362,993	\$2,770
2	Hammocks.....	6	65,525	10,921
3	Hand knit goods.....	28	78,468	2,802
4	Hand stamps.....	234	998,873	4,269
5	Hardware.....	350	26,271,840	75,062
6	Hardware, saddlery.....	102	3,376,356	33,102
7	Hat and cap materials.....	73	1,709,650	23,420
8	Hats and caps, not including wool hats.....	705	13,724,002	19,467
9	Hay and straw, baling.....	72	416,541	5,785
10	High explosives.....	32	3,929,503	122,707
11	Hones and whetstones.....	9	97,935	10,822
12	Hooks and eyes.....	10	449,618	44,962
13	Horseshoes, factory product.....	4	1,299,065	324,766
14	Hosiery and knit goods.....	796	50,607,738	63,578
15	House furnishing goods, not elsewhere specified.....	133	6,939,659	52,178
16	Ice, artificial.....	222	9,846,468	44,353
17	Ink, printing.....	35	1,863,025	53,229
18	Ink, writing.....	38	792,194	20,847
19	Instruments, professional and scientific.....	233	2,966,021	12,858
20	Iron and steel.....	645	372,078,018	577,795
21	Iron and steel, bolts, nuts, washers, and rivets.....	82	10,789,821	131,583
22	Iron and steel, doors and shutters.....	7	42,550	6,079
23	Iron and steel, forgings.....	90	7,152,145	79,408
24	Iron and steel, nails and spikes, cut and wrought, including wire nails.....	138	24,334,549	176,337
25	Iron and steel, pipe, wrought.....	22	22,022,367	1,028,289
26	Ironwork, architectural and ornamental.....	724	21,968,172	30,343
27	Ivory and bone work.....	64	1,894,549	29,602
28	Japanning.....	39	285,794	7,328
29	Jewelry.....	783	22,246,568	28,412
30	Jewelry and instrument cases.....	76	634,900	8,354
31	Jute and jute goods.....	7	1,645,636	235,091
32	Kaolin and other earth grinding.....	95	3,334,575	35,101
33	Kindling wood.....	136	1,299,533	9,555
34	Labels and tags.....	47	646,815	13,762
35	Lamps and reflectors.....	93	2,559,214	27,422
36	Lapidary work.....	29	100,635	3,470
37	Lard, refined.....	17	3,898,910	229,348
38	Lasts.....	52	906,820	17,439
39	Lead, bar, pipe, and sheet.....	28	4,892,525	174,733
40	Leather board.....	8	445,743	55,718
41	Leather, dressed skins.....	38	434,800	11,442
42	Leather goods.....	139	2,980,060	21,430
43	Leather, morocco.....	121	12,283,793	101,519
44	Leather, patent and enameled.....	32	4,108,400	128,388
45	Leather, tanned and curried.....	1,596	81,261,696	50,916
46	Lightning rods.....	22	486,061	19,848
47	Lime and cement.....	373	18,752,306	21,430
48	Linen goods.....	3	908,589	302,863
49	Liquors, distilled.....	440	31,006,176	70,489
50	Liquors, malt.....	1,248	232,471,290	186,275
51	Liquors, vinous.....	236	5,702,783	24,540
52	Lithographing and engraving.....	219	15,490,127	70,731
53	Lock and gun smithing.....	1,308	1,867,220	1,428
54	Looking-glass and picture frames.....	1,290	8,554,965	6,632
55	Lumber and other mill products from logs or bolts.....	21,011	496,339,968	23,023
56	Lumber, planing mill products, including sash, doors, and blinds.....	3,670	130,271,440	32,772
57	Malt.....	292	24,293,864	120,267
58	Mantels, slate, marble, and marbleized.....	90	1,854,759	20,608
59	Marble and stone work.....	1,321	24,041,961	18,209
60	Masonry, brick and stone.....	5,969	51,660,111	8,655
61	Matches.....	27	1,941,002	71,892
62	Mats and matting.....	24	392,639	16,360
63	Mattresses and spring beds.....	696	6,662,929	9,573
64	Millinery and lace goods.....	278	6,630,216	23,850
65	Millinery, custom work.....	5,969	16,369,220	2,719
66	Millstones.....	4	49,450	12,363
67	Mineral and soda waters.....	1,377	10,781,617	7,830
68	Mirrors.....	45	1,695,772	37,684
69	Models and patterns.....	449	1,384,721	3,084
70	Monuments and tombstones.....	2,052	13,073,232	6,371
71	Mucilage and paste.....	55	748,826	13,615
72	Musical instruments and materials, not specified.....	293	1,329,329	4,537
73	Musical instruments, organs and materials.....	145	9,890,288	68,209
74	Musical instruments, pianos and materials.....	236	18,430,872	78,097
75	Needles and pins.....	45	1,820,089	40,449
76	Nets and seines.....	22	1,135,764	51,626
77	Oakum.....	7	275,675	39,382
78	Oil, castor.....	7	621,798	88,828
79	Oil, cottonseed and cake.....	119	12,808,096	107,630
80	Oil, essential.....	67	102,223	1,526

ESTABLISHMENT; ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT, ETC.—Continued.

AVERAGE NUMBER OF EMPLOYEES.			GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT.				Average annual earnings per employe, excluding officers, firm members, and clerks.
Total.	Average number per establishment.		Total.	Average per establishment.	Average value per employe.		Total.	Average per establishment.	Average value per employe.		
	Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.	
1,045	4	3	\$2,480,061	\$5,059	\$1,280	\$1,782	\$1,043,010	\$3,339	\$845	\$1,176	\$351
86	14	18	60,254	10,042	701	753	33,719	5,620	392	421	123
224	8	7	205,775	7,349	910	1,106	117,495	4,196	525	632	193
1,068	5	3	1,583,872	6,760	1,483	2,247	1,151,185	4,920	1,078	1,033	488
19,071	56	53	26,726,403	76,361	1,359	1,445	16,540,021	47,257	841	894	468
3,179	31	20	4,118,195	40,374	1,295	1,412	2,493,346	24,445	784	855	432
1,705	23	22	3,465,524	47,473	2,033	2,181	1,406,523	19,267	825	885	440
27,193	39	37	37,311,599	52,924	1,372	1,439	21,150,797	30,001	778	810	488
777	11	10	1,058,142	14,696	1,302	1,474	432,947	4,569	423	458	173
320	26	23	4,600,272	143,759	5,610	6,203	2,397,653	74,924	2,924	3,280	554
71	8	6	54,136	6,015	702	950	47,804	5,312	673	839	329
243	24	22	593,604	59,360	2,443	2,723	267,989	26,799	1,103	1,223	487
493	123	119	1,110,032	277,608	2,252	2,342	500,583	147,646	1,198	1,246	510
61,209	77	75	67,241,013	84,474	1,099	1,128	31,370,428	39,421	518	527	278
3,667	28	20	8,347,285	62,762	2,276	2,443	3,514,484	20,425	958	1,029	441
3,205	15	13	4,900,933	22,077	1,501	1,734	3,960,284	17,839	1,213	1,401	368
516	15	11	2,376,072	67,905	4,606	6,254	1,231,118	35,175	2,386	3,240	710
598	13	10	1,128,367	29,692	2,221	2,961	609,076	16,028	1,199	1,699	395
2,371	10	8	3,271,016	14,041	1,380	1,654	2,573,264	11,044	1,085	1,301	602
152,535	236	231	430,954,348	668,146	2,825	2,898	135,176,505	209,576	886	909	531
7,341	90	85	12,373,031	150,891	1,685	1,770	5,626,727	68,610	706	809	422
53	8	7	88,515	12,645	1,679	1,924	58,723	8,389	1,108	1,277	609
4,448	49	47	9,042,593	109,473	2,033	2,149	4,166,866	46,299	937	990	550
17,116	124	120	34,227,517	248,025	2,009	2,062	11,266,730	31,643	653	679	430
12,064	548	532	37,906,801	1,723,036	3,142	3,242	11,918,003	541,727	988	1,019	462
18,072	26	24	37,745,294	52,134	2,021	2,200	19,124,784	26,415	1,024	1,115	597
1,345	21	19	1,918,007	29,078	1,426	1,547	998,632	15,572	741	804	477
202	7	6	359,819	8,995	1,201	1,444	230,635	5,914	790	949	433
15,761	20	18	34,791,458	44,395	2,206	2,504	18,651,239	23,820	1,183	1,344	579
1,038	14	12	1,454,053	19,132	1,401	1,598	970,612	12,771	935	1,067	491
1,212	173	171	1,120,121	160,017	924	938	618,212	88,316	510	518	309
1,461	15	13	2,846,862	29,967	1,949	2,240	1,510,572	15,964	1,028	1,193	432
1,805	13	12	2,401,873	17,061	1,331	1,485	1,214,413	8,030	679	751	361
710	15	13	1,048,304	22,304	1,476	1,696	645,533	13,743	910	1,045	468
2,286	25	22	4,039,359	43,434	1,767	1,965	2,497,207	26,852	1,092	1,209	501
129	4	3	315,604	10,883	2,447	3,430	190,752	6,578	1,479	2,073	637
1,018	60	52	15,474,848	910,285	15,201	17,427	2,820,488	165,911	2,771	3,170	518
774	15	13	1,239,065	23,828	1,601	1,780	907,840	17,458	1,173	1,304	698
780	28	23	8,351,754	298,277	10,767	13,111	1,469,597	52,486	1,884	2,307	602
185	23	20	469,705	57,963	2,507	2,845	251,760	31,471	1,361	1,545	438
355	0	8	1,072,755	28,230	3,022	3,012	348,016	9,158	980	1,172	538
3,074	22	20	5,578,428	40,133	1,815	2,026	2,589,681	13,631	842	940	407
8,237	68	65	26,270,105	217,183	3,190	3,364	8,104,653	66,981	984	1,038	530
2,087	65	63	6,502,228	293,195	3,116	3,243	2,560,504	80,297	1,231	1,282	609
34,348	22	20	138,282,004	86,643	4,026	4,284	98,167,108	23,914	1,111	1,182	487
210	10	7	483,296	21,068	2,301	2,947	270,507	12,206	1,288	1,640	460
13,710	16	15	15,741,801	18,032	1,148	1,267	10,073,938	11,539	735	772	379
583	194	191	547,273	182,424	939	953	278,366	92,789	477	485	291
5,343	12	11	104,197,869	236,813	19,502	21,881	89,288,696	202,929	16,711	18,750	472
34,800	28	24	182,731,022	140,420	5,251	6,039	118,728,275	95,133	3,412	3,924	685
1,282	5	4	2,846,148	12,060	2,220	2,716	1,528,136	6,475	1,192	1,458	286
10,590	48	44	17,988,157	82,138	1,099	1,803	11,722,693	53,528	1,107	1,214	506
2,560	2	1	3,153,834	2,411	1,232	2,539	2,331,277	1,782	911	1,011	523
9,664	7	6	16,376,173	12,095	1,695	2,066	9,307,058	7,215	963	1,174	485
280,197	14	13	403,667,575	19,212	1,410	1,513	172,111,967	8,192	601	645	289
86,888	24	22	183,681,552	50,049	2,114	2,298	78,754,718	21,459	906	985	528
3,694	18	16	23,442,559	116,052	6,346	7,044	6,342,485	31,398	1,717	1,906	478
1,704	10	17	3,127,662	34,752	1,835	2,058	1,872,995	20,811	1,099	1,232	627
23,883	18	17	41,924,264	31,737	1,755	1,910	25,691,834	19,449	1,076	1,170	698
108,405	18	17	190,794,818	31,949	1,759	1,873	98,913,709	16,571	912	972	628
1,755	65	63	2,183,038	81,246	1,250	1,293	1,258,630	46,610	717	742	279
423	18	16	608,625	25,369	1,439	1,589	307,034	12,793	726	802	451
7,337	11	9	15,683,932	22,534	2,138	2,482	6,956,552	9,995	948	1,101	437
11,827	43	40	18,047,067	64,018	1,526	1,623	9,458,725	34,024	800	851	407
29,976	4	3	36,983,082	6,165	1,543	2,166	18,226,306	3,038	700	1,068	307
28	7	6	47,152	11,788	1,084	1,965	28,853	7,215	1,031	1,202	532
7,717	6	4	14,353,745	10,424	1,860	2,425	9,790,942	7,110	1,269	1,654	470
1,642	34	31	6,060,533	133,345	3,891	4,274	2,726,402	00,587	1,768	1,942	600
2,010	3	3	2,523,395	5,620	1,255	1,679	2,082,819	4,039	1,036	1,386	635
12,101	6	5	20,071,498	10,074	1,708	2,114	13,035,024	6,362	1,077	1,333	616
404	7	6	1,276,011	23,211	3,160	4,131	521,577	0,483	1,291	1,688	388
1,882	5	4	1,888,013	6,446	1,367	1,788	1,377,949	4,703	997	1,395	573
4,889	34	32	9,213,188	63,539	1,847	1,909	5,738,468	30,714	1,154	1,250	580
13,057	55	53	25,766,368	109,180	1,973	2,073	15,295,680	64,812	1,171	1,230	673
1,680	37	36	1,515,865	33,686	902	942	1,065,423	23,670	634	662	404
650	30	28	1,002,196	45,554	1,542	1,622	367,562	16,707	565	595	308
151	22	20	363,400	51,914	2,407	2,559	131,697	18,810	872	927	330
101	14	11	573,363	81,960	5,077	7,446	142,132	20,395	1,407	1,846	578
6,301	53	50	10,335,947	162,487	3,069	3,274	4,972,821	41,788	789	842	253
220	6	3	265,847	3,810	1,163	1,299	126,112	1,832	573	640	147

MANUFACTURING INDUSTRIES.

