Twelfth Census of the United States.

CENSUS BULLETIN.

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MANUFACTURES.

CLAY PRODUCTS.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I transmit herewith, for publication in bulletin form, a report on the manufacture of clay products during the calendar year 1899, prepared under my direction by Mr. Jefferson Middleton, of the United States Geological Survey, acting in the capacity of an expert special agent of the division of manufactures of the Census Office.

The statistics are presented in 18 tables: Table 1 is a comparative summary of clay products at the censuses of 1850 to 1900, inclusive; Table 2 shows the rank of states by value of products, with percentage each produced, 1890 and 1900; Table 3 is a summary of all establishments, including those with a product of less than $500, governmental establishments, and educational, eleemosynary, and penal institutions, 1900; Table 4 shows kinds and cost of principal materials used, 1900, with percentage each is of the total; Table 5 is a comparative summary of the principal products, 1890 and 1900, with percentages of increase; Table 6 shows the kinds and cost of materials used in the manufacture of brick and tile, 1900, with percentage each is of the total; Table 7 shows the kinds and value of brick and tile products, 1900, with percentage each is of the total, and also the percentage each is of the entire clay products; Table 8 is a statement of the average price of brick, by kinds, and by states and territories, 1900; Table 9 is a comparative summary of brick and tile made in Hudson River counties, in Philadelphia county, Pa., and in Cook county, Ill., 1900; Table 10 shows the kinds and cost of materials used in the manufacture of pottery, terra cotta, and fire clay, 1900, with percentage each is of the total; Table 11 is a summary of the kinds and value of pottery, terra cotta, and fire-clay products, 1900, with percentage each is of the total, and also the percentage each is of the entire clay products; Table 12 is a comparative summary of the manufacture of pottery, terra cotta, and fire-clay products, 1890 and 1900, at Trenton, N. J., and East Liverpool, Ohio; Table 13 shows the value of imports of earthenware, china, brick, and tile, 1867 to 1900, inclusive; Table 14 shows exports of clay wares from 1895 to 1900, inclusive; Table 15 is a comparative summary for clay products, 1890 and 1900, by states and territories; Table 16 is a comparative summary of quantity and value of clay products, 1890 and 1900, by states and territories; Table 17 is a detailed summary of brick and tile, 1900, by states and territories; and Table 18 is a detailed summary of pottery, terra cotta, and fire-clay products, 1900, by states and territories.

Table 1 shows the growth of the manufacture of clay products for the half century which terminates with the Twelfth Census. The manufacturing statistics of the

censuses prior to 1850 were too imperfect and fragmentary in character to make it proper to reproduce them in such a table as a measure of industrial growth in the first half of the century. Owing to changes in the method of taking the census, comparisons between the earlier and later decades, represented in Table 1, should be drawn only in the most general way. Nevertheless, the rate of growth of the manufacture may be fairly inferred from the figures given.

In drafting the schedules of inquiry for the census of 1900 care was taken to preserve the basis of comparison with prior censuses. Comparison may be made safely with respect to all the items of inquiry except those relating to capital, salaried officials, clerks, etc., and their salaries, the average number of employees, and the total amount of wages paid. Live capital, that is, cash on hand, bills receivable, unsettled ledger accounts, raw materials, stock in process of manufacture, finished products on hand, and other sundries, was first called for at the census of 1890. No definite attempt was made, prior to the census of 1890, to secure a return of live capital invested.

Changes were made in the inquiries relating to employees and wages in order to eliminate defects found to exist on the form of inquiry adopted in 1890. At the census of 1890 the average number of persons employed during the entire year was called for, and also the average number employed at stated weekly rates of pay, and the average number was computed for the actual time the establishments were reported as being in operation. At the census of 1900 the greatest and least numbers of employees were reported, and also the average number employed during each month of the year. The average number of wage-earners (men, women, and children) employed during the entire year was ascertained by using 12, the number of calendar months, as a divisor into the total of the average numbers reported for each month. This difference in the method of ascertaining the average number of wage-earners during the entire year may have resulted in a variation in the number, and should be considered in making comparisons.

At the census of 1890 the number and salaries of proprietors and firm members actively engaged in the business or in supervision were reported, combined with clerks and other officials. In cases where proprietors and firm members were reported without salaries, the amount that would ordinarily be paid for similar services was estimated. At the census of 1900 only the number of proprietors and firm members actively engaged in the industry or in supervision was ascertained, and no salaries were reported for this class. It is therefore impossible to compare the number and salaries of salaried officials of any character for the two censuses.

Furthermore, the schedules for 1890 included in the wage-earning class, overseers, foremen, and superintendents (not general superintendents or managers), while the census of 1900 separates from the wage-earning class such salaried employees as general superintendents, clerks, and salesmen. It is possible and probable that this change in the form of the question has resulted in eliminating from the wage-earners, as reported by the present census, many high-salaried employees included in that group for the census of 1890.

In some instances, the number of proprietors and firm members, shown in the accompanying tables, falls short of the number of establishments reported. This is accounted for by the fact that no proprietors or firm members are reported for corporations or cooperative establishments. The number of salaried officials, clerks, etc., is the greatest number reported employed at any one time during the year.

The reports show a capital of $148,038,323 invested in the manufacture of clay products in the 6,423 establishments reporting for the United States. This sum represents the value of land, buildings, machinery, tools, and implements, and the live capital utilized, but does not include the capital stock of any of the manufacturing corporations engaged in this industry. The value of the products is returned at $95,533,862, to produce which involved an outlay of $5,036,195 for salaries of officials, clerks, etc.; $39,575,070 for wages; $6,845,040 for miscellaneous expenses, including rent, taxes, etc.; and $22,921,384 for materials used, mill supplies, freight, and fuel. It is not to be assumed, however, that the difference between the aggregate of these sums and the value of the products is, in any sense, indicative of the profits in the manufacture of the products during the census year. The census schedule takes no cognizance of the cost of selling manufactured articles, or of interest on capital invested, or of the mercantile losses incurred in the business, or of depreciation in plant. The value of the product given is the value as obtained or fixed at the shop or factory. This statement is necessary in order to avoid erroneous conclusions from the figures presented.

Very respectfully,

Chief Statistician for Manufactures.

CLAY PRODUCTS.

By JEFFERSON MIDDLETON, *Expert Special Agent.*

This report presents the statistics of the clay-working industries for the calendar year 1899. On the whole there has been a considerable falling off from 1890 in the commoner products; while the higher grades, almost without exception, show great gains, the value of pottery, terra cotta, and fire-clay products having nearly doubled. The year 1890 was unquestionably a very prosperous one in the building trades, and therefore one of the most prosperous years in the history of the brick manufacture, but there was a depression in 1893, from which the recovery was slow. The comparison of 1890 with 1899 is, therefore, for the manufacture of brick, a comparison between a year of unusual prosperity and one of incomplete recovery. Moreover, the greatly increased proportion of apartment and steel-frame buildings among new constructions has in great measure shifted the demand from common brick to terra cotta and the more fancy products.

Special schedules for the inquiry were prepared with the idea of obtaining additional statistics relative to the cost of each of the important materials entering into the manufacture, the quantity (where practicable) and value of the various products, and the kinds and number of machines and kilns employed. These schedules were known as Special Schedule No. 5 and Special Schedule No. 6. The former was intended to be used for plants manufacturing only building and paving brick and draintile, while the latter was mainly for plants making higher grades of ware, though it embraced all grades. The only differences were in questions relating to materials, products, machinery, and kilns.

In the case of most clay products, total value is the only available criterion of production. To give the number made or length of draintile laid, for example, would afford no adequate measure of the quantity produced, owing to the great differences in their diameter. Nor would the value per 1,000 of the various kinds of tile be of assistance, since sizes vary from 4 to 12 inches, or even greater. Especially in the pottery industry was the need of a unit of measure felt, but it was found impracticable to use a unit which would be of any value.

Prior to the census of 1890, the clay-working industries were not the subject of a special report, being merely treated in general tables showing the industrial condition of the country. No subdivision of value of products was attempted at the census of 1850, further than as follows: Brick, $6,610,731; fire brick, $12,009; earthenware, $100,556; and pottery, $1,466,063. At the census of 1860 the value of products was reported as follows: Brick, $10,253,734; fire brick, $493,400; draintile, $516,013; terra cotta ware, $18,000; pottery and stoneware, $2,463,681; and porcelain ware, $243,000. At the census of 1870 brick was reported with a value of $29,028,359; drainpipe, $1,294,256; and stone and earthenware, $6,045,536. At the census of 1880 the value of clay products was reported as follows: Brick and tile, $32,833,587; stone and earthenware, $7,942,729; drain and sewer pipe, $480,261; and terra cotta ware, $554,343. At the census of 1890 a report was made commensurate, for the first time, with the importance of the industry.

The statistics in the report for the census of 1900 cover all the wares known as clay products—those in which the essential raw material is clay—from common brick to the higher grades of pottery. It has been found necessary, however, because there was no other place so appropriate, to include also silica and magnesia fire brick, most largely made in Pennsylvania. The figures also embrace, in "all other products," goods made by manufacturers whose main industry was that of clay working, but who operated cider, gin, or saw mills in connection therewith. In some instances contract work has been included. In order to group similar materials and products, the exact line of division between the two classifications is not observed in some of the tables.

The modern use of clay products is extending rapidly, and in many ways not thought of a decade ago, especially in structural work and in paving. This tendency must necessarily continue, not only because the plastic nature of clay allows it to be molded into varied and attractive designs, and because the product affords the most fireproof and durable building material known, but also because of the growing scarcity of timber in the more readily accessible localities.

There is probably no variety of clay products, from the commonest brick to the finest art china, that is not made in the United States, though unfortunately the quantity of the highest grade of china is very small.

While the production of this class of ware is increasing, it is still the fact that most of the finest products of the potter's art, on the American market or in the collectors' hands to-day, are imported. But the successful conduct of such establishments as the Rookwood and Newcomb potteries gives promise of an increased demand for the art productions of the United States.

Table 1 is a comparative summary of the statistics for clay products as returned at the censuses of 1850 to 1900, inclusive, with percentages of increase.