AVERAGE CAPITAL, NUMBER OF EMPLOYÉS, AND GROSS AND NET VALUE OF PRODUCT PER

	INDUSTRIES.	Number of establishments reporting.	CAPITAL.	
			Value.	Average per establishment.
1	Oil, illuminating, not including petroleum, refining	5	\$561,400	\$112,290
2	Oil, lard	7	481,520	68,780
3	Oil, linseed	62	14,003,358	225,861
4	Oil, lubricating	124	4,091,157	32,993
5	Oil, resin	8	284,110	35,514
6	Oilcloth, enameled	9	772,820	85,860
7	Oilcloth, floor	19	3,704,436	194,970
8	Oleomargarine	13	634,532	52,878
9	Optical goods	191	2,608,176	13,655
10	Ordnance and ordnance stores	4	7,639,991	1,909,998
11	Oysters, canning and preserving	16	1,106,902	69,185
12	Printing and paper hanging	10,043	23,135,781	2,304
13	Paints	332	34,009,203	89,029
14	Paper	507	82,374,099	145,261
15	Paper goods, not elsewhere specified	66	2,922,440	44,280
16	Paper hangings	27	5,709,909	211,478
17	Paper patterns	27	156,106	5,782
18	Patent medicines and compounds	1,127	18,506,823	16,501
19	Paving and paving materials	704	12,648,093	17,966
20	Pencil cases	6	66,025	11,104
21	Pencils, lead	5	3,109,836	620,167
22	Pens, fountain and stylographic	15	142,205	9,484
23	Pens, gold	18	473,964	26,331
24	Pens, steel	3	399,182	133,061
25	Perfumery and cosmetics	157	2,238,901	14,261
26	Petroleum, refining	94	77,416,206	823,578
27	Photographic apparatus	25	362,834	14,513
28	Photographic materials	45	1,172,640	26,050
29	Photography	3,105	7,894,532	2,514
30	Photolithographing and engraving	89	1,134,873	12,751
31	Pickles, preserves, and sauces	310	4,913,459	15,540
32	Pipes, tobacco	59	1,432,753	20,765
33	Plastering and stuccowork	1,746	3,309,297	1,895
34	Plated and britannia ware	68	13,150,890	193,397
35	Plumbers' supplies	122	9,678,107	79,329
36	Plumbing and gas fitting	5,327	29,335,247	5,507
37	Pocketbooks	92	1,121,834	18,094
38	Printing and publishing, book and job	4,098	67,146,445	16,386
39	Printing and publishing, music	79	1,816,205	22,990
40	Printing and publishing, newspapers and periodicals	12,362	126,299,885	10,214
41	Printing materials	64	1,370,487	21,414
42	Printing, tip	27	151,010	5,737
43	Pulp goods	9	418,045	46,449
44	Pulp, wood	82	7,455,449	90,920
45	Pulp from fiber, other than wood	7	583,837	83,406
46	Pumps, not including steam pumps	256	3,540,097	13,829
47	Refrigerators	82	3,307,329	41,065
48	Regalia and society banners and emblems	137	1,841,193	13,489
49	Registers, car fare	7	74,725	10,675
50	Registers, cash	5	292,150	58,430
51	Rice, cleaning and polishing	32	2,073,884	64,809
52	Roofing and roofing materials	2,140	6,217,397	2,917
53	Rubber and elastic goods	139	13,703,787	98,588
54	Rules, ivory and wood	16	172,018	10,807
55	Saddlery and harness	7,931	35,346,620	4,457
56	Safes and vaults	39	4,603,118	118,029
57	Salt	200	13,437,749	67,189
58	Sand and emery paper and cloth	9	705,957	78,440
59	Sausage	249	1,128,562	4,532
60	Saws	95	6,313,373	66,457
61	Scales and balances	76	1,658,655	21,824
62	Screws, machine	20	1,672,343	83,617
63	Screws, wood	7	5,672,237	796,034
64	Sewing machine cases	7	1,439,403	204,343
65	Sewing machine repairing	160	192,593	1,160
66	Sewing machines and attachments	59	16,043,136	271,918
67	Shipbuilding	1,010	53,393,074	52,864
68	Shirts	809	14,273,611	16,425
69	Shoddy	94	3,754,063	39,937
70	Show cases	99	1,208,022	12,202
71	Silk and silk goods	472	51,007,537	108,067
72	Silversmithing	24	410,773	17,116
73	Silverware	30	5,317,611	177,255
74	Slaughtering and meat packing, wholesale	611	98,199,766	160,705
75	Slaughtering, wholesale, not including meat packing	597	18,606,738	30,877
76	Smelting and refining	50	9,425,912	188,518
77	Soap and candles	578	24,821,069	42,943
78	Soda water apparatus	12	3,354,928	279,577
79	Sporting goods	136	1,699,770	12,454
80	Springs, steel, car and carriage	57	3,459,422	60,692

ESTABLISHMENT; ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT, ETC.—Continued.

AVERAGE NUMBER OF EMPLOYÉS.			GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT.				Average annual earnings per employé, excluding officers, firm members, and clerks.	
Total.	Average number per establishment.		Total.	Average per establishment.	Average value per employé.		Total.	Average per establishment.	Average value per employé.			
	Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.		
66	13	10	\$599,720	\$110,944	\$9,087	\$11,759	\$157,382	\$31,476	\$2,385	\$3,086	\$800	1
120	17	13	168,802	9,847	9,847	12,570	260,963	37,280	2,175	2,776	566	2
2,073	33	30	23,534,306	379,586	11,353	12,478	4,159,763	67,093	2,007	2,206	518	3
1,072	9	6	8,656,530	69,811	8,075	12,244	3,695,346	29,801	3,447	5,227	618	4
117	15	11	738,080	92,335	6,314	8,208	203,300	25,420	1,738	2,260	596	5
367	41	38	1,603,265	178,141	4,369	4,702	619,747	68,801	1,689	1,817	536	6
1,583	89	80	3,877,822	204,086	2,450	2,550	1,407,527	78,817	946	935	490	7
328	27	22	2,988,525	249,044	9,111	11,320	813,261	67,772	2,479	3,081	584	8
2,844	15	13	3,505,973	18,350	1,233	1,398	2,181,698	11,422	767	870	403	9
1,459	365	357	2,424,602	606,166	1,662	1,698	1,681,314	420,329	1,152	1,177	745	10
9,514	220	216	3,280,766	203,798	928	944	1,171,809	73,244	333	339	189	11
56,281	6	5	74,067,998	7,375	1,316	1,634	50,957,639	5,074	905	1,124	635	12
8,737	23	18	40,438,171	105,859	4,628	5,741	15,507,639	40,506	1,775	2,202	507	13
29,568	52	50	74,309,388	131,057	2,513	2,610	32,086,074	56,589	1,085	1,131	427	14
1,047	25	23	4,179,235	63,922	2,537	2,751	1,551,781	23,512	942	1,022	402	15
2,814	104	96	7,431,726	275,249	2,641	2,876	3,859,699	142,052	1,372	1,404	454	16
448	17	15	3,777,456	13,080	843	923	292,187	10,622	652	714	265	17
9,390	8	6	32,620,182	28,944	3,474	4,622	21,589,268	10,156	2,299	3,059	419	18
22,730	82	31	30,044,072	43,529	1,348	1,411	16,759,037	23,797	737	791	434	19
89	13	13	164,450	27,408	1,848	2,082	104,059	17,493	1,179	1,329	595	20
1,452	290	278	1,687,560	337,512	1,162	1,210	891,182	178,236	614	642	325	21
176	12	10	351,775	23,452	1,999	2,314	228,501	15,237	1,299	1,504	488	22
363	20	17	718,070	39,895	1,978	2,360	482,442	20,802	1,320	1,603	616	23
511	170	165	263,259	89,420	625	541	211,029	70,543	414	427	266	24
1,755	11	9	4,030,141	28,491	2,038	3,317	2,501,721	15,935	1,425	1,792	359	25
12,471	133	121	85,001,198	904,268	6,816	7,454	17,082,475	181,728	1,370	1,498	515	26
549	22	20	624,342	24,974	1,137	1,234	459,722	18,359	837	939	519	27
899	20	17	2,121,387	47,142	2,860	2,709	1,014,118	22,536	1,128	1,295	537	28
10,432	3	2	15,488,324	4,988	1,485	2,223	11,590,128	3,735	1,112	1,604	493	29
1,352	15	13	2,071,580	23,276	1,532	1,809	1,530,185	17,193	1,132	1,396	664	30
4,252	13	11	9,790,855	30,984	2,303	2,737	4,462,314	14,121	1,049	1,248	324	31
1,345	10	17	1,881,262	27,265	1,890	1,560	1,254,694	18,183	933	1,040	474	32
10,624	6	5	13,460,824	7,710	1,267	1,527	9,044,771	5,180	851	1,020	611	33
9,919	102	97	11,502,966	109,161	1,663	1,738	6,855,076	100,810	991	1,030	507	34
5,485	45	41	11,960,464	98,037	2,181	2,418	6,100,755	50,655	1,113	1,234	537	35
42,513	8	7	80,905,925	15,188	1,903	2,282	43,170,254	8,104	1,015	1,218	618	36
1,348	22	19	3,165,462	34,927	1,606	1,793	1,196,514	19,299	888	990	407	37
58,139	14	12	93,540,831	22,826	1,609	1,865	64,153,020	15,655	1,103	1,279	551	38
701	9	6	1,683,333	21,308	2,401	3,644	1,281,918	16,227	1,829	2,775	484	39
106,095	9	7	179,859,750	14,549	1,695	2,092	140,904,428	11,398	1,328	1,639	591	40
806	14	11	1,450,434	22,804	1,685	2,041	891,796	13,934	1,030	1,247	473	41
202	11	9	368,001	13,652	1,202	1,463	253,634	9,394	869	1,006	440	42
276	31	28	352,582	39,179	1,277	1,399	229,731	25,526	832	912	442	43
2,830	35	33	4,627,796	56,437	1,635	1,729	2,622,630	31,983	927	978	403	44
168	24	22	524,243	74,802	3,120	3,440	307,341	56,763	2,965	2,614	453	45
2,140	8	7	4,103,410	16,029	1,917	2,339	2,422,135	9,461	1,132	1,381	472	46
2,373	20	27	4,513,616	55,044	1,902	2,072	2,135,658	26,045	900	931	475	47
2,379	17	15	3,203,890	23,386	1,347	1,540	1,956,984	14,285	823	941	355	48
101	14	13	141,320	20,189	1,399	1,553	108,702	15,529	1,070	1,195	595	49
742	148	139	1,281,500	256,300	1,727	1,830	1,058,024	211,785	1,427	1,519	569	50
743	23	20	6,693,196	299,162	9,008	10,345	1,091,990	34,125	1,470	1,688	345	51
13,333	6	5	29,412,813	13,744	2,206	2,689	14,700,434	6,869	1,103	1,344	592	52
9,802	71	66	18,708,917	134,597	1,909	2,037	7,695,389	54,643	775	827	399	53
163	10	9	154,173	9,636	946	1,134	110,848	7,491	735	881	382	54
30,326	4	3	52,970,801	6,079	1,747	2,336	28,296,570	3,568	933	1,248	481	55
4,131	106	98	6,641,844	170,304	1,608	1,741	4,006,531	102,732	970	1,050	558	56
4,455	22	21	5,484,618	27,423	1,231	1,289	3,657,348	18,289	821	860	374	57
253	23	23	1,249,647	138,850	4,939	6,066	468,142	52,016	1,850	2,273	506	58
1,106	4	3	3,055,367	12,271	2,763	3,650	1,120,197	4,499	1,013	1,338	434	59
2,943	31	28	5,572,092	58,693	1,894	2,083	3,226,591	33,964	1,096	1,206	592	60
1,500	20	18	2,322,744	30,562	1,548	1,721	1,454,780	19,142	970	1,078	513	61
1,113	56	53	1,183,341	59,167	1,063	1,119	851,640	42,582	765	806	440	62
1,651	236	223	2,326,645	332,378	1,409	1,493	1,425,000	203,710	864	915	346	63
1,842	263	260	2,240,551	321,364	1,221	1,235	1,250,112	179,873	684	691	468	64
335	2	1	385,941	2,325	1,152	2,000	299,125	1,802	893	1,550	580	65
9,121	155	150	12,823,147	217,311	1,406	1,451	9,320,974	157,983	1,022	1,055	538	66
25,934	26	25	40,342,115	39,943	1,556	1,626	23,417,006	23,135	903	944	598	67
32,750	33	36	33,638,593	38,710	1,027	1,075	17,934,240	20,638	548	575	295	68
2,290	23	23	7,887,000	33,904	3,431	3,660	1,883,965	20,042	819	874	323	69
1,500	15	13	2,569,557	25,955	1,713	1,931	1,492,212	15,073	995	1,121	510	70
50,914	108	105	87,298,454	184,054	1,715	1,768	36,294,029	76,894	713	735	380	71
313	18	11	621,587	25,899	1,980	2,268	417,330	17,389	1,329	1,523	707	72
2,806	77	72	5,813,737	193,791	2,521	2,710	3,684,393	122,813	1,598	1,718	650	73
40,409	61	61	433,252,315	709,087	10,722	11,553	66,353,653	108,443	1,640	1,767	541	74
7,537	15	13	123,359,353	253,174	17,031	19,830	14,390,804	28,354	1,909	2,223	618	75
1,765	35	33	28,188,826	563,777	15,971	17,126	2,903,635	58,073	1,465	1,764	578	76
9,805	16	14	43,600,285	75,433	4,686	5,575	14,912,873	25,801	1,803	1,907	437	77
993	33	30	2,711,879	225,990	2,731	3,232	1,695,877	141,396	1,708	2,021	632	78
2,199	16	15	2,700,440	19,922	1,232	1,349	1,589,843	11,689	723	792	352	79
1,892	33	30	4,331,571	75,092	2,269	2,498	2,112,163	37,055	1,116	1,218	555	80

MANUFACTURING INDUSTRIES.

AVERAGE CAPITAL, NUMBER OF EMPLOYEES, AND GROSS AND NET VALUE OF PRODUCT PER

	INDUSTRIES.	Number of establishments reporting.	CAPITAL.	
			Value.	Average per establishment.
1	Stamped ware.....			
2	Starch.....	99	\$8,092,888	\$87,807
3	Stationery goods, not elsewhere specified.....	80	4,929,155	61,614
4	Steam fittings and heating apparatus.....	260	5,372,309	20,662
5	Steam packing.....	217	17,017,364	78,421
		34	538,564	15,840
6	Stencils and brands.....			
7	Stereotyping and electrotyping.....	106	445,165	4,200
8	Straw goods, not elsewhere specified.....	81	1,332,129	16,446
9	Sugar and molasses, refining.....	6	106,750	17,792
10	Surgical appliances.....	393	24,013,008	61,102
		155	856,306	5,525
11	Tar and turpentine.....			
12	Taxidermy.....	670	4,062,375	6,063
13	Tenacels.....	63	293,112	4,653
14	Timber products, not manufactured at mill.....	5	61,400	12,280
15	Tinsmithing, coppersmithing, and sheet-iron working.....	1,606	61,541,086	38,319
		7,002	38,434,900	5,489
16	Tobacco, chewing, smoking, and snuff.....			
17	Tobacco, cigars and cigarettes.....	395	30,841,316	78,079
18	Tobacco, steaming and rehandling.....	10,056	69,517,827	5,432
19	Tools, not elsewhere specified.....	232	5,735,610	19,643
20	Toys and games.....	402	11,376,622	24,625
		139	2,781,185	20,000
21	Trunks and valises.....			
22	Type founding.....	395	6,900,756	17,470
23	Typewriters and supplies.....	38	4,968,309	130,745
24	Umbrellas and canes.....	30	1,421,783	47,393
25	Upholstery materials.....	435	5,646,289	12,980
		152	4,427,654	29,129
26	Varnish.....			
27	Vault lights and ventilators.....	140	11,308,943	80,778
28	Vinegar and cider.....	15	175,225	11,682
29	Washing machines and clothes wringers.....	694	5,858,395	8,441
30	Watch and clock materials.....	163	1,712,953	10,509
		32	661,784	20,681
31	Watch cases.....			
32	Watch, clock, and jewelry repairing.....	45	4,727,100	105,047
33	Watches.....	4,502	6,057,125	1,345
34	Whalebone and rattan.....	19	10,106,114	531,901
35	Wheelbarrows.....	9	221,358	24,595
		26	1,116,359	42,937
36	Whips.....			
37	Windmills.....	81	1,632,404	20,153
38	Window shades.....	77	2,463,231	31,990
39	Wire.....	182	4,167,457	22,898
40	Wirework, including wire rope and cable.....	24	11,607,685	483,654
		569	11,757,962	20,684
41	Wood, preserving.....			
42	Wood, turned and carved.....	4	262,718	65,680
43	Woodenware, not elsewhere specified.....	872	7,825,668	8,974
44	Wool hats.....	167	2,711,009	16,237
		32	4,142,224	129,445
45	Woolen goods.....			
46	Worsted goods.....	1,311	130,989,940	99,016
47	Zinc.....	143	63,085,116	476,120
48	All other industries (a).....	8	1,007,320	125,015
		12	2,952,229	246,010

^a Industries in which less than 3 establishments are reported are grouped, in order to avoid disclosing the operations of individual establishments. These establishments are distributed as follows: fuel, artificial, 2; phonographs and graphophones, 2; racking hose, 1; rubber, vulcanized, 1; sugar and molasses, beet, 2; thread, linen, 2; tinfoil, 2.

ESTABLISHMENT; ALSO AVERAGE GROSS AND NET VALUE OF PRODUCT, ETC.—Continued.

AVERAGE NUMBER OF EMPLOYÉS.			GROSS VALUE OF PRODUCT.				NET VALUE OF PRODUCT.				Average annual earnings per employé, excluding officers, firm members, and clerks.	
Total.	Average number per establishment.		Total.	Average per establishment.	Average value per employé.		Total.	Average per establishment.	Average value per employé.			
	Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.			Including officers, firm members, and clerks.	Excluding officers, firm members, and clerks.		
7,075	71	08	\$10,475,371	\$105,811	\$1,481	\$1,552	\$5,245,383	\$52,084	\$741	\$777	\$401	1
3,121	39	30	8,934,517	111,681	2,863	3,078	3,780,840	47,261	1,211	1,302	330	2
4,790	24	21	0,292,017	46,460	1,940	2,194	4,023,256	20,116	840	950	387	3
11,779	54	49	23,147,434	106,670	1,965	2,174	12,519,120	57,692	1,063	1,176	583	4
418	12	9	1,003,373	29,511	2,400	3,185	645,553	18,987	1,544	2,049	482	5
490	5	3	732,611	6,911	1,468	2,052	565,921	5,330	1,132	1,583	587	6
1,475	18	16	2,183,909	26,962	1,481	1,694	1,684,165	20,780	1,141	1,306	630	7
433	72	71	329,987	54,938	762	778	32,507	32,507	450	460	248	8
7,529	19	18	123,118,259	313,278	16,353	17,481	15,350,448	39,083	2,040	2,181	339	9
912	6	4	1,650,033	10,645	1,809	2,096	1,425,545	7,262	1,234	1,839	402	10
15,315	23	23	8,077,379	12,056	527	529	5,202,686	7,765	340	341	190	11
155	2	1	231,773	3,679	1,495	2,575	194,046	3,080	1,252	2,156	515	12
72	14	14	84,700	16,940	1,176	1,238	34,338	6,808	477	498	298	13
46,142	20	28	34,289,807	21,951	743	758	23,233,129	14,498	505	515	240	14
38,442	5	4	66,653,746	9,519	1,734	2,124	35,436,224	5,061	923	1,129	498	15
31,267	79	75	65,843,587	166,693	2,106	2,210	36,651,338	92,788	1,173	1,230	233	16
98,156	9	8	129,693,275	11,838	1,321	1,491	79,394,315	7,247	809	913	419	17
0,594	22	20	16,209,761	55,513	2,492	2,708	3,896,653	11,632	523	568	189	18
7,095	15	14	10,528,025	22,788	1,484	1,642	7,010,756	15,175	983	1,094	543	19
3,440	25	23	3,749,755	26,977	1,690	1,191	2,296,017	16,518	667	720	342	20
6,785	17	15	10,821,621	27,397	1,595	1,794	6,117,630	15,488	902	1,014	463	21
2,172	57	51	3,916,904	103,076	1,863	2,060	2,482,812	65,337	1,143	1,273	575	22
1,735	58	54	3,630,123	121,004	2,022	2,226	2,097,403	99,913	1,728	1,838	580	23
6,863	16	14	13,771,927	31,660	2,007	2,287	6,209,006	14,274	905	1,031	404	24
3,479	23	21	5,733,039	37,717	1,648	1,774	2,719,786	17,893	782	842	378	25
1,851	13	8	13,795,510	98,539	7,453	12,048	5,989,847	42,785	3,236	5,231	640	26
205	14	12	455,413	30,361	2,222	2,617	269,884	17,992	1,317	1,551	665	27
3,388	5	4	0,619,300	9,581	1,963	2,522	3,380,515	4,872	963	1,282	273	28
1,230	8	6	2,489,175	15,271	2,000	2,417	1,134,025	6,961	916	1,102	418	29
563	18	10	787,310	24,603	1,398	1,520	472,636	14,770	839	912	465	30
3,869	36	32	8,618,479	191,522	2,223	2,343	3,596,024	79,912	929	977	516	31
8,047	2	1	10,704,477	2,378	1,238	2,221	8,478,589	1,883	981	1,759	594	32
0,675	351	347	0,051,066	318,477	907	918	5,053,326	206,070	757	767	544	33
79	9	8	682,977	75,886	8,645	0,898	127,804	14,200	1,618	1,852	551	34
920	24	22	1,185,565	45,590	1,913	2,091	547,815	21,071	884	960	443	35
1,087	13	12	2,153,818	26,590	1,981	2,282	1,332,204	16,447	1,226	1,411	427	36
1,295	17	14	2,475,050	32,144	1,911	2,230	1,351,103	17,547	1,043	1,217	501	37
2,399	13	11	9,239,669	50,767	3,851	4,563	3,897,795	21,416	1,025	1,925	502	38
7,804	325	317	22,012,804	917,390	2,821	2,898	6,974,264	290,594	894	918	508	39
7,017	14	12	15,552,857	27,334	1,964	2,237	7,227,422	12,702	913	1,039	444	40
95	24	20	143,475	35,860	1,510	1,793	92,778	23,105	977	1,160	366	41
8,430	10	8	10,939,647	12,545	1,293	1,478	6,992,420	8,019	820	945	450	42
3,101	19	17	9,597,602	21,543	1,160	1,249	2,098,829	12,568	677	729	365	43
8,592	112	100	5,329,921	166,560	1,484	1,523	2,527,880	78,996	704	722	357	44
79,351	61	50	133,577,977	101,890	1,083	1,787	51,307,642	39,130	647	667	340	45
43,593	305	301	79,194,652	553,899	1,817	1,843	28,487,883	199,216	653	663	348	46
1,082	135	132	2,073,730	372,001	2,751	2,830	971,048	121,381	897	923	584	47
1,748	146	142	3,143,145	261,845	1,798	1,849	1,368,337	114,028	783	805	329	48

MANUFACTURING INDUSTRIES.

The size of the average establishment for the same industry in different states is indicated by the following statement, which shows the average number of employes and value of product per establishment for the 25 principal industries as reported for each of 5 selected states. The employes include officers, firm members, and clerks.

NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF EMPLOYÉS, VALUE OF PRODUCT, AND AVERAGE NUMBER OF EMPLOYÉS AND VALUE OF PRODUCT PER ESTABLISHMENT FOR 25 SELECTED INDUSTRIES IN 5 STATES: 1890.

INDUSTRIES.	ILLINOIS.					MASSACHUSETTS.					NEW YORK.		
	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.	Value of product.	Value of product per establishment.	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.	Value of product.	Value of product per establishment.	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.
Boots and shoes, factory product.	50	4,152	74	\$8,756,824	\$156,372	1,057	69,934	66	\$116,387,900	\$110,112	257	16,170	63
Bread and other bakery products.	536	3,567	7	8,332,725	16,479	703	4,479	6	10,755,915	15,300	2,419	13,186	5
Carpentering	1,076	10,428	10	20,392,422	18,952	2,050	17,092	8	31,336,015	16,750	2,662	22,047	9
Carriages and wagons, including custom work and repairing.	559	5,560	10	9,041,725	16,175	430	4,641	11	7,607,869	17,693	1,098	11,059	10
Cars and general shop construction and repairs by steam railroad companies.	70	10,541	151	12,208,617	174,400	14	2,280	164	2,712,763	193,760	46	8,676	189
Clothing, men's, custom work and repairing.	1,097	8,379	8	13,556,581	12,358	1,035	5,872	6	8,501,602	8,214	3,855	20,302	5
Clothing, men's, factory product.	199	16,612	83	33,626,441	169,977	221	8,196	37	21,242,647	96,121	2,661	59,409	22
Cotton goods.	4	454	114	563,988	140,997	187	76,213	408	100,202,882	535,844	4	3,401	200
Flouring and grist mill products.	647	4,385	7	37,974,885	58,694	238	770	3	6,906,493	29,019	1,235	4,697	4
Foundry and machine shop products.	408	18,538	45	38,898,114	95,330	711	25,027	35	38,908,680	54,781	1,081	42,093	80
Furniture, factory product.	160	8,979	53	14,406,835	85,248	136	3,670	27	6,166,522	45,342	341	12,025	35
Iron and steel.	26	7,734	387	37,173,495	1,853,670	13	1,604	123	2,891,687	222,437	43	6,990	163
Leather, tanned and curried.	30	1,047	65	8,240,893	274,693	138	5,832	42	21,656,425	156,931	200	5,750	29
Liquors, distilled.	7	1,023	146	51,996,737	7,428,105	8	55	7	1,372,897	171,601	6	56	30
Liquors, malt.	88	2,943	33	13,664,046	153,273	26	968	37	5,353,438	205,978	232	8,285	9
Lumber and other mill products from logs or bolts.	357	4,314	12	5,990,940	14,260	464	3,214	7	5,109,098	11,013	1,604	13,164	8
Lumber, planing mill products, including sash, doors, and blinds.	206	9,517	46	29,468,903	99,364	164	3,810	23	8,112,101	40,464	540	15,221	28
Masonry, brick and stone.	205	8,208	28	15,792,212	53,533	745	10,384	14	17,580,907	23,599	708	16,342	23
Printing and publishing, book and job.	380	7,515	20	14,553,068	38,303	404	4,233	10	6,899,236	17,077	953	15,374	10
Printing and publishing, newspapers and periodicals.	996	9,502	10	17,348,845	17,419	400	5,998	15	12,019,700	29,388	1,263	16,080	14
Slaughtering and meat packing, wholesale.	60	18,178	303	200,414,531	3,340,242	14	1,620	116	16,092,851	1,192,347	76	2,186	29
Slaughtering, wholesale, not including meat packing.	21	733	35	11,870,851	563,564	10	266	27	3,528,794	352,879	105	2,117	29
Sugar and molasses, refining.	36	386	11	3,608,358	83,566	4	245	61	16,875,538	4,218,885	14	657	47
Tobacco, cigars and cigarettes.	715	4,827	7	6,942,185	9,709	338	2,835	8	4,165,900	12,325	2,858	32,111	11
Woolen goods.	23	914	40	1,290,506	56,590	165	19,813	120	35,771,161	216,795	91	2,969	33

INDUSTRIES.	NEW YORK—continued.					OHIO.					PENNSYLVANIA.				
	Value of product.	Value of product per establishment.	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.	Value of product.	Value of product per establishment.	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.	Value of product.	Value of product per establishment.	Number of establishments reporting.	Average number of employes.	Average number of employes per establishment.
Boots and shoes, factory product.	\$23,661,204	\$92,067	63	5,991	95	\$3,489,728	\$134,758	158	7,952	50	\$10,354,850	\$65,537	152	15,151	888,604
Bread and other bakery products.	33,131,101	13,696	700	3,642	5	7,899,466	9,961	1,933	6,915	4	15,785,726	8,151	280	80,437	888,604
Carpentering	44,794,173	16,827	1,692	10,251	6	21,514,294	13,430	1,389	12,717	9	20,592,306	19,145	9	20,473,076	17,735
Carriages and wagons, including custom work and repairing.	16,803,241	15,303	709	10,504	15	18,777,866	26,485	899	5,924	7	7,772,104	8,645	7	7,772,104	8,645
Cars and general shop construction and repairs by steam railroad companies.	9,046,025	196,653	64	7,547	118	8,096,905	120,514	61	22,965	377	28,769,728	471,635	61	22,965	377
Clothing, men's, custom work and repairing.	32,446,181	8,417	1,170	8,152	7	10,641,375	9,026	1,343	9,553	7	12,774,746	9,512	1,343	9,553	7
Clothing, men's, factory product.	96,889,957	36,408	508	10,357	32	20,694,134	40,559	337	8,662	26	20,732,348	79,324	337	8,662	26
Cotton goods.	9,777,295	242,793	7	584	83	1,468,204	209,743	158	12,960	82	18,431,773	116,637	158	12,960	82
Flouring and grist mill products.	52,550,744	42,551	910	4,296	5	39,468,409	43,372	2,226	5,149	2	39,473,076	17,735	2,226	5,149	2
Foundry and machine shop products.	72,684,500	66,683	600	20,628	44	43,617,072	72,685	890	40,635	46	67,587,025	76,283	890	40,635	46
Furniture, factory product.	20,260,754	59,416	180	6,408	36	8,780,680	48,782	152	5,215	34	7,940,483	52,240	152	5,215	34
Iron and steel.	15,699,537	365,106	93	21,373	230	57,194,110	611,345	280	80,437	309	248,809,071	888,604	280	80,437	309
Leather, tanned and curried.	20,614,037	103,070	113	1,569	14	6,701,670	59,307	370	8,543	23	39,011,518	103,754	370	8,543	23
Liquors, distilled.	422,824	70,171	15	484	32	12,033,884	802,259	40	549	12	4,339,689	108,492	40	549	12
Liquors, malt.	53,429,085	230,300	103	3,494	33	15,899,629	149,997	163	3,562	22	18,358,794	112,630	163	3,562	22
Lumber and other mill products from logs or bolts.	16,457,811	9,891	1,427	13,056	9	15,161,730	10,625	1,853	18,063	10	27,772,834	14,988	1,853	18,063	10
Lumber, planing mill products, including sash, doors, and blinds.	33,765,173	62,528	335	5,938	18	12,910,638	38,539	467	8,033	18	18,398,638	39,388	467	8,033	18
Masonry, brick and stone.	26,579,854	37,542	794	8,254	10	12,540,863	15,795	650	13,854	21	28,212,579	43,404	650	13,854	21
Printing and publishing, book and job.	24,191,089	25,384	237	3,496	14	6,086,891	23,684	478	7,102	15	13,444,459	23,126	478	7,102	15
Printing and publishing, newspapers and periodicals.	44,393,071	35,140	724	7,292	10	10,928,510	15,095	992	10,658	11	20,536,538	20,702	992	10,658	11
Slaughtering and meat packing, wholesale.	34,848,582	458,534	70	1,376	20	13,280,640	189,724	114	1,256	11	14,110,303	123,775	114	1,256	11
Slaughtering, wholesale, not including meat packing.	41,793,569	398,034	68	257	4	3,731,549	54,876	128	714	6	7,881,301	61,573	128	714	6
Sugar and molasses, refining.	17,157,694	1,235,550	24	111	5	675,024	28,126	10	1,524	152	46,599,754	4,659,975	10	1,524	152
Tobacco, cigars and cigarettes.	47,422,663	16,593	937	6,375	7	7,024,748	7,497	1,967	18,069	10	19,978,429	10,167	1,967	18,069	10
Woolen goods.	5,188,020	57,011	64	1,032	16	1,513,302	23,645	264	16,061	61	29,878,010	113,174	264	16,061	61

Owing to the changes in the form and in the scope of the inquiry of 1890 as compared with that of 1880, it is not practicable to present comparative statistics that show the exact changes in the size of the average establishment reported at the two censuses.