TABLE 1.—CLAY PRODUCTS: COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900[1]	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments	6,423	6,535	6,383	3,959	2,240	2,121	[2]1.7	2.4	61.2	76.7	5.6
Capital	$148,038,323	$108,705,670	$35,039,939	$26,776,011	$9,707,952	$5,217,231	36.2	210.2	30.9	175.8	86.1
Salaried officials, clerks, etc., number	5,203	[3]6,291	(4)	(4)	(4)	(4)	[2]17.3	.....	.....	.....	.....
Salaries	$5,036,195	[3]$4,254,943	(4)	(4)	(4)	(4)	18.4	.....	.....	.....	.....
Wage-earners, average number	105,693	123,156	76,576	50,167	24,569	19,801	[2]14.2	60.8	52.6	104.2	24.1
Total wages	$39,575,070	$38,578,389	$17,044,259	$13,332,547	$5,224,859	$4,890,422	2.6	126.3	27.8	155.2	6.8
Men, 16 years and over	98,127	115,600	66,914	45,333	24,038	19,139	[2]15.1	72.8	47.6	88.6	25.6
Wages	$37,957,248	$37,426,873	(4)	(4)	(4)	(4)	1.4	.....	.....	.....	.....
Women, 16 years and over	4,557	2,235	1,216	576	531	662	103.9	83.8	111.1	8.5	[2]19.8
Wages	$1,142,579	$536,269	(4)	(4)	(4)	(4)	113.1	.....	.....	.....	.....
Children, under 16 years	3,009	5,321	8,446	4,258	(4)	(4)	[2]43.5	[2]37.0	98.4	.....	.....
Wages	$475,243	$615,247	(4)	(4)	(4)	(4)	[2]22.8	.....	.....	.....	.....
Miscellaneous expenses	$6,845,040	$7,111,776	(5)	(5)	(5)	(5)	[2]3.8	.....	.....	.....	.....
Cost of materials used	$22,921,384	$18,257,998	$12,683,897	$9,561,162	$2,930,547	$1,768,374	25.5	43.9	33.1	225.2	65.7
Value of products	$95,533,862	$89,827,785	$41,810,920	$36,368,151	$13,987,828	$8,189,359	6.4	114.8	15.0	160.0	70.8

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Decrease.
[3] Includes proprietors and firm members, with their salaries; number only reported in 1900. (See Table 18.)
[4] Not reported separately.
[5] Not reported.

The manufacture of clay products has had a steady growth in all important particulars, except two, from 1850 to the close of the century, the greatest gain in value of products being made from 1880 to 1890, when it was $48,016,865, or 114.8 per cent; the next greatest gain being from 1860 to 1870, when it was $22,380,323, or 160 per cent. There has been a singular uniformity in the increases in value of products for the three alternate decades, that between 1850 and 1860 being $5,798,469, that between 1870 and 1880, $5,442,769, and that between 1890 and 1900, $5,706,077.

There has been a decrease of 14.2 per cent since 1890 in the average number of wage-earners, due largely to differences in classification which are explained elsewhere. The increase in the use of labor-saving machinery has also had an effect. Notwithstanding this decrease the aggregate wages paid increased 2.6 per cent. The average number of men and of children decreased, but the average number of women increased, owing to a larger demand for decorators of pottery. The wages of women show a slightly greater rate of increase than their average number.

The decrease since 1890 in the number of salaried officials, clerks, etc., 1,088, or 17.3 per cent, is accounted for by the fact that proprietors and firm members were included in this classification at the Eleventh Census, while at the Twelfth Census they were not. The increase in capital from 1890 to 1900 is explained by the remarkable increase in the pottery, terra cotta, and fire-clay manufacture. The plants required relatively more capital than those for brick and tile, thus their gain more than offset the loss in the brick and tile plants. The disproportionate increase in capital from 1880 to 1890, was partly due to greater completeness of returns in the latter year.

Table 2 shows the rank of states by value of products, with percentage each produced, 1890 and 1900.

TABLE 2.—CLAY PRODUCTS: RANK OF STATES BY VALUE OF PRODUCTS, WITH PERCENTAGES OF TOTAL, 1890 AND 1900.

STATES AND TERRITORIES.	1900.[1]			1890.		
	Rank.	Value of products.	Percentage of total.	Rank.	Value of products.	Percentage of total.
United States	.....	$95,533,862	100.0	.....	$89,827,785	100.0
Alabama	23	883,129	0.9	27	802,331	0.9
Arizona	44	101,758	0.1	46	4,300	(2)
Arkansas	34	336,899	0.4	29	520,734	0.6
California	12	1,585,738	1.7	9	2,266,914	2.5
Colorado	21	1,071,388	1.1	10	2,238,618	2.5
Connecticut[3]	20	1,074,202	1.1	24	868,040	1.0
Delaware	38	167,692	0.2	37	268,534	0.3
District of Columbia	33	481,145	0.5	23	961,687	1.1
Florida	41	137,953	0.1	40	119,260	0.1
Georgia	16	1,259,577	1.3	16	1,412,792	1.6
Idaho	45	46,609	(2)	45	9,800	(2)
Illinois	5	7,224,915	7.6	5	7,956,082	8.9
Indiana	6	4,222,529	4.4	7	3,142,454	3.5
Indian Territory[4]	47	35,075	(2)	.....	.....	.....
Iowa	8	2,224,920	2.3	14	1,775,165	2.0
Kansas	25	753,411	0.8	28	690,574	0.8
Kentucky	14	1,355,094	1.4	22	1,206,181	1.3
Louisiana	31	553,465	0.6	34	336,495	0.4
Maine	27	662,235	0.7	26	804,074	0.9
Maryland	11	1,679,166	1.8	12	1,985,828	2.2
Massachusetts	9	2,181,510	2.3	8	2,819,760	3.1
Michigan	15	1,280,590	1.3	17	1,407,957	1.6
Minnesota	17	1,217,743	1.3	19	1,331,339	1.5
Mississippi	32	540,725	0.6	33	339,939	0.4
Missouri	7	3,650,400	3.8	6	4,782,619	5.3
Montana	36	314,340	0.3	38	238,610	0.3
Nebraska	24	841,305	0.9	11	2,173,632	2.4
Nevada[4]	48	17,850	(2)	.....	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Less than one-tenth of 1 per cent.
[3] Includes Rhode Island in 1900.
[4] Included in "all other states" for 1890.

TABLE 2.—CLAY PRODUCTS: RANK OF STATES BY VALUE OF PRODUCTS, WITH PERCENTAGES OF TOTAL, 1890 AND 1900—Continued.

STATES AND TERRITORIES.	1900.[1]			1890.		
	Rank.	Value of products.	Per centage of total.	Rank.	Value of products.	Per centage of total.
New Hampshire	30	$570,287	0.6	25	$835,156	0.9
New Jersey	3	10,786,673	11.3	4	7,991,611	8.9
New Mexico[2]	43	108,090	0.1	.....	.....	.....
New York	4	8,073,769	8.5	3	8,806,273	9.8
North Carolina	26	725,016	0.8	32	346,270	0.4
North Dakota	39	158,874	0.2	42	45,775	(3)
Ohio	1	16,480,812	17.3	2	10,860,938	12.1
Oklahoma	40	149,712	0.2	44	11,500	(3)
Oregon	35	317,978	0.3	30	461,648	0.5
Pennsylvania	2	14,081,844	14.7	1	11,143,668	12.4
South Carolina	28	596,693	0.6	36	279,889	0.3
South Dakota	46	46,150	(3)	39	134,650	0.1
Tennessee	22	944,610	1.0	21	1,277,397	1.4
Texas	18	1,212,266	1.3	20	1,311,270	1.5
Utah	37	215,049	0.2	31	421,658	0.5
Vermont	42	131,525	0.1	41	119,039	0.1
Virginia	19	1,089,399	1.2	18	1,361,438	1.5
Washington	29	583,857	0.6	15	1,529,479	1.7
West Virginia	13	1,541,239	1.6	35	304,865	0.3
Wisconsin	10	1,810,206	1.9	13	1,785,442	2.0
Wyoming	49	8,450	(3)	43	25,900	(3)
All other states[4]	.....	.....	.....	.....	315,300	0.4

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Included in "all other states" for 1890.
[3] Less than one tenth of 1 per cent.
[4] Includes establishments in Indian Territory, Nevada, and New Mexico.

From this table it will be seen that Ohio was first in rank at the census of 1900, with products valued at $16,480,812, or 17.3 per cent of the total products; in 1890 it was second, with products valued at $10,860,938, or 12.1 per cent. Pennsylvania was second, with products valued at $14,081,844, or 14.7 per cent; it was first in rank at the census of 1890, with a product valued at $11,143,668. The gain of $5,619,874 in Ohio is largely due to the rapid growth of the pottery industry, which increased from $2,970,763 in 1890 to $6,994,805 at the census of 1900, while Pennsylvania's pottery products were valued at $1,164,517, compared with $561,248 in 1890. New York, third in 1890, with products valued at $8,806,273, fell to fourth rank in 1900, with products valued at $8,073,769; New Jersey changing places with New York, rose from fourth to third rank, with products valued at $7,991,611, or 8.9 per cent of the total in 1890, to $10,786,673, or 11.3 per cent of the total in 1900.

Illinois was fifth in rank in both years, though the value of its products declined from $7,956,082, or 8.9 per cent of the total in 1890, to $7,224,915 in 1900, or 7.6 per cent of the total. Missouri, sixth in 1890, was seventh in 1900; while Indiana rose from seventh rank in 1890 to sixth in 1900. Other noteworthy changes were Colorado, which, tenth in 1890, fell to twenty-first in 1900; Nebraska from eleventh to twenty-fourth; and Washington from fifteenth to twenty-ninth. West Virginia rose from thirty-fifth to thirteenth. This was due to the development of the pottery industry. The value of pottery products in 1890 was only $7,300, but at the census of 1900 it was $585,310.

Table 3 is a summary for all establishments, 1900, giving, in addition to those shown in Table 1, the statistics for establishments with a product of less than $500, for governmental establishments, and for educational, eleemosynary, and penal institutions. As the three latter classes were not reported at previous censuses, they are omitted from the other tables.

Of the 6,963 establishments of all classes shown in this table, 519, or 7.5 per cent, were those having a product of less than $500, but the value of their product was only two-tenths of 1 per cent of the total value of the products of the industry. In addition to the 6,963 active establishments in the industry during 1899, with a capital of $148,606,784, as shown in Table 3, there were 464 idle establishments, with a capital of $6,330,752.

Table 4 shows the cost of some of the principal materials used in the manufacture of clay products, 1900.

TABLE 3.—CLAY PRODUCTS: SUMMARY FOR ALL ESTABLISHMENTS, 1900.[1]

CLASSES.	Number of establishments.	Capital.	Proprietors and firm members.	WAGE-EARNERS.		Miscellaneous expenses.	COST OF MATERIALS USED.				Value of products.
				Average number.	Total wages.		Total.	Purchased in raw state.	Purchased in partially manufactured form.	Fuel, freight, etc.	
Total	6,963	$148,606,784	8,218	106,233	$39,643,248	$6,853,467	$22,983,414	$3,975,044	$4,480,041	$14,528,329	$95,887,370
Establishments with a product of less than $500	519	359,836	622	306	47,054	6,891	27,888	2,723	2,920	22,245	144,871
Governmental establishments; and educational, eleemosynary, and penal institutions	21	208,625	.....	234	21,124	1,536	34,142	3,776	1,588	28,778	208,637
All other establishments	6,423	148,038,323	7,596	105,693	39,575,070	6,845,040	22,921,384	3,968,545	4,475,533	14,477,306	95,533,862

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 4.—CLAY PRODUCTS: COST OF MATERIALS, 1900.[1]

	Cost.	Per cent of total.
Total	$22,921,384	100.0
Clay	3,548,336	15.5
Fuel	12,633,680	55.1
Miscellaneous	6,153,170	26.8
Packing materials	586,198	2.6

[1] The report for the Twelfth Census is for the calendar year 1899.