The following statement, however, gives information of this character for 25 selected industries, as obtained from the reports of the two censuses 1880 and 1890:

AVERAGE CAPITAL, NUMBER OF EMPLOYÉS, AND GROSS AND NET VALUE OF PRODUCT PER ESTABLISHMENT; ALSO AVERAGE CAPITAL FOR A PRODUCT VALUED AT \$100, FOR 25 SELECTED INDUSTRIES AS REPORTED IN 1880 AND 1890.

INDUSTRIES.	Year.	Number of establishments reporting.	CAPITAL.			EMPLOYÉS.		GROSS PRODUCT.		NET PRODUCT.	
			Total.	Per establishment.	For \$100 of product.	For all establishments.	Per establishment.	For all establishments.	Per establishment.	For all establishments.	Per establishment.
Agricultural implements	1880 1890	1,943 910	\$82,100,668 145,313,997	\$31,506 159,086	\$90.49 178.80	39,580 42,544	20 47	\$68,040,466 81,271,651	\$35,327 89,310	\$37,109,316 49,668,386	\$19,000 64,581
Boots and shoes, factory product	1880 1890	1,950 2,082	42,904,028 95,282,311	21,947 45,765	25.89 43.18	111,152 139,333	57 67	166,050,354 220,649,358	84,763 105,080	63,607,912 101,863,527	32,470 48,926
Brick and tile	1880 1890	5,631 5,828	27,673,616 82,578,560	4,915 14,160	84.28 121.85	66,355 109,151	12 19	32,833,587 67,770,695	5,831 11,628	23,053,753 55,331,098	4,005 9,460
Cheese, butter, and condensed milk (a) ..	1880 1890	3,032 4,712	0,604,803 16,624,163	2,443 3,528	37.31 26.53	7,003 14,021	2 3	25,742,510 62,886,043	0,547 13,303	7,378,931 11,321,469	1,877 2,493
Clothing, men's (b)	1880 1890	6,166 18,658	79,861,006 182,552,938	12,952 9,784	38.11 48.29	160,813 243,857	26 13	209,548,400 373,022,815	33,985 20,261	78,185,178 198,507,154	12,680 10,644
Cotton goods	1880 1890	1,005 905	219,504,794 354,020,843	218,413 391,183	104.08 132.11	185,472 221,585	185 245	219,950,383 267,081,724	200,601 296,112	97,184,846 113,068,745	90,701 124,338
Flouring and grist mill products	1880 1890	24,338 18,470	177,361,878 208,473,500	7,287 11,287	35.11 40.50	58,407 63,481	2 3	505,185,712 513,971,474	20,757 27,827	63,640,487 79,819,184	2,615 4,322
Foundry and machine shop products	1880 1890	4,958 6,475	154,519,484 382,798,337	31,166 59,119	72.08 92.75	145,351 247,754	20 38	214,378,468 412,701,872	43,230 63,738	111,033,385 241,556,716	22,895 37,306
Glass	1880 1890	211 294	19,844,009 40,960,850	94,051 139,343	93.81 99.89	24,177 45,987	115 156	21,154,571 41,051,004	100,259 139,629	13,125,050 28,910,019	62,208 98,333
Hosiery and knit goods	1880 1890	359 796	15,579,591 50,607,738	43,307 63,578	53.41 75.26	28,885 61,209	80 77	29,167,227 67,241,013	81,246 84,474	13,956,270 31,379,428	38,875 39,421
Leather, tanned and curried (c)	1880 1890	5,424 1,506	67,100,574 81,261,090	12,371 50,016	36.33 58.77	34,865 34,348	6 22	184,000,639 138,282,004	34,052 80,643	39,443,017 38,167,198	7,272 23,014
Liquors, distilled	1880 1890	844 440	24,247,595 31,000,170	28,729 70,469	59.05 29.76	6,592 5,343	8 12	41,063,063 104,197,869	48,654 236,813	13,319,418 80,288,096	15,781 202,929
Liquors, malt	1880 1890	2,191 1,248	91,208,224 292,471,290	41,629 186,275	90.25 127.22	26,220 34,800	12 28	101,058,385 182,731,622	46,124 146,420	44,221,885 118,728,275	20,183 95,135
Lumber and other mill products from logs or bolts.	1880 1890	25,708 21,011	181,186,122 490,339,968	7,048 23,023	77.67 122.96	147,956 236,197	6 14	233,268,729 403,607,575	9,074 19,212	87,113,344 172,111,057	3,389 8,102
Lumber, planing mill products, including sash, doors, and blinds.	1880 1890	2,491 3,670	38,070,593 120,271,440	15,283 32,772	61.86 65.48	37,187 86,838	15 24	78,424,681 183,681,552	29,476 50,049	28,156,219 78,754,718	11,303 21,459
Paper	1880 1890	602 507	46,241,202 82,374,099	66,823 145,281	83.91 110.85	24,423 29,598	35 52	55,109,914 74,309,388	79,630 131,057	21,158,617 32,088,074	30,576 56,539
Shipbuilding	1880 1890	2,188 1,010	20,979,874 53,393,074	9,589 52,864	57.01 132.35	21,345 25,934	10 26	30,800,327 40,342,115	10,819 39,043	17,063,000 29,417,000	7,709 29,185
Shirts	1880 1890	549 869	6,841,778 14,273,611	12,462 16,425	33.99 42.43	25,687 32,750	47 38	20,130,031 33,038,593	36,667 38,710	8,823,587 17,334,240	16,072 29,638
Silk and silk goods	1880 1890	382 472	19,125,300 51,007,537	50,066 108,067	46.61 58.43	31,337 50,913	82 108	41,033,045 87,298,454	107,410 184,954	18,565,344 36,294,029	48,600 76,394
Slaughtering and meat packing (d)	1880 1890	872 1,367	49,419,213 118,016,066	56,673 86,332	16.28 20.90	27,297 49,032	31 36	363,502,413 564,007,035	348,122 413,070	35,823,511 81,769,654	41,082 59,817
Sugar and molasses, refining	1880 1890	49 393	27,432,500 24,013,008	559,847 61,102	17.64 19.60	5,867 7,529	120 19	155,484,915 123,118,259	3,173,162 313,278	10,786,416 15,359,448	220,131 39,083
Tobacco, chewing, smoking, and snuff ..	1880 1890	477 395	17,207,401 30,841,316	36,074 78,079	32.59 46.84	32,750 31,297	69 79	52,793,050 65,843,587	110,677 169,693	18,395,984 36,051,338	38,566 92,788
Tobacco, cigars and cigarettes	1880 1890	7,145 10,956	21,698,549 59,517,827	3,037 5,432	33.91 45.89	53,297 98,156	7 9	63,970,575 129,093,276	8,954 11,838	34,401,742 79,394,315	4,815 7,247
Woolen goods	1880 1890	1,390 1,311	96,095,564 130,989,940	48,289 99,916	59.83 98.00	86,504 79,351	43 61	160,608,721 133,577,977	80,707 101,890	59,761,110 51,307,042	30,031 39,136
Worsted goods	1880 1890	76 143	20,374,043 68,085,116	268,080 476,120	60.73 85.97	18,803 43,593	247 305	33,549,942 79,194,652	441,447 553,809	11,536,314 28,487,883	151,794 199,216

a In 1890 includes 160 establishments reported as "Cheese and butter, urban dairy product", and 4,553 as "Cheese, butter, and condensed milk, factory product".
 b In 1890 includes 13,691 establishments reported as "Clothing, men's, custom work and repairing"; 4,867 as "Clothing, men's, factory product", and 200 as "Clothing, men's, factory product, buttonholes".
 c In 1880 an establishment engaged in both tanning and currying leather was counted as 2 distinct establishments.
 d In 1890 includes 249 establishments reported as "Sausage"; 611 as "Slaughtering and meat packing, wholesale", and 507 as "Slaughtering, wholesale, not including meat packing".

MANUFACTURING INDUSTRIES.

The census inquiry concerning manufactures was designed to obtain from each establishment a statement showing the full value of capital, whether owned, borrowed, or hired, and the total cost of the product manufactured during the census year (excluding allowance for depreciation of plant and interest on capital), and the value placed on the product at the shop or factory. The figures therefore show only the cost of manufacture and the proportion of each item of cost in the total cost.

The following statement shows for each state and territory the average amount of capital and the cost required for a product valued at \$100:

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, BY STATES AND TERRITORIES: 1890.

STATES AND TERRITORIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total (a)	Miscellaneous expenses.	Wages.	Materials.
The United States.....	355,415	\$69.62	\$86.17	\$6.73	\$24.36	\$55.08
Alabama.....	2,977	90.04	85.71	5.46	24.75	55.59
Alaska.....	10	180.92	98.60	8.99	37.94	51.67
Arizona.....	76	65.08	80.34	5.20	37.80	37.34
Arkansas.....	2,073	66.07	84.66	4.57	25.38	54.71
California.....	7,923	68.70	86.58	6.08	24.15	56.35
Colorado.....	1,518	62.74	82.50	4.59	28.02	49.08
Connecticut.....	6,822	91.41	86.40	6.20	30.60	49.60
Delaware.....	1,003	89.68	87.58	4.93	26.33	56.32
District of Columbia.....	2,295	73.39	84.94	4.04	37.18	43.72
Florida.....	895	60.97	85.97	0.21	35.74	44.02
Georgia.....	4,285	82.59	82.86	5.83	25.12	51.91
Idaho.....	140	75.13	73.95	4.98	23.22	45.75
Illinois.....	20,482	55.25	85.85	8.75	18.88	58.22
Indiana.....	12,354	58.02	87.45	7.27	32.31	57.37
Indian territory.....	20	82.08	88.10	4.60	32.07	51.37
Iowa.....	7,440	61.99	83.69	4.53	26.70	63.41
Kansas.....	4,471	39.85	91.65	5.31	14.81	71.53
Kentucky.....	7,745	62.98	84.69	12.53	21.91	50.25
Louisiana.....	2,613	69.12	86.85	6.51	22.76	67.58
Maine.....	5,010	84.04	87.20	5.64	27.72	53.84
Maryland.....	7,485	69.64	83.92	6.18	24.17	53.57
Massachusetts.....	26,923	70.94	87.37	7.10	26.99	53.28
Michigan.....	12,127	94.43	86.07	6.60	23.87	55.60
Minnesota.....	7,565	66.49	87.91	6.32	19.89	61.79
Mississippi.....	1,698	79.64	84.50	4.42	26.27	53.81
Missouri.....	14,052	58.40	85.30	7.05	23.54	54.71
Montana.....	289	77.96	83.83	5.39	35.37	43.12
Nebraska.....	3,014	46.38	92.13	5.89	13.96	72.37
Nevada.....	95	109.61	84.01	4.87	40.31	39.73
New Hampshire.....	3,229	92.54	89.04	5.09	28.27	55.68
New Jersey.....	9,225	70.73	85.91	5.21	27.29	53.41
New Mexico.....	127	63.71	85.79	5.05	35.14	45.60
New York.....	65,840	66.03	85.31	7.13	27.28	50.99
North Carolina.....	3,667	81.10	84.08	8.25	19.39	56.44
North Dakota.....	382	57.57	86.06	4.71	19.95	61.40
Ohio.....	28,673	62.77	84.90	7.02	24.74	53.14
Oklahoma.....	72	52.94	83.36	12.18	39.86	31.32
Oregon.....	1,523	77.53	85.53	5.09	37.84	52.60
Pennsylvania.....	39,339	74.43	86.67	5.62	22.95	58.10
Rhode Island.....	3,377	88.76	86.32	6.19	26.62	53.51
South Carolina.....	2,382	91.70	85.37	5.61	20.64	59.12
South Dakota.....	490	56.45	86.06	4.72	19.33	62.01
Tennessee.....	4,559	71.14	84.93	5.70	23.36	55.92
Texas.....	5,268	66.47	82.82	5.10	26.39	51.33
Utah.....	531	73.87	83.32	6.12	30.43	47.72
Vermont.....	3,031	85.45	85.33	5.71	26.33	53.29
Virginia.....	5,915	71.81	87.38	8.40	22.23	56.75
Washington.....	1,543	82.20	83.21	5.22	30.11	47.68
West Virginia.....	2,376	72.65	87.91	5.07	21.53	61.31
Wisconsin.....	10,417	99.18	86.86	7.48	20.86	58.52
Wyoming.....	190	59.60	86.88	3.97	37.11	45.80

a The difference between the cost of manufacturing and the value of product at the place of production does not show the true average profit or earnings for capital, because the cost reported does not include cost for depreciation of plant or mercantile risks.

Apparent inconsistencies in this statement may be explained by reference to general Table 6, which shows the totals for each industry in the different states and territories. For instance, the cost of miscellaneous expenses in Kentucky is relatively larger than in any other state. By reference to Table 6 this is found to be due to the large amount reported as miscellaneous expenses in malt and distilled liquors, which includes internal revenue taxes. In the same way the relatively large cost of materials in Kansas is found to be due to the slaughtering and meat packing industry, in which the cost of material forms a large percentage of the total cost.

The average amount of capital required and cost for a product valued at \$100, as obtained from the totals for the different geographical divisions of the states and territories, is shown by the following statement:

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, BY GEOGRAPHICAL DIVISIONS: 1890.

GEOGRAPHICAL DIVISIONS.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
		Total. (a)	Miscellaneous expenses.	Wages.	Materials.
The United States.....	\$69.62	\$86.17	\$6.73	\$24.36	\$55.08
North Atlantic.....	72.46	86.27	6.42	26.21	53.64
South Atlantic.....	75.45	85.14	6.80	24.71	54.13
North Central.....	64.18	86.45	7.30	21.28	57.87
South Central.....	68.79	84.85	7.63	23.77	53.45
Western.....	70.98	85.41	5.68	26.39	53.39

The average amount of capital required and the cost for a product valued at \$100 is shown in the following statement for each of the different classes of industry for which 3 or more establishments are reported:

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, BY SPECIFIED INDUSTRIES: 1890.

INDUSTRIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total. (a)	Miscellaneous expenses.	Wages.	Materials.
All industries.....	355,415	\$69.62	\$86.17	\$6.73	\$24.36	\$55.08
Agricultural implements.....	910	178.80	79.42	13.60	26.84	38.80
Ammunition.....	35	66.81	63.07	4.48	16.98	42.21
Artificial leathers and flowers.....	251	33.95	84.23	6.53	29.53	51.17
Artificial limbs.....	59	39.27	67.94	8.44	39.79	19.71
Artists' materials.....	39	67.97	75.53	8.54	31.09	35.89
Awnings, tents, and sails.....	581	39.12	85.38	4.16	28.21	53.01
Axle grease.....	31	53.31	69.37	5.93	15.96	47.48
Babbit metal and solder.....	36	32.86	90.33	1.72	6.48	32.13
Bagging, flax, hemp, and jute.....	16	86.49	92.11	3.17	23.50	65.44
Bags, other than paper.....	64	36.78	83.46	2.12	8.94	77.39
Bags, paper.....	56	46.22	78.91	4.31	11.55	63.05
Baking and yeast powders.....	150	48.44	80.75	9.53	13.52	57.70
Baskets and rattan and willow ware.....	403	74.38	80.31	6.89	34.93	38.49
Bellows.....	17	58.56	80.32	5.43	25.06	49.78
Bells.....	22	71.74	80.02	4.45	28.82	47.35
Belting and hose, leather.....	93	57.61	87.05	3.11	12.91	71.03
Belting and hose, linen.....	9	102.31	80.67	5.96	19.71	55.00
Belting and hose, rubber.....	17	95.60	87.18	5.13	18.93	63.12
Bicycle and tricycle repairing.....	83	57.03	83.89	7.98	53.59	22.32
Bicycles and tricycles.....	27	80.13	80.46	9.42	43.05	27.99
Billiard tables and materials.....	57	51.59	81.77	5.04	30.83	45.90
Blacking.....	71	48.38	79.60	9.13	19.36	51.17
Blacksmithing and wheelwrighting.....	28,000	63.53	80.94	4.62	49.35	26.97
Bluing.....	53	40.34	68.35	4.75	22.79	40.81
Bone, ivory, and lamp black.....	24	157.87	76.33	8.23	20.98	47.12
Bookbinding and blank-book making.....	805	58.95	82.76	7.11	40.45	35.20
Boot and shoe outstock.....	344	30.17	92.05	2.30	12.98	76.77
Boot and shoe findings.....	138	51.83	83.86	4.74	22.31	50.81
Boot and shoe uppers.....	317	36.34	87.48	3.76	26.85	56.87
Boots and shoes, custom work and repairing.....	20,803	40.82	85.00	7.99	48.06	29.85
Boots and shoes, factory product.....	2,082	43.18	88.09	4.18	30.08	53.83
Boots and shoes, rubber.....	11	95.49	88.89	5.07	21.29	62.53
Bottling.....	716	41.64	80.51	5.36	16.73	58.43
Boxes, cigar.....	291	47.58	85.16	4.76	30.10	50.30
Boxes, fancy and paper.....	588	49.34	83.52	5.01	36.53	41.98
Boxes, wooden packing.....	636	51.03	85.19	3.97	25.39	55.83
Brass.....	14	47.40	88.44	2.08	17.12	69.24
Brass and copper, rolled.....	16	95.91	88.20	3.84	18.82	65.54
Brass castings and brass finishing.....	453	76.66	83.78	5.02	28.44	50.32
Brassware.....	113	79.81	88.07	6.20	29.80	52.07

^a The difference between cost of manufacturing and the value of product at the place of production does not show the true average profit or earnings for capital, because the cost reported does not include cost for depreciation of plant or mercantile risks.

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, ETC.—Continued.

INDUSTRIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total.	Miscellaneous expenses.	Wages.	Materials.
Bread and other bakery products.....	10,484	\$35.63	\$53.85	\$4.97	\$22.42	\$56.46
Brick and tile.....	5,823	121.85	74.43	7.54	48.24	18.05
Bridges.....	137	50.12	87.37	2.99	25.98	58.40
Bronze castings.....	14	60.95	87.32	5.84	21.79	59.69
Brooms and brushes.....	1,235	54.70	83.57	4.32	30.50	48.75
Buttons.....	106	73.26	82.59	6.00	39.70	36.80
Calcium lights.....	15	66.60	82.96	6.08	45.04	31.84
Cardboard.....	5	57.58	82.16	3.57	13.05	65.54
Card cutting and designing.....	26	36.80	84.16	4.03	43.85	36.28
Carpentering.....	16,917	29.00	86.53	3.89	33.62	40.02
Carpets and rugs, other than rag.....	173	79.98	88.12	3.81	24.35	59.90
Carpets, rag.....	854	56.89	84.85	4.56	37.02	42.37
Carpets, wood.....	6	65.08	79.74	8.17	30.37	41.20
Carriage and wagon materials.....	630	80.11	82.51	5.05	32.03	45.43
Carriages and sleds, children's.....	87	77.14	85.00	6.06	32.51	46.43
Carriages and wagons, including custom work and repairing.....	3,614	90.97	83.90	5.26	35.09	43.55
Cars and general shop construction and repairs by steam railroad companies.....	710	58.85	99.21	0.07	47.73	51.41
Cars and general shop construction and repairs by street railroad companies.....	78	79.26	89.94	2.66	48.35	38.93
Cars, steam railroad, not including operations of railroad companies.....	71	62.27	90.22	2.40	24.02	63.74
Cars, street railroad, not including operations of railroad companies.....	17	74.75	91.20	4.25	35.58	51.46
Celluloid and celluloid goods.....	12	122.62	76.00	18.71	24.05	33.24
Cheese and butter, urban dairy product.....	160	29.63	91.76	2.99	13.40	75.37
Cheese, butter, and condensed milk, factory product.....	4,552	26.41	91.04	1.34	8.44	82.16
Chemicals.....	563	92.72	80.54	7.44	16.33	58.77
China, decorating.....	78	58.95	78.72	5.65	30.03	43.04
Chocolate and cocoa products.....	11	62.30	88.16	5.52	14.13	68.51
Cigar molds.....	7	99.57	99.07	3.93	31.94	33.20
Clay and pottery products.....	707	118.45	80.51	9.08	45.96	25.47
Cleansing and polishing preparations.....	56	35.13	60.28	4.71	20.44	44.13
Clock cases and materials.....	4	90.60	78.84	5.24	46.98	26.62
Clocks.....	27	135.43	80.70	6.40	45.77	34.47
Cloth, sponging and refinishing.....	23	57.36	79.77	10.13	61.10	8.54
Clothing, horse.....	31	65.42	73.07	3.68	19.93	49.46
Clothing, men's, custom work and repairing.....	13,591	42.87	84.75	6.27	38.47	40.01
Clothing, men's, factory product.....	4,867	51.09	84.30	8.15	24.82	51.33
Clothing, men's, factory product, buttonholes.....	200	24.25	83.80	5.86	67.21	10.73
Clothing, women's, dressmaking.....	10,587	22.57	85.76	5.57	39.20	40.99
Clothing, women's, factory product.....	1,224	31.19	83.20	5.31	27.60	50.29
Coffee and spice, roasting and grinding.....	358	22.65	93.89	1.64	4.35	87.90
Coffins and burial cases, trimming and finishing.....	1,368	77.30	78.37	5.70	25.69	40.98
Coffins, burial cases, and undertakers' goods.....	104	90.74	81.14	6.72	29.07	45.35
Coke.....	218	105.85	97.52	2.39	25.37	60.76
Collars and cuffs, paper.....	3	78.97	92.77	2.53	16.15	74.00
Combs.....	31	72.71	82.12	5.99	42.42	33.71
Confectionery.....	2,921	41.66	82.25	5.90	20.78	55.57
Cooperage.....	2,652	46.11	86.94	3.29	30.21	53.44
Cardage and twine.....	150	70.10	88.28	3.06	13.62	72.20
Cordials and sirups.....	40	41.17	83.30	6.37	12.24	64.69
Cork, cutting.....	65	65.81	83.94	4.21	26.85	52.88
Corsets.....	205	53.54	85.75	7.33	32.76	45.66
Cotton, cleaning and rehandling.....	13	22.11	91.54	2.20	10.29	78.96
Cotton, compressing.....	52	299.71	68.88	12.37	46.82	9.69
Cotton, ginning.....	1,637	136.10	63.36	7.43	33.02	22.91
Cotton goods.....	905	132.11	80.98	6.24	25.93	57.81
Cotton ties.....	3	188.08	84.80	3.40	26.36	50.04
Cotton waste.....	31	37.34	94.51	2.92	8.09	83.50
Crucibles.....	10	124.97	85.70	10.64	20.53	54.63
Cutlery and edge tools.....	474	108.75	82.57	7.11	44.27	31.19
Dentistry, mechanical.....	3,214	51.11	74.10	11.07	44.27	18.76
Dentists' materials.....	24	112.07	87.99	15.65	33.44	38.30
Druggists' preparations, not including prescriptions.....	1,805	69.44	75.90	9.97	29.11	36.22
Drug grinding.....	13	77.36	76.27	8.52	23.72	44.03
Dyeing and cleaning.....	976	57.73	79.09	9.97	48.17	20.95
Dyeing and finishing textiles.....	248	133.05	87.30	10.83	33.62	42.85
Dye stuffs and extracts.....	62	93.04	87.93	4.00	13.88	69.96
Electrical apparatus and supplies.....	189	99.39	80.25	6.04	28.07	46.14
Electric light and power.....	144	707.44	72.49	15.79	32.54	24.16
Electroplating.....	313	65.71	79.81	5.86	40.38	33.57
Emery wheels.....	17	113.30	61.99	11.17	25.14	25.68
Enameled goods.....	19	78.84	75.16	5.36	43.13	26.67
Enameling.....	27	39.53	95.32	8.66	57.53	29.13
Engravers' materials.....	10	63.67	85.04	6.85	47.77	30.42
Engraving and diesinking.....	382	36.33	80.19	6.87	53.45	19.87
Engraving, steel, including plate printing.....	134	87.34	83.05	4.66	56.20	22.19
Engraving, wood.....	235	30.92	78.50	6.87	61.40	10.14
Envelopes.....	41	66.28	81.05	7.13	21.80	52.12
Fancy articles, not elsewhere specified.....	377	49.61	79.01	5.75	34.92	38.34
Felt goods.....	84	95.83	87.74	5.00	22.37	60.37
Fertilizers.....	380	103.61	83.14	7.12	11.92	64.10
Files.....	140	91.10	82.24	4.10	45.47	32.67
Firearms.....	34	150.88	81.74	6.93	58.18	16.63
Fire extinguishers, chemical.....	9	207.18	98.66	9.93	29.55	29.48
Fireworks.....	22	85.61	72.15	4.30	35.90	31.89
Fish, canning and preserving.....	110	45.71	89.50	4.03	17.91	67.56
Flags and banners.....	29	82.51	78.61	4.41	31.29	42.91

INTRODUCTION.

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, ETC.—Continued.

INDUSTRIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total.	Miscellaneous expenses.	Wages.	Materials.
Flavoring extracts.....	148	\$52.09	\$77.47	\$5.87	\$16.90	\$54.70
Flax, dressed.....	6	138.76	92.84	4.64	23.15	65.05
Flouring and grist mill products.....	18,470	40.56	92.20	2.56	5.26	84.47
Food preparations.....	302	47.61	76.77	6.25	12.88	57.64
Foundry and machine shop products.....	6,475	92.75	83.40	5.97	35.96	41.47
Foundry supplies.....	21	101.10	83.86	7.92	22.72	53.22
Fruit jar trimmings.....	5	127.85	69.95	4.20	20.78	34.37
Fruits and vegetables, canning and preserving.....	888	61.29	84.33	4.32	17.56	62.50
Fur goods.....	481	54.15	84.56	4.21	23.14	57.21
Furnishing goods, men's.....	586	41.17	84.37	7.80	25.41	51.16
Furniture, cabinetmaking, repairing and upholstering.....	4,051	53.85	82.68	5.80	35.94	40.85
Furniture, chairs.....	340	85.30	70.87	6.88	34.02	38.97
Furniture, factory product.....	1,579	69.98	82.88	5.06	36.33	40.89
Furs, dressed.....	28	40.98	77.38	2.04	44.14	61.20
Galvanizing.....	27	44.03	84.98	3.35	16.00	65.03
Gas and lamp fixtures.....	108	92.25	84.27	10.14	45.91	28.22
Gas, illuminating and heating.....	742	454.09	57.00	13.60	18.69	24.63
Gas machines and meters.....	38	87.21	81.05	5.72	38.59	30.74
Gas stoves.....	24	56.11	74.20	5.55	20.41	30.39
Glass.....	204	99.80	88.08	5.52	53.88	29.68
Glass, cutting, staining, and ornamenting.....	270	41.12	81.89	4.47	40.99	85.03
Gloves and mittens.....	524	59.10	84.70	4.23	30.77	40.70
Glucose.....	7	77.24	89.30	11.90	12.50	64.84
Gins.....	62	113.79	87.84	9.80	19.28	58.80
Gold and silver, leaf and foil.....	81	37.11	90.07	1.57	28.89	61.61
Gold and silver, reducing and refining, not from the ore.....	38	14.87	97.18	1.11	2.41	93.66
Graphite.....	3	70.72	76.58	9.15	19.12	48.31
Grease and tallow.....	233	58.01	86.87	3.72	14.44	68.71
Grindstones.....	9	64.42	79.77	4.74	40.61	28.42
Gunpowder.....	37	142.32	77.62	14.21	14.85	48.56
Hairwork.....	492	54.70	80.31	11.34	34.98	33.99
Hammocks.....	6	108.75	80.10	5.59	30.47	44.04
Hand knit goods.....	28	38.13	82.91	9.89	30.12	42.90
Hand stamps.....	234	33.07	76.39	7.99	41.08	27.32
Hardware.....	350	98.30	84.17	8.98	37.98	38.11
Hardware, saddlery.....	102	81.99	83.12	6.09	37.57	39.46
Hat and cap materials.....	73	49.33	87.99	4.22	24.36	59.41
Hats and caps, not including wool hats.....	705	36.78	85.56	4.43	37.82	43.31
Hay and straw, baling.....	72	39.37	85.93	2.88	14.14	68.91
High explosives.....	32	85.42	64.33	4.56	11.89	47.88
Hones and whetstones.....	9	180.91	66.91	3.54	51.67	11.70
Hooks and eyes.....	10	75.74	85.42	5.56	25.01	54.85
Horseshoes, factory product.....	4	117.03	76.07	3.79	25.48	40.80
Hosiery and knit goods.....	796	75.26	85.88	5.39	27.16	53.33
House furnishing goods, not elsewhere specified.....	133	83.14	83.61	4.39	21.32	67.00
Ice, artificial.....	222	200.91	58.34	9.74	20.41	10.19
Ink, printing.....	35	78.39	74.22	6.84	19.18	48.20
Ink, writing.....	38	70.21	76.96	4.23	26.71	46.02
Instruments, professional and scientific.....	233	91.58	76.67	6.23	49.09	21.35
Iron and steel.....	645	86.48	92.21	3.93	19.65	68.63
Iron and steel, bolts, nuts, washers, and rivets.....	82	87.20	87.41	4.83	28.09	54.52
Iron and steel, doors and shutters.....	7	48.07	81.79	4.75	43.37	33.06
Iron and steel, forgings.....	90	79.09	87.16	4.06	20.18	53.92
Iron and steel, nails and spikes, cut and wrought, including wire nails.....	138	71.10	93.56	3.64	22.84	67.08
Iron and steel, pipe, wrought.....	22	59.68	86.87	2.89	15.42	68.50
Ironwork, architectural and ornamental.....	724	53.20	84.55	3.56	31.60	49.33
Ivory and bone work.....	64	98.75	89.68	5.80	35.83	48.05
Japaning.....	39	81.46	85.03	0.25	44.62	34.26
Jewelry.....	783	64.00	80.20	4.30	29.55	40.35
Jewelry and instrument cases.....	76	43.66	78.52	4.86	40.41	33.25
Jute and jute goods.....	7	146.92	94.79	15.02	34.90	44.81
Kaolin and other earth grinding.....	95	117.13	80.69	7.82	26.14	40.73
Kindling wood.....	136	54.10	88.82	7.22	32.16	40.44
Labels and tags.....	47	61.70	80.43	5.81	36.24	38.88
Lamps and reflectors.....	93	63.13	75.77	4.90	32.60	38.18
Lapidary work.....	29	81.89	75.20	4.21	31.52	50.56
Lard, refined.....	17	25.20	91.42	5.46	4.19	81.77
Lasts.....	52	73.19	77.89	5.02	46.14	26.73
Lead, bar, pipe, and sheet.....	28	58.58	91.51	2.59	6.61	82.40
Leather board.....	8	96.13	72.09	6.51	19.88	45.70
Leather, dressed skins.....	38	40.53	89.81	2.89	19.36	67.56
Leather goods.....	139	53.42	83.25	3.42	26.25	53.58
Leather, morocco.....	121	46.74	89.85	3.19	17.50	60.16
Leather, patent and enameled.....	32	63.18	84.65	3.86	20.81	60.48
Leather, tanned and curried.....	1,590	58.77	88.41	3.12	12.89	72.40
Lightning rods.....	22	90.36	75.63	4.25	27.35	44.03
Lime and cement.....	873	119.12	77.03	6.25	44.77	36.01
Linen goods.....	3	168.02	94.05	11.98	32.93	49.14
Liquors, distilled.....	440	29.76	79.56	62.55	2.70	14.31
Liquors, malt.....	1,248	127.22	76.98	26.42	15.53	35.03
Liquors, vinous.....	236	203.53	72.70	9.50	16.89	46.31
Lithographing and engraving.....	219	86.11	80.98	6.42	39.73	34.88
Lock and gun smithing.....	1,308	59.20	82.54	3.83	47.63	26.08
Looking-glass and picture frames.....	1,290	52.24	81.50	6.23	32.10	43.17
Lumber and other mill products from logs or bolts.....	21,011	122.96	84.10	4.99	21.75	57.86