Owing to the different methods of classification at the Eleventh and Twelfth censuses, it is impossible to make comparison of the details. The amount expended for fuel was $12,633,680, or 55.1 per cent of the total cost of materials. In the cost of clay, $3,548,336, or 15.5 per cent of the total, is included only the clay actually purchased and not that mined by the manufacturers by their own men, whose compensation is given in wages paid. The miscellaneous item includes all other materials except packing materials. The details of these will be found in Tables 6, 10, 17, and 18, treating of the materials used in the separate branches of the manufacture.

Table 5 is a comparative summary of the kinds and value of the principal clay products for 1890 and 1900, with the per cent of increase.

TABLE 5.—CLAY PRODUCTS: COMPARATIVE SUMMARY, KIND AND VALUE OF PRODUCTS, WITH INCREASE AND PER CENT OF INCREASE, 1890 AND 1900.

	1900[1]	1890	Increase.	Per cent of increase.
Aggregate value	$95,533,862	$89,827,785	$5,706,077	6.4
Brick, tile, and terra cotta:				
Total value	78,336,447	77,488,493	847,954	1.1
Common brick	39,674,749	48,810,271	[2]9,135,522	[2]18.7
Pressed brick	2,537,912	5,973,902	[2]3,435,990	[2]57.5
Fancy colored front brick	2,082,000	187,920	1,894,080	1,007.9
Vitrified brick and blocks	4,828,456	982,440	3,846,016	391.5
Electrical conduits	685,273	53,500	631,773	1,180.9
Sewer pipe	4,560,334	5,394,921	[2]834,587	[2]15.5
Draintile	3,662,184	5,009,804	[2]1,347,620	[2]26.9
Flue linings	310,989	68,184	242,805	356.1
Stove linings	416,235	151,023	265,212	175.6
Furnace fittings	1,043,085	161,469	881,616	546.0
Gas retorts	196,567	24,408	172,159	705.3
Glass-melting pots	407,141	312,343	94,798	30.4
Fire brick	8,636,562	6,318,770	2,317,792	36.7
Roofing, floor, and encaustic tile	1,276,300	795,958	480,342	60.3
Hollow brick, fireproofing, and terra cotta lumber	1,665,031	402,750	1,262,281	313.4
Chimney tops	242,289	101,208	141,081	139.4
Architectural terra cotta	2,027,532	1,431,228	596,304	41.7
All other brick, tile, and terra cotta products	4,083,808	1,308,394	2,775,414	212.1
Pottery products:				
Total value	17,197,415	12,339,292	4,858,123	39.4
Stoneware	1,970,710	2,056,463	[2]85,753	[2]4.2
Yellow and Rockingham ware	159,553	439,553	[2]280,000	[2]63.7
C. C. or cream-colored ware	1,540,488	1,226,161	314,327	25.6
White granite ware	1,787,101	1,676,579	110,522	6.6
Semivitreous porcelain ware	3,048,762	669,107	2,379,655	355.6
China (porcelain)	1,255,978	460,334	795,644	172.8
Art pottery and porcelain	629,402	957,168	[2]327,766	[2]34.2
All other pottery products	6,805,421	4,853,927	1,951,494	40.2

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Decrease.

The separation in this table is between products used for building and other purposes, and the characteristic products of pottery establishments. Of the total increase of $5,706,077, shown in this table, the coarser products as a whole—brick, tile, terra cotta, etc.—contributed $847,954, or 14.9 per cent, and the pottery products, $4,858,123, or 85.1 per cent. The increase in the coarser wares over 1890 was only 1.1 per cent, and was almost exclusively in the higher grades, the common and pressed brick showing a decided decline. The decline in the common brick output is undoubtedly due to changes in methods of construction, the modern steel-frame building, with its large use of fireproofing and hollow building blocks in place of common brick, the increasing use of cement and vitrified brick for sidewalks, etc. Another cause for the small increase in brick and tile products is found in the fact that the building trades are early affected by seasons of business depression and are the last to revive; and evidently, at the taking of the Twelfth Census, the brick-making industry had not fully recovered from the panic of 1893.

The decrease in the output of pressed brick was partially offset by the increase of fancy colored brick. Vitrified brick and blocks also show a remarkable gain in 1900 over 1890.

The manufacture of electrical conduits, first reported in 1890, with a value of $53,500, has made the greatest proportional gain, the increase in 1900 being $631,773.

Draintile showed a decline of 26.9 per cent, or from $5,009,804 in 1890 to $3,662,184 in 1900. This product is one that varies from season to season, the demand being regulated by the amount of rainfall in the large draintile-consuming region—the Middle Western states.

The higher grades of tile, such as roof, floor, and encaustic tile, showed a noteworthy increase of from $795,958 in 1890 to $1,276,300 in 1900, a gain of $480,342, or 60.3 per cent. This branch of clay manufacture has developed greatly in the last few years. The fireproofing and hollow-block industry made a substantial gain, from $402,750 in 1890 to $1,665,031 in 1900, an increase of $1,262,281, or 313.4 per cent. The production of architectural terra cotta increased in value from $1,431,228 in 1890 to $2,027,532 in 1900, a gain of $596,304, or 41.7 per cent.

While pottery products, according to the subdivision in this table, made a gain of $4,858,123, or 39.4 per cent over 1890, which was 85.1 per cent of the total gain in all clay products, the same condition obtained in this branch of the industry as in the brick, tile, and terra-cotta branch; that is, the decreases were confined to the commoner lines of wares, namely, the stoneware and yellow Rockingham ware, while the other grades, with the exception of art pottery and porcelain, showed increases. The small increase in production of C. C. ware is probably due to the reluctance of manufacturers to classify their ware as this grade. The difference between C. C., white granite, and semivitreous porcelain is slight, and these designations are principally trade names. Perhaps the fairer way would be to combine these three items for 1890 and 1900, giving $3,571,847 and $6,376,351, respectively, with a gain of $2,804,504, or 78.5 per cent.

BRICK AND TILE.

The detailed summary for the brick and tile branch of the clay manufacture is Table 17, the third of the general tables following the text of this report. Pennsylvania led, with 11.6 per cent of the total value of products; New York was second, with 11.1 per cent; and Illinois was third, with 9.9 per cent.

Table 6 shows the kinds and cost of materials used in brick and tile manufacture, 1900, with the percentage each is of the total.

TABLE 6.—BRICK AND TILE: COST OF MATERIALS, 1900.[1]

	Cost.	Per cent of total.
Total	$11,006,148	100.0
Clay	335,668	3.1
Coal used as an ingredient	131,658	1.2
Sand	189,803	1.7
Manganese	19,004	0.2
Salt	6,460	0.1
Iron	2,641	(2)
Carbonate of barium	8,355	0.1
Fuel	8,774,852	79.7
Rent of power and heat	9,768	0.1
Mill supplies	411,935	3.7
All other materials[3]	510,059	4.6
Freight	605,945	5.5

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Less than one-tenth of 1 per cent.
[3] Includes "coloring matter," $9,622.

Table 6 shows that the cost of all materials was $11,006,148. The clay is that actually purchased, and does not include the clay mined by men employed at the plant, whose wages are included in the amount paid to wage-earners. No attempt was made to arrive at the value of the clay so mined, it being such an integral part of the process of manufacture that it is deemed impossible to separate it. Furthermore, in most plants, the capital given includes the value of the land from which the clay was taken. Fuel is by far the material of greatest cost, that used under boilers and in burning the product amounting to $8,774,852, or 79.7 per cent, while if the coal used as an ingredient (also efficient as fuel) be added, it would make the fuel cost $8,906,510, or 80.9 per cent of the total. Undoubtedly far the larger part of the expense for freight was for freight on fuel, and if this be also included the cost of fuel would rise to 86.4 per cent of the total. The mill supplies were valued at $411,935, or 3.7 per cent of the materials used.

Table 7 shows the value of the brick and tile products by kind, and the percentage each product is of the total clay products, 1900, as well as of the brick and tile products.

TABLE 7.—BRICK AND TILE: KIND AND VALUE OF PRODUCTS, 1900.[1]

	Value.	Per cent of total	Per cent of total value of all clay products.[2]
Total	$51,270,476	100.0	53.7
Common brick	38,650,478	75.4	40.5
Red front brick	2,397,171	4.7	2.5
Fancy colored front brick (all except red)	1,601,441	3.1	1.7
Ornamental-shaped brick (all not plain rectangular)	429,588	0.9	0.4
Vitrified paving brick	3,857,179	7.5	4.0
Draintile	3,195,434	6.2	3.3
All other products	1,139,185	2.2	1.2

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Total value of all clay products, $95,533,862.

The brick and tile manufacture produced 53.7 per cent in value of all clay products; common brick were 40.5 per cent. Of the total value of products of the brick and tile manufacture alone, the value of common brick constituted 75.4 per cent; of paving brick, 7.5 per cent; of draintile, 6.2 per cent; and of red front brick, 4.7 per cent.

Table 8 is a statement of the average price per thousand of the various kinds of building brick, 1900, by states and territories.

TABLE 8.—BRICK AND TILE: AVERAGE PRICE PER THOUSAND OF BRICK, BY STATES AND TERRITORIES, 1900.[1]