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, ETC.—Continued.

INDUSTRIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total.	Miscellaneous expenses.	Wages.	Materials.
Lumber, planing mill products, including sash, doors, and blinds.....	3,670	\$65.48	\$87.37	\$2.50	\$26.60	\$57.12
Malt.....	202	103.03	87.48	5.57	8.97	72.04
Mantels, slate, marble, and marbled.....	90	59.30	80.72	3.48	37.12	40.12
Marble and stone work.....	1,921	57.35	84.53	4.23	41.58	38.72
Masonry, brick and stone.....	5,959	27.00	88.17	2.08	37.06	48.13
Matches.....	27	88.40	78.12	5.60	24.81	42.62
Mats and matting.....	24	64.51	88.84	4.38	34.91	49.55
Mattresses and spring beds.....	686	42.48	83.33	4.84	23.34	55.65
Millinery and lace goods.....	278	36.74	81.91	4.11	30.21	47.59
Millinery, custom work.....	5,999	44.10	82.00	7.09	24.19	50.72
Millstones.....	4	104.87	80.14	3.45	37.89	38.80
Mineral and soda waters.....	1,377	75.12	70.06	8.06	29.31	31.79
Mirrors.....	45	28.28	74.61	2.83	17.22	54.56
Models and patterns.....	449	54.88	80.00	5.06	56.58	17.46
Monuments and tombstones.....	2,052	68.24	79.99	4.69	38.36	36.94
Mucilage and paste.....	55	58.06	80.05	5.29	15.62	59.14
Musical instruments and materials, not specified.....	203	70.39	82.14	9.45	45.65	27.04
Musical instruments, organs and materials.....	145	107.35	80.02	8.91	33.61	37.50
Musical instruments, pianos and materials.....	236	71.53	82.33	5.41	39.28	40.64
Needles and pins.....	45	120.07	82.48	4.73	48.03	29.72
Nets and seines.....	22	113.33	90.45	5.38	21.75	63.32
Onion.....	7	75.88	81.30	1.81	15.72	63.77
Oil, castor.....	7	108.45	92.38	4.94	12.23	75.21
Oil, cottonseed and cake.....	119	66.24	90.17	6.02	9.87	74.28
Oil, essential.....	67	39.95	78.83	13.47	14.65	50.71
Oil, illuminating, not including petroleum, refining.....	5	93.63	85.41	2.58	9.07	73.70
Oil, lard.....	7	40.75	93.56	8.69	6.96	77.01
Oil, linseed.....	62	59.50	93.40	5.62	5.46	82.32
Oil, lubricating.....	124	47.26	78.16	10.73	10.12	57.31
Oil, resin.....	8	38.46	86.49	2.83	11.19	72.47
Oilcloth, enameled.....	9	48.20	78.76	4.17	13.25	61.34
Oilcloth, floor.....	19	95.53	88.04	5.05	21.61	61.38
Oleomargarine.....	12	21.23	93.92	12.90	8.23	72.79
Optical goods.....	191	74.39	81.36	6.50	37.09	37.77
Ordnance and ordnance stores.....	4	315.10	76.78	0.78	45.34	30.66
Oysters, canning and preserving.....	16	33.05	83.37	2.40	21.85	64.06
Painting and paper hanging.....	10,043	31.24	85.68	3.55	50.93	31.20
Paints.....	362	84.10	83.03	7.52	13.86	61.65
Paper.....	567	110.65	83.76	8.44	18.50	56.82
Paper goods, not elsewhere specified.....	60	69.93	86.79	5.01	18.31	62.87
Paper hangings.....	27	76.83	76.78	8.88	19.84	48.06
Paper patterns.....	27	41.36	77.85	14.53	40.73	22.59
Patent medicines and compounds.....	1,127	57.01	71.00	21.65	15.02	33.82
Paving and paving materials.....	704	41.27	83.17	3.74	34.10	45.33
Pencil cases.....	6	40.51	76.32	3.60	36.54	36.18
Pencils, lead.....	5	183.75	90.76	9.16	34.41	47.19
Pens, fountain and stylographic.....	15	40.44	67.77	3.52	29.22	35.03
Pens, gold.....	18	66.01	80.63	11.52	36.30	32.81
Pens, steel.....	3	148.80	80.19	2.35	56.73	21.11
Perfumery and cosmetics.....	157	48.55	74.03	9.10	18.06	45.97
Petroleum, refining.....	94	91.08	90.55	2.43	8.22	79.90
Photographic apparatus.....	25	58.11	80.38	4.53	49.48	26.37
Photographic materials.....	45	55.28	81.88	4.31	25.87	52.20
Photography.....	3,105	50.30	76.77	10.28	41.86	25.13
Photolithographing and engraving.....	89	54.78	80.87	7.00	47.74	26.13
Pickles, preserves, and sauces.....	316	50.18	77.87	5.40	18.05	54.42
Pipes, tobacco.....	69	76.16	77.25	5.08	38.86	33.31
Plastering and stucco work.....	1,746	24.58	85.98	2.32	50.85	32.81
Plated and britannia ware.....	68	114.33	84.33	11.10	82.82	40.41
Plumbers' supplies.....	122	80.02	81.18	4.61	27.63	48.94
Plumbing and gas fitting.....	5,327	36.26	85.27	3.08	35.55	46.64
Pocketbooks.....	62	51.81	80.03	4.71	30.57	44.75
Printing and publishing, book and job.....	4,098	71.78	81.38	11.61	38.85	31.42
Printing and publishing, music.....	70	107.89	72.01	21.51	26.65	29.85
Printing and publishing, newspapers and periodicals.....	12,362	70.20	79.66	19.86	38.14	21.66
Printing materials.....	64	93.91	80.55	8.85	33.31	38.89
Printing, tip.....	27	42.03	81.54	7.32	43.03	31.19
Pulp goods.....	9	118.57	87.38	13.11	39.43	84.84
Pulp, wood.....	82	161.10	80.68	10.80	26.55	43.33
Pulp from fiber, other than wood.....	7	111.37	48.33	6.33	17.79	24.21
Pumps, not including steam pumps.....	256	86.27	74.37	5.49	27.91	40.97
Refrigerators.....	82	74.60	86.98	6.54	27.76	52.68
Regalia and society banners and emblems.....	137	57.47	79.27	7.74	32.61	38.92
Registers, car fare.....	7	52.88	77.69	9.27	45.34	23.08
Registers, cash.....	5	22.80	52.56	1.81	33.88	17.37
Rice, cleaning and polishing.....	32	30.98	90.67	2.21	4.77	83.69
Roofing and roofing materials.....	2,140	45.23	82.92	3.80	29.10	50.02
Rubber and elastic goods.....	199	73.25	89.60	6.06	24.14	59.40
Rules, ivory and wood.....	16	112.16	77.59	7.25	48.08	22.26
Saddlery and harness.....	7,931	66.73	81.87	5.03	30.26	46.58
Safes and vaults.....	39	60.30	84.24	8.50	36.06	39.68
Salt.....	200	245.01	78.10	12.29	32.50	83.31
Sand and emery paper and cloth.....	9	56.49	83.95	8.89	12.52	62.54
Sausage.....	249	36.94	85.50	3.78	18.38	63.84
Saws.....	95	118.29	83.29	7.82	33.87	42.10

AVERAGE CAPITAL REQUIRED AND COST FOR A PRODUCT VALUED AT \$100, ETC.—Continued.

INDUSTRIES.	Number of establishments reporting.	Average amount of capital required for a product valued at \$100.	COST OF PRODUCT VALUED AT \$100.			
			Total.	Miscellaneous expenses.	Wages.	Materials.
Scales and balances.....	78	\$71.41	\$78.08	\$4.65	\$36.06	\$37.37
Screws, machine.....	20	141.32	79.49	6.25	45.21	28.03
Screws, wood.....	7	239.50	78.94	13.35	26.88	38.71
Sewing machine cases.....	7	63.59	87.07	3.62	39.42	44.03
Sewing machine repairing.....	166	49.90	87.01	12.42	52.10	22.49
Sewing machines and attachments.....	59	125.11	82.17	14.54	40.32	27.31
Shipbuilding.....	1,019	132.35	85.13	3.45	39.73	41.95
Shirts.....	899	42.43	85.02	6.51	31.82	46.69
Shoddy.....	94	47.00	89.99	3.02	10.86	76.11
Show cases.....	99	47.01	81.76	5.73	34.10	41.93
Silk and silk goods.....	472	58.43	85.85	4.88	22.54	58.43
Silversmithing.....	24	66.09	77.01	3.34	40.81	32.86
Silverware.....	30	91.47	75.37	10.00	27.84	36.63
Slaughtering and meat packing, wholesale.....	611	22.66	93.18	3.05	5.42	84.71
Slaughtering, wholesale, not including meat packing.....	507	14.57	94.92	1.96	4.17	88.79
Smelting and refining.....	50	33.44	95.36	1.08	3.98	80.70
Soap and candles.....	578	56.93	84.86	7.70	11.36	65.80
Soda water apparatus.....	12	123.71	78.37	14.05	20.85	37.47
Sporting goods.....	130	62.51	77.03	3.75	32.55	41.33
Springs, steel, car and carriage.....	57	79.87	82.48	4.12	27.12	51.24
Stamped ware.....	99	82.98	85.48	6.02	29.53	49.93
Starch.....	80	55.17	83.99	12.40	13.31	57.68
Stationery goods, not elsewhere specified.....	200	57.82	85.69	4.58	21.41	59.70
Steam fittings and heating apparatus.....	217	73.52	85.15	6.42	32.81	45.92
Steam packing.....	34	53.08	68.59	10.00	22.84	35.06
Stencils and brands.....	106	60.76	78.05	8.03	47.14	22.88
Stereotyping and electrotyping.....	81	61.00	79.29	7.41	48.95	22.93
Straw goods, not elsewhere specified.....	6	32.35	81.52	4.15	36.48	40.89
Sugar and molasses, refining.....	393	19.50	94.62	4.81	2.29	87.52
Surgical appliances.....	155	51.90	70.28	11.20	33.20	31.79
Tar and turpentine.....	670	50.29	74.12	2.21	36.32	35.59
Taxidermy.....	63	126.47	69.17	8.78	44.11	16.28
Teasels.....	5	72.40	86.22	1.28	25.48	59.40
Timber products, not manufactured at mill.....	1,606	179.47	80.34	15.13	33.11	32.10
Tinsmithing, coppersmithing, and sheet-iron working.....	7,092	57.66	82.95	4.55	31.50	46.94
Tobacco, chewing, smoking, and snuff.....	395	46.84	86.91	29.56	13.01	44.34
Tobacco, cigars and cigarettes.....	19,956	45.89	86.93	13.63	34.52	38.78
Tobacco, stemming and rehandling.....	292	35.38	90.65	2.62	8.98	79.05
Tools, not elsewhere specified.....	462	108.06	80.72	7.94	39.37	33.41
Toys and games.....	139	74.17	82.25	7.56	35.92	38.77
Trunks and valises.....	395	63.77	82.07	6.13	32.47	43.47
Typefoundry.....	38	126.84	78.45	6.05	35.70	36.61
Typewriters and supplies.....	30	39.17	49.80	3.30	29.70	17.43
Umbrellas and canes.....	435	41.00	85.17	6.98	23.27	54.92
Upholstery materials.....	152	77.23	82.18	4.20	25.36	52.56
Varnish.....	140	81.98	78.76	9.50	12.08	56.58
Vault lights and ventilators.....	15	38.48	81.57	5.57	35.26	40.74
Vinegar and cider.....	694	88.11	71.77	5.34	17.28	49.15
Washing machines and clothes wringers.....	163	68.82	81.41	3.31	23.08	54.42
Watch and clock materials.....	32	84.06	80.82	3.70	37.15	39.97
Watch cases.....	45	54.85	87.98	5.14	24.50	58.28
Watch, clock, and jewelry repairing.....	4,592	56.58	82.12	9.79	51.54	20.79
Watches.....	19	167.01	89.54	12.12	09.96	16.46
Whalebone and rattan.....	9	32.41	91.10	1.95	7.86	81.29
Wheelbarrows.....	26	94.16	86.14	7.20	25.09	53.79
Whips.....	81	75.79	74.85	11.42	25.28	38.15
Windmills.....	77	99.52	80.29	6.94	27.94	45.41
Window shades.....	182	45.10	87.42	14.05	15.56	57.81
Wire.....	24	52.73	89.36	2.03	19.01	68.32
Wirework, including wire rope and cable.....	539	75.60	84.66	5.52	25.61	53.53
Wood, preserving.....	4	183.11	73.95	9.33	20.28	35.34
Wood, turned and carved.....	872	71.53	80.43	5.71	38.64	36.08
Woodenware, not elsewhere specified.....	167	75.37	81.64	5.59	34.39	41.66
Wool hats.....	32	77.72	82.84	4.68	25.59	52.57
Woolen goods.....	1,311	98.06	89.20	6.29	21.32	61.59
Worsted goods.....	148	85.97	90.29	6.21	20.05	64.03
Zinc.....	8	33.84	91.90	2.58	21.94	67.38
All other industries (a).....	12	93.96	83.24	6.90	19.80	56.45

a Industries in which less than 8 establishments are reported are grouped, in order to avoid disclosing the operations of individual establishments. These establishments are distributed as follows: fuel, artificial, 2; phonographs and graphophones, 2; racking hose, 1; rubber, vulcanized, 1; sugar and molasses, beet, 2; thread, linen, 2; tinfoil, 2.

In this and in the two preceding statements presenting similar computations for the different states and territories, also for geographical divisions, the value of hired property is not included in the capital. This will account, in part, for the small average capital shown for some industries. In "Clothing, women's, dressmaking", for instance, the average amount of capital required for a product valued at \$100 is given as \$22.57. A large percentage of the persons engaged in this industry carry on their business in rooms rented for that purpose, and as only the capital owned by the manufacturer is included in the total capital, the aggregate reported for the industry is comparatively small. The amount expended for miscellaneous expenses for a product valued at \$100 in "Cars and general shop construction and repairs by steam railroad companies" is given as 7 cents. This small amount is due to the fact that the majority of the railroad companies reported no expenses of a miscellaneous character for their repair shops, materials and wages being the only items of expense reported as charged to this branch. "Miscellaneous expenses" includes internal revenue taxes, therefore the proportion assigned to "Liquors, distilled and malt", is exceptionally large.

In some industries, of which "Cloth, sponging and refinishing", is an example, the amount expended for materials is comparatively small, which is because a number of establishments use only the materials furnished by others. In such instances the value of product is simply the amount received for the labor performed, and the cost of materials only includes the cost of incidental materials, such as soap, oil, chemicals, dye stuffs, thread, needles, and buttons.

General Table 5, giving the different industries by totals for states and territories, will be found of assistance in analyzing the results presented in the above statement.

SELECTED INDUSTRIES.

General Table 8 (Part I) gives in a detailed form the statistics for 8 selected industries, presented in alphabetical order, as follows: "Agricultural implements"; "Boots and shoes, factory product"; "Carriages and wagons, factory product"; "Cheese, butter, and condensed milk"; "Flouring and grist mill products"; "Leather, tanned and curried"; "Paper"; "Slaughtering and meat packing". In Table 7 the totals for each of these industries except "Carriages and wagons, factory product" are compared with similar statistics for 1880.

The method of obtaining the average weekly earnings per employé shown in Table 8 is described in the remarks on employés and wages. It must be remembered that the time used in making this calculation is the time which the entire establishment reports as having been in operation during the year, and not the absolute time each employé reported for each class was engaged.

The lack of uniformity on the part of manufacturers in assigning the employés to the two classes, skilled and unskilled, will account for some of the discrepancies between the average earnings for these classes. Numerous other circumstances affecting the average annual and average weekly earnings are explained in the preceding text and in the remarks on the statistics of the 165 principal cities in Part II.

AGRICULTURAL IMPLEMENTS.

The number of establishments reported for "Agricultural implements" has decreased 1,033, or 53.17 per cent, during the 10 years from 1880 to 1890, while the number of employés has increased 2,964, or 7.49 per cent, and the value of products \$12,631,165, or 18.40 per cent. The concentration of the industry and the increase in the size of the establishments are indicated by the facts that in 1880 the average establishment employed 20 hands and returned a product valued at \$35,327, while in 1890 an average of 47 employés is shown for each establishment, with a product valued at \$89,310. In 1880 Ohio reported the greatest number of employés and the largest product for this industry. In 1890 Illinois ranks first, reporting 10,417 employés, with a product valued at \$24,609,660.

There are 476 females reported for the industry in 1890, as compared with 73 in 1880, while the number of children decreased from 1,194 in 1880 to 212 in 1890. The average weekly earnings for skilled male operatives during the census year was \$10.95, and \$7.97 for the unskilled.

The following statement shows the average weekly earnings of skilled and of unskilled male employés reported for this industry in the 5 states reporting the largest number of employés in 1890:

AVERAGE WEEKLY EARNINGS OF SKILLED AND OF UNSKILLED MALE EMPLOYÉS IN 5 SELECTED STATES,
AGRICULTURAL IMPLEMENTS: 1890.

STATES.	AVERAGE WEEKLY EARNINGS, MALES ABOVE 16 YEARS.	
	Operatives and skilled.	Unskilled.
Illinois	\$11.68	\$8.80
Indiana	10.21	8.20
New York	11.63	7.47
Ohio	10.55	7.98
Wisconsin	10.02	7.67

The classification of the products for this industry is not the same as that adopted in 1880, the changes being due in part to the different classes of implements reported at the two censuses. The following comparative statement, however, presents the number of the different implements common to the reports of the two censuses:

NUMBER OF DIFFERENT IMPLEMENTS REPORTED BY ESTABLISHMENTS RETURNED AS MANUFACTURING AGRICULTURAL IMPLEMENTS: 1880 AND 1890.

CLASSES.	1880	1890
Corn planters	68,691	132,140
Cotton planters	19,288	56,740
Grain drills	43,222	44,830
Grain sowers	15,563	16,728
Seed sowers	20,289	57,716
Manure and fertilizer distributors	8,155	3,237
Cultivators	318,057	445,490
Harrows	127,997	208,965
Hoes	299,338	254,814
Plows	1,326,123	1,249,345
Rollers	3,002	5,168
Grain cradles	167,492	84,222
Harvesters and harvesters and binders combined	25,737	129,371
Hay loaders	8,957	3,019
Hay tedders	2,334	12,176
Hay rakes, horse	95,625	114,790
Mowers	72,090	170,893
Reapers	35,327	8,834
Mowers and reapers combined	51,920	15,681
Scythes	1,244,264	795,400
Scythe snaths	437,178	511,856
Clover hullers	1,412	651
Corn shellers	59,157	91,164
Fanning mills	45,412	21,460
Separators	9,103	4,577
Thrashers	10,424	11,367
Cane mills	2,356	4,865
Cider and wine mills	10,202	6,367
Feed steamers and boilers	1,482	4,122
Hay, straw, feed, and ensilage cutters	33,883	29,558
Hay pressers	791	3,246
Horse powers	11,161	7,886
Lawn mowers	47,661	89,559
Sirup evaporators	1,460	2,250

In preparing the above statement some classes of implements reported separately in 1890 have been combined in order to compare them with a single class in 1880. In considering the quantities presented it must be remembered that decreases in quantity would likely appear in those classes in which great improvements have been made. For instance, the portable steam engine has largely taken the place of horse powers, and steam, sulky, and wheel plows have been substituted for hand plows.

BOOTS AND SHOES, AND LEATHER, TANNED AND CURRIED.

During the decade from 1880 to 1890 the number of establishments reported for "Boots and shoes, factory product" increased 6.28 per cent, the number of employes 25.35 per cent, and the value of product 32.88 per cent. Each establishment in 1880 reported on the average 57 employes and a product valued at \$84,763. In 1890, 67 employes are shown on an average for each establishment, and an average product valued at \$105,980. The increase in quantity of product for this industry, which, owing to the decline in prices, is a more accurate representation of the actual increase, can be shown with reasonable approach to accuracy. In 1880 the total number of pairs of boots and shoes of all kinds reported was 125,478,511, as compared with 179,409,388 in 1890, being an increase of 42.98 per cent. While in making this calculation the quantity of product represented by the \$717,746 reported in 1880 and the \$3,489,522 reported in 1890 as the value of products not specified has not been considered, the percentage of increase in quantity exceeds the percentage of increase in value of product by 10.10 per cent.

The different branches of the boot and shoe industry are shown under the following classes: "Boot and shoe cut stock", "Boot and shoe findings", "Boot and shoe uppers", "Boots and shoes, custom work and repairing", "Boots and shoes, factory product", and "Boots and shoes, rubber". Aggregating these classes, there appear 18,369 establishments in 1880 and 23,695 in 1890, an increase of 28.99 per cent; the number of employes has increased from 143,301 to 193,539, or 35.06 per cent; the value of product from \$217,093,627 to \$298,847,245, or 37.66 per cent.

The following statement shows the average annual earnings per employé for males, females, and children by classes in the total and in each of the 6 branches of the industry:

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ BY CLASSES AND FOR MALES, FEMALES, AND CHILDREN BY CLASSES IN EACH BRANCH OF THE BOOT AND SHOE INDUSTRY: 1890.

BRANCHES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
Total	\$471	\$642	\$436	\$515	\$311	\$150	\$485	\$339	\$164
Boot and shoe cut stock.....	422	881	392	496	271	172	360	220	109
Boot and shoe findings.....	338	884	486	478	189	164	265	154	109
Boot and shoe uppers.....	526	832	507	561	349	166	405	338	.....
Boots and shoes, custom work and repairing.....	473	506	377	453	303	151	424	316	138
Boots and shoes, factory product.....	476	1,075	442	535	320	147	495	347	105
Boots and shoes, rubber.....	428	1,293	539	477	255	182	528	352	.....

The average weekly earnings for skilled operatives in the establishments classed as "Boots and shoes, factory product", was: males, \$11.09; females, \$6.59; children, \$3.10. The average weekly earnings for unskilled operatives was: males, \$7.25; females, \$4.87; children, \$2.74.

The principal seat of the industry in both 1880 and 1890 was in Massachusetts, which reported a product valued at \$95,900,510 in 1880 and \$116,387,900 in 1890, being 57.75 and 52.75 per cent, in the respective years, of the total product for the United States.

In connection with the boot and shoe industry it is pertinent to consider the statistics for the manufacture of leather. This industry is shown under the following classes: "Leather, dressed skins", "Leather, morocco", "Leather, patent and enameled", and "Leather, tanned and curried". Aggregating these classes and similar classes reported for 1880, we obtain for 1880, 5,628 establishments, with 40,282 employés, and a product valued at \$200,264,944; and for 1890, 1,787 establishments, with 45,027 employés, and a product valued at \$172,136,092. The number of establishments can not be considered as the actual number engaged in the industry in 1880, as an establishment engaged in both the tanning and the currying of leather was counted twice. The increase in the number of employés was 11.78 per cent, while the value of product decreased 14.05 per cent. "Leather, tanned and curried" is the principal branch of this industry, and the statistics for it are given in detail. It frequently happens that both the tanning and the currying of leather, which may be considered as distinct branches of the industry, are carried on by the same establishment, without separate accounts of the expenses or profits of the branches combined in the joint industry. In presenting the statistics for establishments of this character three methods of procedure are possible:

First. To report separately the number of establishments tanning leather, the number of establishments currying leather, and the number of establishments both tanning and currying leather.

Second. To aggregate all the three classes of establishments named and publish the gross number of establishments engaged in the manufacture of leather, with separate totals for such items of expense and product as are peculiar to either branch of the industry.

Third. To effect a separation between the two kinds of work done in the third class of establishments described, and after such separation to add to each of the other classes that which by such analysis is found to belong to it. This was the method adopted at the Ninth and Tenth Censuses.

In the reports of the Eleventh Census the second method has been used. General Tables 7 and 8 (in Part I) show the number of establishments reported for the entire industry in 1890, with corresponding totals for capital, miscellaneous expenses, and employés and wages. The quantities and the cost of materials and the quantities and the values of the different products for the tanning and currying branches of the industry are shown separately.

In 1880 the industry was shown as two distinct classes, "Leather, curried", and "Leather, tanned". These two classes must be combined in order to compare the statistics for the two censuses. This combination accounts for the apparent decrease in the number of establishments. The establishments engaged in this industry are located largely in the rural districts, in which the canvass was conducted by the general enumerators, and, as previously explained, this may account in part for the decreases shown for some of the items reported. From the statement following, however, it appears that the quantities of the products of the tannery have increased, while the quantities of products reported for currying have decreased.

NUMBER OF HIDES, SIDES, AND SKINS REPORTED AS MATERIALS AND PRODUCTS IN LEATHER, TANNED AND CURRIED, WITH PERCENTAGES OF INCREASE OR DECREASE: 1880 AND 1890.

MATERIALS AND PRODUCTS.	1880	1890	PERCENTAGE OF—	
			Increase.	Decrease.
Tanneries:				
Materials—				
Hides	11,773,171	13,093,688	11.22	.....
Skins	19,936,658	27,968,717	40.29	.....
Products—				
Sides	23,546,342	28,146,586	19.54	.....
Skins	19,917,653	25,521,713	28.14	.....
Currying:				
Materials—				
Sides	12,464,209	9,203,771	.....	25.68
Skins	10,655,606	4,018,708	.....	62.29
Products—				
Sides	12,464,209	9,487,420	.....	23.88
Skins	10,655,606	5,360,151	.....	49.70

The state reporting the largest value of product in 1880 was Massachusetts, while Pennsylvania reported the largest value in 1890, the product for these states in 1890 forming 15.66 and 28.21 per cent, respectively, of the total product for the United States. The number of hides, sides, and skins reported as used for materials and as tanned and curried in Massachusetts and Pennsylvania at the censuses of 1880 and 1890, and the percentages of increase or decrease, are shown in the following statement:

NUMBER OF HIDES, SIDES, AND SKINS REPORTED AS MATERIALS AND PRODUCTS IN LEATHER, TANNED AND CURRIED, IN MASSACHUSETTS AND IN PENNSYLVANIA, WITH PERCENTAGES OF INCREASE OR DECREASE: 1880 AND 1890.

MATERIALS AND PRODUCTS.	1880	1890	PERCENTAGE OF—	
			Increase.	Decrease.
Massachusetts:				
Tanneries—				
Materials—				
Hides	1,625,844	1,435,111	.....	11.70
Skins	5,724,897	7,574,758	32.31	.....
Products—				
Sides	3,250,688	3,412,642	4.98	.....
Skins	5,724,897	6,020,526	5.16	.....
Currying—				
Materials—				
Sides	4,951,562	3,852,226	.....	32.30
Skins	5,178,609	601,280	.....	88.39
Products—				
Sides	4,951,562	3,750,280	.....	24.08
Skins	5,178,609	1,869,292	.....	73.56
Pennsylvania:				
Tanneries—				
Materials—				
Hides	2,970,680	4,882,145	64.34	.....
Skins	685,280	1,669,217	162.75	.....
Products—				
Sides	5,941,360	9,855,612	65.88	.....
Skins	685,155	1,624,241	155.72	.....
Currying—				
Materials—				
Sides	1,272,931	1,543,992	21.29	.....
Skins	404,874	104,871	.....	74.10
Products—				
Sides	1,272,931	1,394,122	9.52	.....
Skins	404,874	294,607	.....	27.23

Notwithstanding the decrease shown for the value of product in tanning and currying, a large increase is reported for the manufacture of the finer grades of leather. Combining the three classes of "Leather, dressed skins", "Leather, morocco", and "Leather, patent and enameled", the value of product shows an increase of 117.50 per cent.