STATES AND TERRITORIES.	Common brick.	Fancy colored front brick (all except red).	Ornamental-shaped brick (all not plain rectangular brick).	Vitrified paving brick.	Red front brick (both pressed and wire-cut).	Enameled brick.
United States	$5.18	$13.89	$29.01	$8.17	$8.98	$57.04
Alabama	5.59	12.50	35.00	9.08	6.08	.....
Arizona	6.49	.....	60.00	.....	.....	.....
Arkansas	6.40	.....	28.57	9.77	9.83	.....
California	6.18	34.17	50.87	10.00	11.24	75.00
Colorado	5.59	18.30	57.58	10.13	10.19	.....
Connecticut and Rhode Island	4.99	23.00	36.36	10.00	8.75	.....
Delaware	7.51	.....	45.00	.....	10.65	.....
District of Columbia	7.85	30.00	.....	.....	12.24	.....
Florida	5.05	10.00	.....	.....	.....	.....
Georgia	4.80	15.00	28.44	6.25	8.83	.....
Idaho	7.02	.....	.....	.....	.....	.....
Illinois	4.87	10.52	37.01	7.96	8.35	65.32
Indiana	4.74	10.00	25.70	9.19	9.72	.....
Indian Territory	6.18	.....	.....	.....	.....	.....
Iowa	6.03	11.07	31.33	7.61	8.31	.....
Kansas	5.14	.....	29.83	6.80	8.33	.....
Kentucky	5.26	.....	15.63	10.20	8.09	.....
Louisiana	5.05	.....	.....	.....	8.54	.....
Maine	5.49	.....	10.00	9.22	7.01	.....
Maryland	6.12	28.95	50.34	14.00	7.29	42.00
Massachusetts	5.45	32.93	48.69	.....	13.87	.....
Michigan	4.66	14.71	22.12	12.00	13.68	.....
Minnesota	5.19	13.00	35.20	.....	7.78	.....
Mississippi	5.76	.....	.....	.....	10.69	.....
Missouri	5.32	12.19	46.69	8.36	8.27	.....
Montana	6.56	18.50	20.63	17.00	12.45	.....
Nebraska	6.55	.....	70.22	7.15	14.89	.....
Nevada	8.36	.....	.....	.....	.....	.....
New Hampshire	5.12	.....	.....	.....	9.71	.....
New Jersey	4.58	16.95	24.09	12.80	13.80	54.89
New Mexico	7.47	13.00	.....	.....	10.00	.....
New York	4.23	14.63	32.58	10.60	7.46	.....
North Carolina	5.06	30.00	.....	5.74	6.89	.....
North Dakota	5.82	15.00	.....	.....	12.00	.....
Ohio	5.19	10.71	16.01	7.78	8.78	.....
Oklahoma	6.52	.....	.....	.....	16.15	.....
Oregon	6.48	35.56	27.84	.....	7.62	60.00
Pennsylvania	5.79	12.95	22.23	7.89	9.16	75.66
South Carolina	4.58	11.92	.....	.....	6.51	.....
South Dakota	7.02	.....	.....	.....	.....	.....
Tennessee	4.91	9.21	20.83	11.99	6.05	.....
Texas	5.43	7.75	18.84	9.83	8.63	.....
Utah	5.73	8.33	22.10	.....	11.58	.....
Vermont	5.01	.....	.....	.....	9.00	.....
Virginia	5.94	17.15	33.51	10.00	10.11	.....
Washington	7.28	21.01	70.00	15.22	21.61	.....
West Virginia	5.40	11.17	10.89	7.72	6.79	.....
Wisconsin	6.00	8.02	21.70	15.00	9.15	.....
Wyoming	7.98	.....	.....	.....	19.17	.....

[1] The report for the Twelfth Census is for the calendar year 1899.

The average price for common brick for the United States was $5.18 per thousand, while the price ranged from $8.36 per thousand in Nevada to $4.23 per thousand in New York. In Minnesota and Ohio the price was $5.19, or practically that for the whole country. The

red front brick varied from $6.05 in Tennessee to $21.61 in the state of Washington, while the average for the United States was $8.98. The other kinds of brick show even greater variations in price, due to differences in the cost of manufacture and in the character of the local product in different states.

Table 9 is a comparative summary of the brick and tile manufacture, 1900, along the Hudson River from Troy to New York city, in Philadelphia county, Pa., and in Cook county, Ill., these being the three great building-brick centers of the United States. For the purpose of including all of the establishments along the Hudson River, Bergen County, N. J., whose principal market is Greater New York, where practically the entire product of Hudson River brick is sold, is included. Likewise all yards in Philadelphia county, Pa., and Cook county, Ill., are included, their product being almost altogether consumed in Philadelphia and Chicago.

TABLE 9.—BRICK AND TILE: COMPARATIVE SUMMARY—HUDSON RIVER COUNTIES, COOK COUNTY, ILL., AND PHILADELPHIA COUNTY, PA., 1900.[1]

	Hudson River counties.[2]	Cook county.	Philadelphia county.
Number of establishments	121	35	37
Capital:			
Total	$5,898,790	$3,024,782	$2,448,668
Land	$1,858,009	$1,113,500	$541,496
Buildings	$1,265,647	$588,850	$590,913
Machinery, tools, and implements	$1,248,735	$912,850	$417,874
Cash and sundries	$1,526,399	$409,582	$898,385
Proprietors and firm members	152	48	49
Salaried officials, clerks, etc.:			
Total number	110	54	47
Total salaries	$107,578	$77,744	$53,593
Officers of corporations—			
Number	15	16	5
Salaries	$23,611	$23,672	$10,100
General superintendents, managers, clerks, etc.—			
Total number	95	38	42
Total salaries	$83,967	$54,072	$43,493
Men—			
Number	94	37	42
Salaries	$83,187	$53,172	$43,493
Women—			
Number	1	1	.....
Salaries	$780	$900	.....
Wage-earners, including pieceworkers, and total wages:			
Average number	5,134	1,183	1,451
Total wages	$2,156,449	$634,915	$678,201
Men, 16 years and over—			
Average number	5,087	1,174	1,430
Wages	$2,144,636	$633,828	$673,296
Children, under 16 years—			
Average number	47	9	21
Wages	$11,813	$1,087	$4,905
Miscellaneous expenses:			
Total	$441,558	$77,928	$195,100
Rent of works	$210,631	$3,550	$49,088
Taxes, not including internal revenue	$33,392	$9,900	$6,433
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$196,010	$61,278	$139,579
Contract work	$1,525	$3,200	.....
Materials used:			
Total cost	$835,588	$297,687	$283,085
Clay purchased—			
Tons	8,374	3,355	40,801
Cost	$8,338	$2,230	$22,849
Coal, used as an ingredient—			
Tons	33,591	4,280	2,551
Cost	$54,997	$6,881	$2,024
Sand—			
Tons	54,960	2,014	4,806
Cost	$47,539	$2,064	$4,283
Manganese—			
Pounds	.....	.....	34,854
Cost	.....	.....	$333

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, and Rockland counties, N. Y., and Bergen county, N. J.

TABLE 9.—BRICK AND TILE: COMPARATIVE SUMMARY—HUDSON RIVER COUNTIES, COOK COUNTY, ILL., AND PHILADELPHIA COUNTY, PA., 1900[1]—Continued.

	Hudson River counties.[2]	Cook county.	Philadelphia county.
Materials used—Continued.			
Total cost—Continued.			
Salt—			
Tons	.....	.....	7
Cost	.....	.....	$35
Iron—			
Pounds	.....	.....	20,200
Cost	.....	.....	$202
Coloring matter	$1,226	.....	$100
Carbonate of barium	$5,118	.....	.....
Fuel	$592,419	$253,969	$204,304
Rent of power and heat	$1,515	.....	$5
Mill supplies	$35,395	$5,352	$6,532
All other materials	$52,452	$7,849	$4,499
Freight	$36,589	$19,342	$37,919
Products:			
Total value	$4,319,224	$1,540,790	$1,497,304
Common brick—			
Number of thousands	988,335	344,793	205,386
Value	$4,053,869	$1,535,245	$1,212,068
Red front brick (both pressed and wire-cut)—			
Number of thousands	12,500	.....	13,748
Value	$85,500	.....	$145,152
Fancy colored front brick (all except red)—			
Number of thousands	.....	.....	4,665
Value	.....	.....	$131,967
Ornamental-shaped brick (all brick not rectangular, plain brick)—			
Number of thousands	.....	.....	126
Value	.....	.....	$8,122
Vitrified paving brick—			
Number of thousands	15,469	.....	.....
Value	$167,505	.....	.....
Draintile	$8,000	$4,420	.....
All other products	$1,350	$1,125	.....
Power:			
Number of establishments reporting	119	30	28
Total horsepower (owned)	14,266	7,069	2,717
Engines—			
Steam—			
Number	154	47	43
Horsepower	14,248	7,069	2,717
Gas or gasoline—			
Number	1	.....	.....
Horsepower	3	.....	.....
Other power, horsepower	15	.....	.....
Machinery:			
Clay-grinding machines—			
Disintegrators	77	38	23
Dry pans	13	5	6
All other	63	28	8
Clay-tempering machines—			
Ring pits	243	3	50
Pug mills	42	35	26
Wet pans	.....	3	.....
All other	18	8	1
Molding machines—			
Soft mud	479	24	20
Stiff mud	24	33	12
Dry presses	2	8	8
Shape-brick power presses	21	8	12
Hand presses	.....	.....	84
Tile machines	.....	1	.....
All other	12	.....	.....
Mold sanders	228	1	17

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, and Rockland counties, N. Y., and Bergen county, N. J.

It is regretted that comparison can not be made with 1890. The table shows that the Hudson River region led in the manufacture, the value of its products being 58.7 per cent of the total value in this group. The average value of common brick per thousand along the Hudson River was $4.10, probably the lowest price for brick of equal quality anywhere in the United States. The quantity reported, 988,335,000, was larger than that reported for any other region of the United States. In considering average wages, it should be remembered that the large majority of the yards are what are termed "summer yards," being operated only about one-half of the year.

For the benefit of those who desire the statistics relating solely to the New York portion of this region it may be stated that included in Table 8 are 9 establishments in Bergen county, N. J., with a capital of $396,192, employing 239 wage-earners, paying $116,403 in wages, and having a product of 58,259,000 common brick, valued at $249,003.

POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS.

The detailed summary, by states and territories, of the manufacture of pottery, terra cotta, and fire-clay products, 1900, is Table 18, to be found in the general tables following the text of this report. Ohio led with 26.8 per cent of the total value of products, New Jersey being second, with 20.2 per cent, and Pennsylvania third, with 18.4 per cent.

Table 10 shows the kinds and cost of the materials used in the pottery, terra cotta, and fire-clay manufacture, 1900.

TABLE 10.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS: COST OF MATERIALS, 1900.[1]

	Cost.	Per cent of total.
Total	$11,915,236	100.0
China clay (domestic)	390,804	3.3
China clay (foreign)	171,790	1.4
Ball clay (domestic)	113,954	1.0
Ball clay (foreign)	116,629	1.0
Stoneware clay	171,161	1.4
Slip clay	17,830	0.2
Fire clay	1,554,228	13.0
Pipe clay	150,489	1.3
Terra cotta clay	133,339	1.1
Brick clay (purchased)	191,918	1.6
All other clay	200,526	1.7
Coal (used as an ingredient)	6,731	0.1
Sand	92,017	0.8
Manganese	25,914	0.2
Salt	24,756	0.2
Iron	13,184	0.1
Coloring matter	70,688	0.6
Carbonate of barium	15,078	0.1
Sawdust	19,687	0.2
Flint (quartz)	325,434	2.7
Feldspar	265,231	2.2
Plaster	120,545	1.0
Liquid and coin gold	117,422	1.0
Oxide of lead, zinc, and cobalt	225,099	1.9
Packing materials	586,198	4.9
Fuel	3,858,828	32.4
Rent of power and heat	11,889	0.1
Mill supplies	346,613	2.9
All other materials	1,361,235	11.4
Freight	1,216,024	10.2

[1] The report for the Twelfth Census is for the calendar year 1899.

Unfortunately, the cost of materials at the census of 1890 was not itemized so as to be comparable with these statistics. The cost given in Table 10 represents more nearly the actual cost of materials in this manufacture than in the similar table under brick and tile, since less of the cost of component materials is included in wages paid. It may be assumed that practically all the materials were purchased by the manufacturers. Most of the operators of sewer-pipe plants, however, mined their own clay. Fuel was the largest item, as in the brick and tile manufacture, but it comprised only 32.4 per cent of the total, as against 79.7 per cent in brick and tile.

Table 11 shows in a condensed form the kinds and value of the pottery, terra cotta, and fire-clay products, 1900, together with the percentage which each product is of the total, and also the percentage it is of the total value of all clay products.

TABLE 11.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS: KIND AND VALUE OF PRODUCTS, WITH PER CENT OF TOTAL VALUE, 1900.[1]

	Value.	Per cent of total.	Per cent of total value of all clay products.[2]
Aggregate value	$44,263,386	100.0	46.3
Pottery products:			
Total value	17,222,040	38.9	18.0
Red earthenware	762,260	1.7	0.8
Stoneware	1,970,710	4.4	2.0
Yellow and Rockingham ware	159,553	0.4	0.2
C. C. or cream-colored ware	1,540,488	3.5	1.6
White granite ware	1,787,101	4.0	1.9
Semivitreous porcelain ware	3,048,762	6.9	3.2
China (porcelain)	1,255,978	2.8	1.3
Bone china, Delft, and Belleek ware	42,000	0.1	(3)
Sanitary ware	1,850,225	4.2	1.9
Solid porcelain bath tubs, laundry tubs, etc	361,652	0.8	0.4
Porcelain electrical supplies	470,855	1.1	0.5
Porcelain doorknobs	78,333	0.2	0.1
Porcelain hardware trimmings	48,528	0.1	0.1
Art pottery and porcelain	629,402	1.4	0.6
All other pottery products	3,216,693	7.3	3.4
Terra cotta, fire, and other clay products	26,420,354	59.7	27.7
All other products	620,992	1.4	0.6

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Total value of all clay products, $95,533,862.
[3] Less than one-tenth of 1 per cent.

The value of pottery, terra cotta, and fire-clay products in 1899 was 46.3 per cent of the total value of all clay products, terra cotta, fire and other clay products leading with 27.7 per cent, and pottery products constituting 18 per cent. In their own subdivision terra cotta, fire and other clay products led, with 59.7 per cent of the total, pottery products being second, with 38.9 per cent.

Table 12 is a comparative summary of the pottery, terra cotta, and fire-clay manufacture, 1890 and 1900, at the two great pottery centers of the United States, East Liverpool, Ohio, and Trenton, N. J.

TABLE 12.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS: COMPARATIVE SUMMARY, TRENTON, N. J., AND EAST LIVERPOOL, OHIO, 1890 AND 1900.

	TRENTON.		EAST LIVERPOOL.	
	1900[1]	1890	1900[1]	1890
Number of establishments	29	32	30	23
Capital:				
Total	$7,096,775	$4,875,507	$4,292,845	$2,127,281
Value of plants	$4,928,952	$2,728,913	$2,281,164	$1,219,543
Cash and sundries	$2,167,823	$2,146,594	$2,011,681	$907,738
Proprietors and firm members	34	.....	17	.....
Salaried officials, clerks, etc.:				
Number	198	[2]160	251	[2]93
Salaries	$260,011	$203,669	$265,107	$89,844
Wage-earners, including piece-workers, and total wages:				
Average number	4,289	3,935	3,908	2,062
Wages	$2,343,754	$2,144,032	$1,835,110	$977,069
Miscellaneous expenses	$385,759	$434,354	$187,839	$157,421
Materials used:				
Total cost	$1,196,291	$1,198,090	$1,168,982	$969,357
Clay	$292,500	$285,262	$218,786	$171,954
Fuel	$287,108	$261,580	$209,213	$130,448
Miscellaneous	$487,914	$474,874	$581,993	$273,912
Packing materials	$128,769	$176,374	$158,990	$93,043
Products:				
Total value	$4,785,142	$4,631,202	$4,105,200	$2,137,063
Yellow and Rockingham ware	.....	.....	$98,034	.....
C. C. or cream-colored ware	$751,444	.....	$721,219	.....
White granite ware	$442,354	.....	$970,319	.....
Semivitreous porcelain ware	$371,559	.....	$1,838,126	.....
China (porcelain)	$494,870	.....	$197,144	.....
Bone china, Delft, and Belleek ware	$42,000	.....	.....	.....
Sanitary ware	$1,692,359	.....	.....	.....
Solid porcelain bath tubs, laundry tubs, etc	$249,973	.....	.....	.....
Porcelain electrical supplies	$154,807	.....	$142,447	.....
Porcelain doorknobs	$12,000	.....	$46,333	.....
Porcelain hardware trimmings	$32,500	.....	.....	.....
Art pottery and porcelain	$125,500	.....	.....	.....
All other pottery products	$328,399	.....	$51,211	.....
Terra cotta, fire, and other clay products	$83,160	.....	$38,479	.....
All other products	$4,217	.....	$1,888	.....
Machinery and kilns:				
Pottery—				
Disintegrators	60	.....	77	.....
Agitators	70	.....	73	.....
Slip pumps	69	.....	65	.....
Lawns	48	.....	44	.....
Clay presses—				
Iron	26	.....	65	.....
Wood	39	.....	3	.....
Pug mills—				
Regular	45	.....	36	.....
Sagger	28	.....	31	.....
Wad mills	31	.....	32	.....
Jiggers	166	.....	221	.....
All other machines	562	.....	191	.....
Kilns—				
Up-draft	152	.....	169	.....
Down-draft	33	.....	10	.....
Muffle—				
Large	24	.....	.....	.....
Decorating	56	.....	73	.....
All other kilns	4	.....	2	.....
Terra cotta, tile, and brick:				
Clay-grinding machines—				
Disintegrators	4	.....	.....	.....
Dry pans	3	.....	3	.....
All other	2	.....	.....	.....
Clay-tempering machines—				
Pug mills	5	.....	1	.....
Wet pans	7	.....	2	.....
Molding machines—				
Stiff mud	.....	.....	1	.....
Dry presses	12	.....	.....	.....
Shape brick power presses	2	.....	.....	.....
Hand presses	6	.....	.....	.....
Sewer-pipe presses	.....	.....	2	.....
Kilns—				
Down-draft—				
Round	11	.....	17	.....
Dryers	2	.....	2	.....
Idle machines	21	.....	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes proprietors and firm members, with their salaries. Number only reported in 1900.

The table shows that of the total pottery product, valued at $17,222,040 (see Table 11), these two centers produced $8,562,598, or 49.7 per cent. In regard to the number of establishments at Trenton, it should be stated that in one instance a concern reported as one establishment is composed of 5 plants. These, if reported separately, would have made the number of establishments 33, which would make an increase of 1 over the number returned in 1890. Owing to the difference in the classification of the products at the two censuses, it is impossible to make a comparison of the details of production in these cities for 1890 and 1900, but the total values are given.

Table 13 shows the earthenware, china, brick, and tile imported and entered for consumption in the United States from 1867 to 1900, inclusive, as compiled from the reports of the Bureau of Statistics of the Treasury Department.

TABLE 13.—VALUE OF EARTHENWARE, CHINA, BRICK, AND TILE IMPORTED AND ENTERED FOR CONSUMPTION IN THE UNITED STATES, 1867 TO 1900, INCLUSIVE.

YEAR ENDING—	Brown earthen and common stoneware.	China and porcelain not decorated.	China and decorated porcelain.	Other earthen, stone, or crockery ware, glazed, etc.	Brick, fire brick, and tile.	Total.
June 30—						
1867	$48,618	$418,493	$439,824	$4,280,924	.....	$5,187,859
1868	47,208	309,960	403,555	3,244,958	.....	4,005,712
1869	34,260	400,894	555,425	3,468,970	.....	4,459,549
1870	47,457	420,442	530,805	3,461,524	.....	4,460,228
1871	96,695	391,874	571,032	3,573,254	.....	4,632,855
1872	127,346	470,749	814,134	3,896,664	.....	5,308,893
1873	115,253	479,617	867,206	4,289,868	.....	5,751,944
1874	70,544	397,730	676,656	3,686,794	.....	4,831,724
1875	68,501	436,883	654,965	3,280,867	.....	4,441,216
1876	36,744	409,539	718,156	2,948,517	.....	4,112,956
1877	30,403	326,956	668,514	2,746,186	.....	3,772,059
1878	18,714	389,133	657,485	3,031,393	.....	4,096,725
1879	19,868	296,591	813,850	2,914,567	.....	4,044,876
1880	31,504	234,371	1,188,847	3,945,666	.....	5,400,388
1881	27,586	321,259	1,621,112	4,413,369	.....	6,383,326
1882	36,023	316,811	2,075,708	4,438,237	.....	6,866,779
1883	43,864	368,943	2,587,545	5,685,709	.....	6,686,061
1884	50,172	982,499	2,664,231	(1)	$666,595	4,363,497
1885	44,701	823,334	2,834,718	.....	963,422	4,666,175
December 31—						
1886	37,820	865,446	3,350,145	.....	951,293	5,204,704
1887	43,079	967,694	3,888,509	.....	1,008,360	5,907,642
1888	55,558	1,054,854	4,207,598	.....	886,314	6,204,324
1889	48,824	1,148,026	4,580,321	.....	788,391	6,565,562
1890	56,730	974,627	3,562,851	.....	563,568	5,157,776
1891	99,983	1,921,643	6,288,088	.....	353,736	8,663,450
1892	63,003	2,022,814	6,555,172	.....	380,520	9,021,509
1893	57,017	1,732,481	6,248,255	.....	338,143	8,375,896
1894	47,114	1,550,950	5,392,648	.....	189,631	7,180,343
1895	61,424	2,117,425	8,055,473	.....	211,473	10,445,795
1896	41,585	1,511,542	7,729,942	.....	247,455	9,530,524
1897	[2]32,227	1,406,019	7,057,261	.....	146,668	8,642,175
1898	[2]54,672	1,002,729	5,905,209	.....	117,324	7,079,934
1899	[2]40,164	1,125,892	6,740,884	.....	134,691	8,041,631
1900	[2]65,214	1,059,152	7,617,756	.....	169,951	8,912,073

[1] Not separately classified after 1883. [2] Including Rockingham ware.

Table 14 shows the exports of clay goods from 1895 to 1900. These figures, like those of imports, are compiled from the reports of the Bureau of Statistics of the Treasury Department.

TABLE 14.—EXPORTS OF CLAY WARES FROM THE UNITED STATES, FROM 1895 TO 1900, INCLUSIVE.