CARRIAGES AND WAGONS.

No totals were published in 1880 with which the statistics for "Carriages and wagons, factory product", shown for 1890, can be compared. The figures for "Carriages and wagons, including custom work and repairing", with which the totals for "Carriages and wagons" published in 1880 are placed in comparison in Table 7, embrace all the establishments included in Table 8, and 4,042 establishments that reported the manufacture of 5 or more vehicles during the census year, but which could not be considered as factories. The total number of completed vehicles of all classes reported as manufactured during the year by the 4,572 establishments classed as factories was 1,369,254. The class of vehicles for which the greatest number was reported is road and other carts, costing under \$25, for which 326,708 are shown. The next largest number, 298,851, is reported for farm wagons. In addition to the number of completed vehicles, the table shows the number and value of wheels, axles, springs, and carriage and wagon bodies manufactured for sale to the trade. The average establishment reported 14 employes and a product valued at \$22,459.

Ohio shows the greatest value of product. The principal classes of vehicles manufactured in this state are buggies, phaetons, and light carriages. Indiana reports the greatest number (48,961) of farm wagons, and is followed by Wisconsin with 46,931. The greatest number of sleighs and the more expensive classes of private vehicles are reported for New York.

The average weekly earnings for skilled operatives in this industry is as follows: males above 16 years \$10.75, females above 15 years \$6.19, children \$3.60; for unskilled operatives, males above 16 years \$7.47, females above 15 years \$5.08, children \$3.78.

CHEESE, BUTTER, AND CONDENSED MILK.

The increase in the number of establishments reported for "Cheese and butter, factory product", which is the next industry considered in Table 7, was 620. The number of employes has increased 6,466, or 81.82 per cent, while the value of product shows an increase of \$34,893,195, or 135.55 per cent. The quantity of cheese manufactured has increased 22,149,704 pounds, or 10.26 per cent, and the quantity of butter 151,863,132 pounds, or 516.16 per cent.

In 1880, on the average, each establishment employed 2 hands and produced a product valued at \$6,547, as compared with 3 hands and a product valued at \$13,321 in 1890.

In addition to the 4,552 establishments shown in Table 7, reports were received from 160 establishments which were classed as "Cheese and butter, urban dairy product". These establishments report a product valued at \$2,050,338, and represent the manufacturing operations of city dairies. It is probable that but few, if any, establishments of this character were reported at the census of 1880. In order, however, to present the entire industry for 1890, such establishments have been consolidated with the totals for the factory product, and the aggregate has been presented in General Table 2 (Part I) in comparison with the totals reported for the industry in 1880. Table 8 shows separately the quantity and the value of the materials and the products pertaining to the manufacture of cheese and the manufacture of butter as distinct industries. The quantities and the values of "Full cream", "Skim", and "All other" cheese are shown separately. Aggregating these different grades of cheese, an average value per pound of 8 cents is obtained for the United States, while the average value per pound for butter is 20 cents. The average value per pound for the different classes of cheese and for butter in the United States and in 6 selected states is shown by the following statement:

AVERAGE VALUE PER POUND OF BUTTER AND OF DIFFERENT CLASSES OF CHEESE REPORTED BY FACTORIES IN THE UNITED STATES AND IN 6 SELECTED STATES, BY STATES: 1890.

STATES.	AVERAGE VALUE PER POUND. (CENTS.)			
	Cheese.			Butter.
	Full cream.	Skim.	All other.	
The United States.....	9	5	8	20
Illinois.....	8	5	4	21
Iowa.....	9	6	10	19
New York.....	9	6	8	20
Ohio.....	9	8	8	19
Pennsylvania.....	9	3	9	25
Wisconsin.....	8	5	7	19

In addition to the quantities of cheese and butter reported as a factory product, the reports of the Eleventh Census on agriculture show that 1,024,223,468 pounds of butter and 18,726,818 pounds of cheese were manufactured on farms. Combining these totals with the product of factories makes a total of 1,205,508,384 pounds of butter

and 256,761,883 pounds of cheese. Making a similar combination of the totals for 1880, an increase of 49.44 per cent is shown for the quantity of butter and of 5.59 per cent for the quantity of cheese.

The state of New York reports the largest quantity of cheese manufactured in factories during both the census years 1880 and 1890, and also the greatest quantity of butter in 1880. The state of Iowa reported the largest quantity of butter in 1890.

The manufacture of condensed milk was reported for the states of Connecticut, Illinois, Massachusetts, and New York in 1880, and for Illinois, Massachusetts, Michigan, and New York in 1890. The total quantity of condensed milk has increased 24,893,554 pounds, or 191.00 per cent, while the value has increased \$2,039,339, or 131.78 per cent. The average value per pound for condensed milk, as obtained from the total for the United States and for the states engaged in this industry in 1880 and 1890, is given in the following statement:

AVERAGE VALUE PER POUND, CONDENSED MILK: 1880 AND 1890.

STATES.	AVERAGE VALUE PER POUND. (CENTS.)	
	1880	1890
The United States.....	12	9
Connecticut.....	6	
Illinois.....	12	9
Massachusetts.....	17	30
Michigan.....		9
New York.....	12	11

In 1890 the state of Illinois produced 23,080,064 pounds, or 60.85 per cent of the total quantity of condensed milk reported for the United States.

The average weekly earnings for skilled and unskilled employes, males, females, and children, in the manufacture of cheese, butter, and condensed milk in the United States and in 6 selected states is shown by the following statement:

AVERAGE WEEKLY EARNINGS OF EMPLOYEES, SKILLED AND UNSKILLED, AND OF MALES, FEMALES, AND CHILDREN, IN CHEESE, BUTTER, AND CONDENSED MILK FACTORIES OF 6 SELECTED STATES: 1890.

STATES.	OPERATIVES AND SKILLED.			UNSKILLED.		
	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
The United States.....	\$9.48	\$5.35	\$2.75	\$8.12	\$5.48	\$3.93
Illinois.....	10.20	5.38	2.78	7.60	3.59	4.27
Iowa.....	9.51	5.90	1.75	8.37	4.62	
New York.....	8.94	4.82	2.57	7.55	6.98	4.44
Ohio.....	8.65	4.82	3.11	7.92	2.08	
Pennsylvania.....	8.20	3.36	2.80	6.42	6.53	2.80
Wisconsin.....	8.86	4.40	3.37	7.90	4.00	1.54

FLOURING AND GRIST MILL PRODUCTS.

The number of flouring and grist mills reported for 1890 shows a decrease of 5,868, or 31.77 per cent, since 1880. The total value of product, however, increased from \$505,185,712 to \$513,971,474, or 1.74 per cent. The number of employes increased from 58,407 to 63,481, or 8.69 per cent. The decrease in the number of establishments and the increase in value of product indicate the concentration of the industry in fewer and larger establishments. This is further indicated by the increase in the average size of establishments. On the average each establishment in 1880 reported 2.40 employes and a product of \$20,757. In 1890 on the average each establishment reported 3.44 employes and a product of \$27,827.

While the quantity of product was not reported for this industry in 1880, the quantity of wheat reported as material in 1890 shows an excess of 80,974,061 bushels, or 26.56 per cent, over that reported in 1880, and the quantity of all other grain an excess of 6,359,157 bushels, or 2.71 per cent. The total of all kinds of grain used as material increased 87,333,218 bushels, or 16.18 per cent.

In 1880 New York reported a product exceeding that of any other state, but Illinois, Indiana, Minnesota, Missouri, and Ohio reported a larger quantity of wheat ground during the year. In 1890 Minnesota reports the product of greatest value, also the greatest quantity of wheat used as material, New York continuing to hold the

MANUFACTURING INDUSTRIES.

In addition to showing the quantities and the values of the different cereals used as material, and the quantities and the values of the different products, Table 8 presents detailed information concerning the number of runs of stone, pairs of rolls, and total daily capacity in bushels. The total daily capacity appears to have increased during the 10 years from 4,730,106 bushels to 5,731,620 bushels.

PAPER.

The number of factories engaged in the manufacture of paper has decreased during the past decade from 692 to 567, or 18.06 per cent, while the number of employes has increased 21.07 per cent and the value of product 34.84 per cent. On the average each establishment in 1880 reported 35 employes and a product of \$79,639, and in 1890, 52 employes and a product of \$131,057. In addition to the 567 establishments shown for 1890 in Table 8 as engaged in paper manufacture proper, there are reported in the other tables 5 establishments manufacturing "Cardboard", 8 "Leather board", 27 "Paper hangings", 82 "Pulp, wood", and 7 "Pulp, from fiber other than wood". These 5 classes of industry, being so closely allied to the manufacture of paper, should be considered in connection with the totals given in Table 8.

The following statements present the totals for the several branches of the industry and the average annual earnings for males, females, and children in each branch:

TOTALS FOR THE DIFFERENT BRANCHES OF PAPER MANUFACTURE: 1890.

BRANCHES.	Number of establishments reporting.	Capital.	EMPLOYÉS.		Cost of materials used.	Value of product.
			Average number.	Total wages.		
Total	696	\$97,185,585	35,788	\$16,775,474	\$48,841,109	\$88,427,668
Paper.....	567	82,374,099	29,568	13,746,584	42,223,314	74,300,388
Cardboard	5	616,548	223	139,782	701,764	1,070,805
Leather board	8	445,743	185	92,163	211,936	463,705
Paper hangings.....	27	5,709,909	2,814	1,474,788	3,572,027	7,431,726
Pulp, wood.....	82	7,455,440	2,830	1,228,901	2,005,166	4,027,796
Pulp, from fiber other than wood.	7	583,837	168	93,256	126,902	524,249

AVERAGE ANNUAL EARNINGS PER EMPLOYÉ OF MALES, FEMALES, AND CHILDREN, BY CLASSES, IN EACH BRANCH OF PAPER MANUFACTURE: 1890.

BRANCHES.	All classes.	OFFICERS, FIRM MEMBERS, AND CLERKS.		OPERATIVES, SKILLED AND UNSKILLED.			PIECEWORKERS.		
		Males above 16 years.	Females above 15 years.	Males above 16 years.	Females above 15 years.	Children.	Males above 16 years.	Females above 15 years.	Children.
		Total	\$469	\$1,352	\$489	\$482	\$249	\$148	\$363	$261	$65
Paper.....	465	1,584	502	486	248	157	422	261	46
Cardboard	627	2,059	.....	602	301	.....	.....	.....	.....
Leather board	498	886	500	440	300	.....	400	.....	.....
Paper hangings.....	524	1,303	454	532	246	143	268	600	150
Pulp, wood.....	434	1,024	526	413	212	136	312	.....	.....
Pulp, from fiber other than wood.	555	1,013	150	421	.....	150	641	.....	.....

In addition to the industries enumerated in the above statements, there are reported in the general tables 796 establishments engaged principally in the manufacture of articles from paper. These establishments are distributed as follows: "Bags, paper", 56; "Boxes, fancy and paper", 588; "Collars and cuffs, paper", 3; "Labels and tags", 47; "Paper goods, not elsewhere specified", 66; "Paper patterns", 27; and "Pulp goods", 9.

SLAUGHTERING AND MEAT PACKING.

"Slaughtering and meat packing" is shown under three subheads, namely, "Slaughtering and meat packing, wholesale", "Slaughtering, wholesale, not including meat packing", and "Sausage". The statistics for "Slaughtering and meat packing, wholesale", and "Slaughtering, wholesale, not including meat packing", are given in detail in Table 8. The data for sausage are presented in the preceding tables in the form adopted for the general report on manufactures. The three branches of the industry for 1890 have been combined in Table 7, and the totals for each state presented in comparison with similar totals for 1880, the entire industry showing an increase of 495 in number of establishments, while the number of employes has increased 79.70 per cent and the value of product 86.01 per cent. The principal seat of the industry is in the state of Illinois. Considering

the two branches of the industry for which detailed statistics are given, it appears that while Illinois reports the product of largest value for "Slaughtering and meat packing, wholesale", the product of largest value for "Slaughtering, wholesale, not including meat packing", is shown for the state of New York, a large proportion of the product of that state being sold fresh.

The quantities and values of the principal materials and products in the two branches of the industry are summarized as follows:

QUANTITIES AND VALUES OF MATERIALS AND PRODUCTS, SLAUGHTERING AND MEAT PACKING: 1890.

MATERIALS AND PRODUCTS.	Quantity.	Value.
Materials		\$480,902,211
Beeves	5,422,044	193,348,810
Sheep	6,178,449	24,358,179
Hogs	22,349,451	207,228,609
All other materials		56,026,613
Products		561,611,668
Beef, sold fresh	2,708,319,060	152,501,063
Beef, canned	133,428,456	8,950,582
Beef, salted or cured	576,289,731	23,318,414
Mutton, sold fresh	207,353,788	21,098,023
Pork, sold fresh	1,125,648,541	66,719,585
Pork, salted	1,264,956,237	77,737,470
Hams	529,387,213	48,732,008
Smoked bacon, sides or shoulders	666,220,370	44,664,041
Sausage, fresh and cured	149,281,545	9,298,335
Refined lard	536,485,829	33,401,563
Neutral lard	104,980,465	6,740,246
Oleomargarine oil	16,000,652	12,202,117
Other oils	4,427,555	3,500,012
Fertilizers	115,400	2,343,777
Hides	5,346,919	21,245,782
Wool	11,127,851	2,009,133
All other products		26,067,717

Of the different classes of animals slaughtered the greatest number and the greatest value are reported for hogs, of which 22,349,451 were slaughtered during the census year, valued at \$207,228,609. Of this number Illinois reported 30.68 per cent. Illinois reported 2,653,414 beeves as slaughtered during the census year, or 48.94 per cent of the total number reported for the United States. New York reports 1,696,529 sheep as having been slaughtered during the census year, which is the largest number reported by any state, and forms 27.46 per cent of the total for the United States.

GENERAL TABLES.

Of the accompanying tables No. 1 presents totals for all classes of manufacturing and mechanical industries in the respective states and territories, as reported at the censuses of 1850, 1860, 1870, 1880, and 1890.

Table 2 shows totals for the United States in the different classes of manufacturing industry, as reported at the censuses of 1880 and 1890.

These tables present the statistics in the form of publication used in 1880. In considering the data presented in Tables 1 and 2, reference should be made to the remarks concerning the differences in the form and the scope of the inquiry of 1890 as compared with inquiries of previous censuses.

Table 3 shows totals for all classes of manufacturing and mechanical industries in the respective states and territories, as reported at the census of 1890.

Table 4 shows totals for the United States by industries.

Table 5 shows totals for the different industries by states and territories.

Table 6 shows totals for the different states and territories by industries and by counties.

Table 7 presents comparative statistics for 7 selected industries.

Table 8 presents detailed statistics for 8 selected industries.

In Tables 2, 4, 5, 6, 7, and 8, when less than 3 establishments are reported for any state, industry, or county, those reported are grouped, in order to avoid disclosing the operations of individual establishments.