YEAR.	BRICK.				POTTERY.			Grand total (value).
	Building.		Fire (value).	Total value.	Earthen and stone ware (value).	China (value).	Total value.	
	Quantity.	Value.						
December 31—	*Thousands.*							
1895...	4,757	$34,732	$88,729	$123,461	$114,425	$24,872	$139,297	$262,758
1896...	5,258	32,759	102,636	135,395	144,641	24,702	169,343	304,738
1897...	4,606	30,383	110,626	141,009	177,320	30,283	207,603	348,612
1898...	4,708	32,317	146,632	178,949	212,769	39,052	251,821	430,770
1899...	9,872	77,783	214,375	292,158	467,925	43,807	511,732	803,890
1900...	12,526	128,800	594,237	723,037	489,942	68,852	558,794	1,281,831

Table 15 is a comparative summary, 1890 and 1900, by states and territories, for the manufacture of clay products.

Table 16 is a comparative summary, 1890 and 1900, by states and territories, of the quantity and value of clay products. It will be observed that the total value of the pottery as here presented, $17,197,415, is slightly less than that shown in Table 18, $18,222,040. This is due to the necessity of including the statistics of pottery in Florida, Idaho, Nebraska, and New Hampshire among "all other products" of the brick, tile, and terra cotta part of Table 16, to avoid disclosing individual returns. Table 16 does not give the schedule division of products between brick and tile, and pottery, terra cotta, and fire-clay products, but between clay manufactures for building and other purposes and manufactures of potteries only.

Table 17 is a summary of the manufacture of brick and tile, 1900, by states and territories.

Table 18 is a summary of the manufacture of pottery, terra cotta, and fire-clay products, 1900, by states and territories.

TABLE 15.—CLAY PRODUCTS: COMPARATIVE SUMMARY

	STATES AND TERRITORIES.	Year.	Number of establishments.	Capital.	Proprietors and firm members.	SALARIED OFFICIALS, CLERKS, ETC.	
						Number.	Salaries.
1	United States	1900	6,423	$148,038,323	7,596	5,203	$5,036,195
		1890	6,535	108,705,670	(2)	6,291	4,254,943
2	Alabama	1900	93	631,334	121	59	33,169
		1890	70	742,376	.....	54	33,139
3	Arizona	1900	19	56,945	24	3	2,700
		1890	3	1,210	.....	.....	.....
4	Arkansas	1900	65	388,319	76	27	22,641
		1890	57	318,262	.....	49	30,440
5	California	1900	74	2,512,164	76	86	101,330
		1890	64	2,527,673	.....	86	95,063
6	Colorado	1900	75	1,381,710	83	60	78,062
		1890	89	1,980,422	.....	125	125,287
7	Connecticut	[3] 1900	45	1,862,138	42	76	83,356
		1890	43	1,184,155	.....	69	62,028
8	Delaware	1900	25	283,637	27	9	8,860
		[4] 1890	13	250,982	.....	17	15,086
9	District of Columbia	1900	17	972,040	20	22	22,604
		1890	18	946,383	.....	23	26,259
10	Florida	1900	18	200,885	20	11	9,550
		[4] 1890	12	139,770	.....	22	11,239
11	Georgia	1900	91	1,311,889	100	80	63,545
		1890	78	1,179,532	.....	92	66,960
12	Idaho	1900	24	51,882	29	.....	.....
		1890	5	11,405	.....	3	510
13	Illinois	1900	619	12,710,709	729	361	418,669
		1890	644	10,670,707	.....	613	396,583
14	Indiana	1900	607	6,080,738	731	208	163,983
		1890	784	3,447,764	.....	570	212,450
15	Indian Territory	1900	13	26,077	22	1	720
		[5] 1890	.....	.....	.....	.....	.....
16	Iowa	1900	356	3,437,618	458	107	78,427
		1890	289	2,114,863	.....	233	101,982
17	Kansas	1900	60	774,410	70	50	30,384
		1890	93	809,882	.....	60	31,216
18	Kentucky	1900	100	1,504,006	108	83	71,259
		1890	109	1,077,601	.....	123	70,898
19	Louisiana	1900	61	683,003	70	44	26,635
		1890	27	357,003	.....	37	25,851
20	Maine	1900	74	623,335	82	33	18,823
		1890	127	820,507	.....	81	40,631
21	Maryland	1900	63	5,074,263	65	104	96,642
		1890	75	3,058,409	.....	91	71,621
22	Massachusetts	1900	110	3,946,239	134	126	104,565
		1890	139	3,825,818	.....	178	137,302
23	Michigan	1900	186	1,777,532	225	68	43,093
		1890	196	1,950,401	.....	149	63,202
24	Minnesota	1900	112	1,579,698	130	49	46,940
		1890	126	1,827,431	.....	164	71,886
25	Mississippi	1900	78	506,214	98	41	21,822
		1890	36	246,885	.....	36	18,634
26	Missouri	1900	256	9,003,185	287	220	274,714
		1890	277	6,099,308	.....	311	270,380
27	Montana	1900	28	451,709	30	16	12,928
		1890	11	173,650	.....	8	6,440
28	Nebraska	1900	107	1,276,933	135	40	26,446
		[4] 1890	155	2,791,774	.....	134	84,464
29	Nevada	1900	7	19,905	10	.....	.....
		[6] 1890	.....	.....	.....	.....	.....
30	New Hampshire	1900	57	702,713	72	36	20,746
		1890	66	597,073	.....	33	15,914
31	New Jersey	1900	157	18,932,379	143	543	717,407
		1890	155	10,569,054	.....	332	336,743

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Included with salaried officials, clerks, etc.
[3] Includes 1 establishment in Rhode Island.
[4] Includes only brick and tile; clay and pottery products included in "all other states."

BY STATES AND TERRITORIES: 1890 AND 1900.[1]

AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.											
Total.		Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.		Miscellaneous expenses.	Cost of materials used.	Value of products.	
Average number.	Total wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.				
105,693 123,156	$39,575,070 38,578,389	98,127 115,600	$37,957,248 37,426,873	4,557 2,235	$1,142,579 536,269	3,009 5,321	$475,243 615,247	$6,845,040 7,111,776	$22,921,384 18,257,998	$95,533,862 89,827,785	1
1,349 1,587	323,370 332,937	1,201 1,416	304,018 312,843	 13	 844	148 158	19,352 19,250	42,858 54,197	202,455 164,557	883,129 802,331	2
89 31	46,980 2,600	88 31	45,752 2,600	1	70	5	1,158	9,950 37	15,202 700	101,758 4,300	3
494 786	127,252 159,568	474 651	124,582 150,107	 2	 470	20 83	2,670 8,991	8,634 34,577	63,587 107,545	336,899 520,784	4
1,111 1,754	578,994 794,276	1,097 1,749	575,552 793,430	2 1	504 360	12 4	2,938 486	112,302 236,482	427,113 621,470	1,585,738 2,266,914	5
812 2,250	452,949 1,061,475	806 2,185	451,304 1,049,957	1 4	350 660	5 61	1,295 10,858	60,157 124,676	247,049 395,100	1,071,388 2,238,618	6
1,167 1,180	486,488 398,428	1,139 1,136	480,363 386,748	19 31	4,396 9,394	9 13	1,729 2,286	74,964 53,054	218,635 153,523	1,074,202 863,040	7
215 410	70,063 128,050	211 389	69,338 125,804	1	100	3 21	625 2,246	7,772 19,923	22,439 30,341	167,692 268,534	8
546 1,270	204,077 457,291	546 1,191	204,077 441,291	....	....	 79	 16,000	43,332 69,334	90,954 238,310	481,145 961,587	9
261 215	67,499 49,358	249 192	65,900 46,073	 1	 175	12 22	1,599 3,110	5,954 12,353	34,018 19,805	137,953 119,260	10
1,986 2,252	414,092 496,923	1,912 2,183	407,255 491,671	3 4	575 504	71 65	6,262 4,748	60,274 74,319	306,289 285,099	1,259,577 1,412,792	11
44 35	18,144 4,200	44 35	18,144 4,200	....	....	....	....	1,214 1,102	8,805 1,690	46,609 9,800	12
7,229 10,596	2,971,907 3,574,177	7,034 10,126	2,938,064 3,516,606	37 51	9,250 7,901	158 419	24,593 49,670	499,355 718,661	1,601,742 1,495,503	7,224,915 7,956,082	13
4,859 5,926	1,726,782 1,269,834	4,535 5,650	1,667,856 1,240,804	200 69	38,703 11,231	124 207	20,223 17,799	241,275 193,682	864,642 514,651	4,222,529 3,142,454	14
45	17,960	43	17,658	.....	.....	2	302	2,281	6,419	35,075	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
2,220 2,788	862,159 724,999	2,175 2,700	854,392 716,380	1 8	360 2,363	44 80	7,407 6,256	140,459 108,934	517,580 232,393	2,224,920 1,775,165	16
927 1,256	325,850 293,321	914 1,184	324,114 287,260	 4	 420	13 68	1,736 5,641	58,273 47,286	162,118 133,397	753,411 690,574	17
1,759 2,035	484,800 503,833	1,675 1,889	473,326 490,183	10 15	1,729 2,270	74 131	9,745 11,380	64,875 93,399	326,262 234,075	1,355,094 1,206,181	18
1,064 554	267,021 140,967	961 530	254,631 138,517	2 4	480 700	101 20	11,910 1,750	47,989 20,659	107,993 65,272	553,465 336,495	19
547 1,164	232,330 321,274	546 1,120	232,250 308,674	 39	 12,258	1 5	80 342	61,719 57,110	163,742 220,092	662,235 804,074	20
2,583 3,040	837,798 873,651	2,326 2,854	778,876 846,872	80 68	31,287 15,846	177 118	27,635 10,933	92,946 288,516	352,299 333,945	1,679,166 1,985,828	21
2,013 3,593	884,452 1,228,135	1,952 3,537	867,797 1,214,855	54 49	15,064 12,330	7 7	1,591 950	166,938 198,680	588,643 712,942	2,181,510 2,819,760	22
1,692 2,675	530,930 572,168	1,542 2,618	523,054 566,391	19 8	3,277 1,433	31 49	4,599 4,344	65,844 89,853	275,327 278,715	1,280,590 1,407,957	23
1,276 2,238	481,493 520,218	1,232 2,139	473,632 511,926	10 9	2,181 923	34 90	5,680 7,369	50,775 99,053	339,662 318,468	1,217,743 1,331,339	24
929 706	207,463 140,419	872 656	201,605 136,712	....	....	57 50	5,858 3,707	26,337 11,564	103,145 73,100	540,725 339,939	25
4,047 5,616	1,514,674 1,990,016	3,891 5,228	1,492,566 1,936,526	 4	 430	156 384	22,108 53,060	362,296 417,649	842,077 1,028,407	3,650,400 4,782,619	26
226 244	150,892 97,902	223 242	149,942 97,802	1	350	2 2	600 100	15,165 9,335	91,606 53,088	314,340 238,610	27
857 2,686	328,244 760,386	839 2,437	324,956 739,787	 4	 497	18 145	3,288 20,102	41,434 138,257	203,865 484,918	841,305 2,173,632	28
14	9,885	14	9,885	.....	.....	.....	.....	541	3,499	17,850	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
632 1,501	241,915 345,383	622 1,490	239,412 341,753	2 10	399 3,540	8 1	2,104 90	26,964 84,662	158,234 204,330	570,287 835,156	30
10,487 9,094	4,677,059 3,789,437	9,327 7,970	4,348,418 3,546,574	929 799	287,089 198,590	231 325	41,552 44,273	972,580 714,485	2,703,696 1,877,488	10,786,673 7,991,611	31

[5] Included in "all other states."

[6] None reported in 1890.

TABLE 15.—CLAY PRODUCTS: COMPARATIVE SUMMARY

	STATES AND TERRITORIES.	Year.	Number of establishments.	Capital.	Proprietors and firm members.	SALARIED OFFICIALS, CLERKS, ETC.	
						Number.	Salaries.
32	New Mexico	1900	11	$55,395	18	4	$3,900
		1890[2]	.....	.....	.....	.....	.....
33	New York	1900	269	12,843,327	301	359	367,499
		1890	331	11,196,350	.....	396	324,199
34	North Carolina	1900	178	527,925	240	43	15,649
		1890	71	266,790	.....	48	19,206
35	North Dakota	1900	13	218,950	22	5	3,500
		1890	6	30,095	.....	2	950
36	Ohio	1900	934	22,907,596	1,078	1,026	955,107
		1890	1,000	12,139,977	.....	911	586,566
37	Oklahoma	1900	36	109,825	42	5	3,845
		1890	3	2,990	.....	2	497
38	Oregon	1900	51	407,824	61	21	18,680
		1890[1]	47	656,151	.....	38	38,069
39	Pennsylvania	1900	528	21,815,609	679	737	698,579
		1890	576	15,607,046	.....	588	480,527
40	South Carolina	1900	86	366,711	119	43	20,446
		1890	44	244,407	.....	28	13,055
41	South Dakota	1900	11	64,125	19	.....	.....
		1890	11	103,605	.....	14	5,534
42	Tennessee	1900	109	1,062,993	136	49	42,775
		1890	88	1,092,100	.....	85	63,832
43	Texas	1900	171	1,496,666	192	71	58,391
		1890	143	1,189,561	.....	101	64,008
44	Utah	1900	56	209,407	85	13	8,765
		1890[1]	40	279,147	.....	30	16,101
45	Vermont	1900	16	130,298	15	16	15,539
		1890	20	139,915	.....	11	4,267
46	Virginia	1900	85	1,840,713	96	66	59,605
		1890	98	1,560,787	.....	90	51,392
47	Washington	1900	40	806,885	37	42	45,420
		1890	90	1,211,158	.....	72	47,592
48	West Virginia	1900	56	2,219,842	61	79	70,014
		1890	35	289,628	.....	23	14,084
49	Wisconsin	1900	172	2,233,853	174	61	48,521
		1890	153	2,573,733	.....	134	84,401
50	Wyoming	1900	4	6,775	4	.....	.....
		1890	7	28,970	.....	2	390
51	All other states and territories	1900	.....	.....	.....	.....	.....
		1890[3]	11	422,960	.....	23	18,116

[1] Includes only brick and tile; clay and pottery products included in "all other states."

[2] None reported in 1890.

BY STATES AND TERRITORIES: 1890 AND 1900[1]—Continued.

AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.											
Total.		Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.		Miscellaneous expenses.	Cost of materials used.	Value of products.	
Average number.	Total wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.				
122	$48,586	121	$48,486	.....	.....	1	$100	$1,553	$22,878	$108,090	32
9,007	3,637,462	8,570	3,529,338	342	$89,154	95	18,970	895,878	1,631,003	8,073,769	33
12,166	4,012,376	11,677	3,911,479	270	73,787	219	27,160	1,112,278	1,658,608	8,806,273	
1,546	292,928	1,442	283,435	2	300	102	9,193	25,964	173,507	725,016	34
1,023	135,625	929	129,732	1	100	93	5,793	11,997	66,663	346,270	
121	56,977	114	55,377	3	600	4	1,000	3,865	34,734	158,874	35
78	17,545	78	17,545	.....	.....	.....	.....	1,888	6,595	45,775	
17,223	6,967,817	14,861	6,401,288	2,154	528,863	208	37,666	1,029,550	4,211,061	16,480,812	36
13,263	4,375,109	12,133	4,158,914	614	148,974	516	67,221	828,241	2,336,160	10,860,938	
173	62,902	170	62,263	.....	.....	3	639	3,459	24,420	149,712	37
14	6,187	14	6,187	.....	.....	.....	.....	390	1,491	11,500	
277	124,873	267	122,415	1	276	9	2,182	17,876	60,278	317,978	38
663	199,704	651	198,681	.....	.....	12	1,023	15,237	66,230	461,648	
15,605	5,633,645	14,553	5,454,026	411	60,443	641	119,176	938,196	3,589,924	14,081,844	39
14,695	5,029,660	13,389	4,852,704	123	24,972	1,183	151,984	792,269	2,131,164	11,143,668	
1,191	251,106	1,130	245,094	5	563	56	5,449	26,324	136,986	596,693	40
793	118,348	728	114,045	.....	.....	65	4,303	16,769	48,315	279,889	
48	19,687	48	19,687	.....	.....	.....	.....	1,378	12,625	46,150	41
205	44,413	205	44,413	.....	.....	.....	.....	3,678	17,623	134,650	
1,452	384,752	1,366	374,583	.....	.....	86	10,169	111,544	240,063	944,610	42
2,079	613,374	1,877	596,786	8	1,483	194	15,105	57,388	195,882	1,277,397	
1,859	496,996	1,811	490,829	.....	.....	48	6,167	59,308	278,393	1,212,266	43
2,072	553,980	2,011	546,377	1	150	60	7,453	56,722	267,143	1,311,270	
285	100,151	263	96,300	.....	.....	22	3,851	11,146	38,862	215,049	44
728	216,357	662	208,542	.....	.....	66	7,815	27,601	66,551	421,658	
122	44,842	119	44,442	.....	.....	3	400	8,487	29,137	131,525	45
215	44,208	209	43,758	.....	.....	6	450	5,939	24,535	119,039	
1,518	427,588	1,432	416,692	2	567	84	10,329	66,899	229,108	1,089,399	46
2,390	563,738	2,245	555,223	.....	.....	145	8,515	47,519	217,502	1,361,438	
455	245,762	448	244,286	1	600	6	876	36,938	110,598	583,857	47
1,838	687,274	1,812	685,017	8	1,086	18	1,171	61,019	233,510	1,529,479	
1,819	684,820	1,498	610,536	263	64,949	58	9,335	145,364	316,103	1,541,239	48
448	130,575	406	125,598	2	500	40	4,477	5,795	69,949	304,865	
1,479	545,754	1,418	534,552	1	100	60	11,102	95,638	731,574	1,810,206	49
2,835	665,214	2,741	658,500	9	1,378	85	5,336	127,137	409,132	1,785,442	
11	4,900	11	4,900	.....	.....	.....	.....	216	1,033	8,450	50
29	11,020	29	11,020	.....	.....	.....	.....	351	3,723	25,900	
290	122,456	276	120,006	2	750	12	1,700	17,769	68,298	315,300	51

[1] Includes establishments distributed as follows: Clay and pottery products—Delaware, 2; Florida, 1; Nebraska, 1; Oregon, 1; Rhode Island, 2; Utah, 1. Brick and tile—Indian Territory, 1; Rhode Island, 2.

TABLE 16.—CLAY PRODUCTS: COMPARATIVE SUMMARY, KINDS, QUANTITY, AND

	STATES AND TERRITORIES.	Year.	Aggregate value.	BRICK, TILE, AND TERRA COTTA.									
				Total value.	Common brick.		Pressed brick.		Fancy colored brick.		Vitrified brick and blocks.	
					Number of 1,000.	Value.	Number of 1,000.	Value.	Number of 1,000.	Value.	Number of 1,000.	Value.
1	United States	1900	$95,533,862	$78,336,447	7,654,528	$39,674,749	282,542	$2,537,912	149,901	$2,082,000	590,720	$4,828,456
		1890	89,827,785	77,488,493	8,045,282	48,810,271	440,977	5,973,902	11,681	187,920	98,345	982,440
2	Alabama	1900	883,129	857,287	107,495	600,659	4,045	24,610	300	3,750	11,075	100,600
		1890	802,331	779,050	97,994	585,080	1,520	17,700	.....	.....	.....	.....
3	Arizona	1900	101,758	101,758	15,655	101,638	.....	.....	.....	.....	.....	.....
		1890	4,300	4,300	600	4,300	.....	.....	.....	.....	.....	.....
4	Arkansas	1900	336,899	316,828	43,443	277,904	884	8,690	.....	.....	1,300	12,700
		1890	520,734	486,465	52,177	353,810	755	7,000	.....	.....	11,700	99,000
5	California	1900	1,585,738	1,553,925	129,492	800,010	2,776	31,213	826	28,225	10	100
		1890	2,266,914	2,254,654	151,603	1,030,762	8,390	230,292	300	10,500	.....	.....
6	Colorado	1900	1,071,388	1,055,338	75,603	422,524	9,824	100,067	1,997	36,546	4,760	48,200
		1890	2,288,618	2,218,331	243,683	1,716,849	19,454	265,565	.....	.....	.....	.....
7	Connecticut[3]	1900	1,074,202	992,452	150,665	751,239	4,800	42,000	10	230	5,000	50,000
		1890	863,040	696,340	90,150	549,950	25	500	35	500	.....	.....
8	Delaware	1900	167,692	167,692	18,310	137,526	2,212	23,566	.....	.....	.....	.....
		1890	268,534	268,534	30,842	230,278	1,500	30,000	.....	.....	.....	.....
9	District of Columbia	1900	481,145	462,375	45,657	358,232	434	5,310	20	600	.....	.....
		1890	961,587	949,087	90,430	643,350	11,050	198,600	126	882	.....	.....
10	Florida	1900	137,953	137,953	25,974	131,268	.....	.....	60	600	.....	.....
		1890	119,260	119,260	15,965	96,250	3,250	22,000	.....	.....	.....	.....
11	Georgia	1900	1,259,577	1,234,122	201,551	966,855	8,000	70,600	500	7,500	600	3,750
		1890	1,412,792	1,370,722	191,020	1,098,962	5,200	97,850	.....	.....	.....	.....
12	Idaho	1900	46,609	46,609	6,155	43,209	.....	.....	.....	.....	.....	.....
		1890	9,800	9,800	1,012	9,800	.....	.....	.....	.....	.....	.....
13	Illinois	1900	7,224,915	6,461,910	656,202	3,197,987	14,304	119,419	12,597	132,535	88,017	700,524
		1890	7,956,082	7,541,091	711,884	4,015,945	40,235	592,269	278	5,000	18,525	158,400
14	Indiana	1900	4,222,529	3,876,495	368,282	1,721,766	11,317	109,978	3,000	30,000	28,120	258,471
		1890	3,142,454	3,073,984	318,429	1,690,611	5,125	57,627	1,000	5,000	500	6,000
15	Indian Territory	1900	35,075	35,075	5,680	35,075	.....	.....	.....	.....	.....	.....
		1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	Iowa	1900	2,224,920	2,195,190	218,931	1,320,472	11,024	91,611	6,256	69,279	29,555	225,044
		1890	1,775,165	1,628,731	174,527	1,129,079	4,292	43,537	1,530	10,830	6,300	64,000
17	Kansas	1900	753,411	725,431	76,605	393,570	4,422	36,853	.....	.....	40,635	276,384
		1890	690,574	670,969	88,284	525,029	6,260	69,827	30	210	4,600	55,660
18	Kentucky	1900	1,355,094	1,250,969	103,454	543,681	2,505	20,275	.....	.....	5,919	60,398
		1890	1,206,181	1,136,381	130,896	805,170	15,434	125,211	.....	.....	.....	.....
19	Louisiana	1900	553,465	540,825	101,837	514,313	1,730	14,775	.....	.....	.....	.....
		1890	336,495	303,925	41,325	282,625	600	8,500	.....	.....	.....	.....
20	Maine	1900	662,235	655,074	72,649	399,110	5,586	39,165	.....	.....	87	802
		1890	804,074	753,774	87,065	498,731	780	9,350	600	25,000	.....	.....
21	Maryland	1900	1,679,166	1,317,665	111,459	681,997	11,867	86,460	2,468	71,458	50	700
		1890	1,985,828	1,687,353	141,076	1,069,814	7,706	148,617	100	20,000	.....	.....
22	Massachusetts	1900	2,181,510	1,887,677	230,437	1,256,767	2,250	31,200	1,460	48,080	.....	.....
		1890	2,819,760	2,485,359	283,231	1,837,211	10,670	199,950	.....	.....	.....	.....
23	Michigan	1900	1,280,590	1,250,949	199,764	931,311	3,930	53,760	340	5,000	2,400	28,800
		1890	1,407,957	1,376,257	202,557	989,793	3,165	28,860	.....	.....	.....	.....
24	Minnesota	1900	1,217,743	1,011,443	145,226	753,825	1,935	15,050	2,000	26,000	.....	.....
		1890	1,331,339	1,199,789	203,980	1,089,468	1,875	21,325	1,800	36,000	.....	.....
25	Mississippi	1900	540,725	522,325	88,203	508,135	1,195	12,775	.....	.....	.....	.....
		1890	339,939	295,939	41,629	284,642	592	8,697	.....	.....	.....	.....
26	Missouri	1900	3,650,400	3,572,223	250,385	1,331,517	21,524	177,996	8,453	103,041	22,594	188,787
		1890	4,782,619	4,602,230	338,034	1,978,447	98,164	925,436	30	6,840	6,000	60,000
27	Montana	1900	314,340	313,390	28,725	188,339	196	2,440	2	37	85	1,445
		1890	238,610	238,610	27,115	208,910	650	5,200	.....	.....	.....	.....
28	Nebraska	1900	841,305	841,305	118,952	779,236	1,588	23,653	.....	.....	2,110	15,090
		1890	2,173,632	2,173,632	227,210	1,610,097	13,704	201,690	.....	.....	29,000	325,000
29	Nevada	1900	17,850	17,850	2,085	17,440	.....	.....	.....	.....	.....	.....
		1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	New Hampshire	1900	570,287	570,287	98,900	505,951	2,193	21,301	.....	.....	.....	.....
		1890	836,156	797,156	124,602	725,686	280	3,650	.....	.....	.....	.....
31	New Jersey	1900	10,786,673	5,716,107	394,654	1,809,306	9,957	137,434	27,868	472,385	210	2,687
		1890	7,991,611	3,197,710	371,938	1,866,507	23,477	369,639	3,500	40,875	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes the pottery products of Florida, Idaho, Nebraska, and New Hampshire, to avoid disclosing the operations of individual establishments.

VALUE OF PRODUCTS, BY STATES AND TERRITORIES: 1890 AND 1900.[1]

BRICK, TILE, AND TERRA COTTA—continued.														
Electrical conduits.	Sewer pipe.	Draintile.	Flue linings.	Stove linings.	Furnace fittings.	Gas retorts.	Glass-melting pots.	Fire brick.	Roofing, floor, and encaustic tile.	Hollow brick, fireproofing, and terra-cotta lumber.	Chimney tops.	Architectural terra cotta.	All other brick, tile, and terra-cotta products.	
$685,273	$4,560,334	$3,662,184	$310,989	$416,235	$1,043,085	$196,567	$407,141	$8,636,562	$1,276,300	$1,665,031	$242,289	$2,027,532	[2]$4,083,808	1
53,500	5,394,921	5,009,804	68,184	151,023	161,469	24,408	312,343	6,318,770	795,958	402,750	101,208	1,431,228	1,308,394	
.....	.....	325	.....	.....	7,068	450	.....	114,050	.....	.....	25	.....	5,750	2
.....	10,000	.....	.....	.....	.....	.....	.....	161,270	.....	.....	.....	.....	5,000	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	120	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	9,234	.....	.....	.....	.....	.....	8,100	.....	.....	.....	.....	200	4
.....	40	5,025	.....	.....	.....	.....	.....	20,340	1,200	.....	.....	.....	50	
.....	479,537	9,298	12,620	1,350	6,516	.....	1,000	28,798	3,400	7,100	19,800	76,000	48,958	5
.....	664,850	.....	6,800	.....	.....	.....	.....	63,750	.....	.....	6,100	134,500	107,600	
.....	60,218	5,397	2,503	.....	12,800	2,640	.....	162,633	.....	2,514	250	.....	199,046	6
.....	62,765	.....	.....	.....	107,890	.....	.....	52,412	.....	.....	.....	.....	13,350	
.....	.....	.....	15,000	1,200	18,400	.....	.....	28,000	.....	15,000	.....	.....	76,883	7
.....	70,540	7,750	.....	.....	.....	.....	.....	21,600	.....	.....	2,000	200	43,300	
.....	.....	5,700	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	900	8
.....	.....	8,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	256	
21,562	69,495	475	4,301	.....	.....	.....	.....	.....	.....	.....	400	.....	2,000	9
20,000	80,164	.....	.....	.....	.....	.....	.....	91	.....	.....	.....	.....	6,000	
.....	500	1,921	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	3,614	10
.....	.....	450	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	560	
.....	100,612	1,895	1,500	10	2,500	.....	.....	24,400	.....	4,000	1,750	44,200	4,550	11
.....	103,630	1,000	.....	.....	.....	.....	.....	25,730	.....	.....	.....	40,000	3,550	
.....	.....	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,000	12
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	229,040	1,025,469	30,390	.....	2,504	92	260	132,759	130,085	198,360	186	422,009	140,291	13
.....	328,330	1,381,403	.....	21,345	.....	1,008	.....	222,595	310,020	60,000	3,600	375,000	66,176	
76,400	161,935	833,347	5,175	.....	.....	2,000	48,900	72,350	328,041	62,575	5,100	22,500	137,957	14
.....	22,550	1,007,601	.....	.....	.....	.....	.....	39,346	114,951	60,000	.....	55,000	15,298	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	47,719	359,258	.....	.....	.....	.....	.....	300	.....	.....	50	.....	81,457	16
.....	62,645	277,853	.....	.....	.....	.....	.....	10,595	1,051	4,700	200	50	24,191	
.....	.....	6,550	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12,074	17
.....	.....	16,391	.....	.....	.....	.....	.....	3,330	322	.....	.....	.....	200	
.....	104,441	36,132	4,700	.....	.....	.....	.....	334,630	3,000	1,750	1,780	.....	140,182	18
.....	55,200	33,400	7,500	.....	.....	.....	.....	45,072	58,778	.....	2,500	.....	3,550	
.....	.....	3,335	.....	.....	2,100	.....	.....	.....	.....	.....	.....	.....	6,302	19
.....	.....	.....	.....	.....	12,800	.....	.....	.....	.....	.....	.....	.....	.....	
.....	173,455	3,538	.....	500	17,886	.....	.....	.....	18,989	.....	.....	.....	1,629	20
.....	138,914	3,575	.....	.....	.....	.....	.....	75,000	3,000	.....	.....	100	104	
.....	24,000	3,673	.....	32,457	.....	11,500	.....	325,812	7,255	.....	1,400	.....	70,953	21
.....	30,500	1,935	.....	7,000	.....	.....	.....	215,985	14,000	.....	3,000	130,000	46,502	
.....	.....	824	.....	143,547	46,904	.....	.....	22,792	.....	70,573	.....	52,224	214,766	22
.....	52,000	17,500	.....	23,878	.....	.....	.....	165,320	2,000	40,000	.....	.....	147,500	
.....	50,300	138,889	15,375	.....	.....	.....	.....	3,000	.....	5,900	.....	.....	18,614	23
.....	122,840	155,377	500	.....	.....	.....	.....	3,200	65,000	.....	5,112	.....	5,575	
.....	158,545	11,400	.....	.....	.....	.....	.....	.....	.....	31,000	.....	.....	15,623	24
.....	28,800	2,080	.....	.....	.....	.....	.....	695	.....	18,000	.....	.....	3,421	
.....	.....	1,035	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	380	25
.....	.....	.....	.....	.....	.....	.....	.....	600	.....	.....	.....	.....	2,000	
2,000	436,624	53,130	6,540	10,000	280,240	52,560	3,151	375,023	7,000	26,257	590	184,495	333,272	26
.....	533,000	75,130	46,384	.....	34,079	12,000	28,576	624,390	123,660	.....	14,200	107,993	32,095	
.....	25,000	.....	.....	250	.....	.....	.....	72,088	.....	1,100	50	.....	22,641	27
.....	14,000	500	.....	.....	.....	.....	.....	10,000	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,326	28
.....	.....	1,700	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	33,145	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	410	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	15,000	.....	.....	.....	.....	28,035	30
.....	7,300	.....	.....	.....	.....	.....	.....	60,000	.....	.....	.....	.....	520	
250,006	99,000	27,660	91,730	8,000	116,500	77,666	12,000	633,158	37,123	653,144	.....	660,304	628,004	31
.....	251,693	175,928	.....	.....	.....	.....	.....	234,980	5,655	.....	21,177	26,250	205,006	

[3]Includes 1 establishment in Rhode Island.

TABLE 16.—CLAY PRODUCTS: COMPARATIVE SUMMARY, KINDS, QUANTITY, AND

	STATES AND TERRITORIES.	Year.	Aggregate value.	BRICK, TILE, AND TERRA COTTA.									
				Total value.	Common brick.		Pressed brick.		Fancy colored brick.		Vitrified brick and blocks.	
					Number of 1,000.	Value.	Number of 1,000.	Value.	Number of 1,000.	Value.	Number of 1,000.	Value.
32	New Mexico	1900	$108,090	$108,090	7,712	$57,600	2,899	$28,990	500	$6,500	.....	.....
		1890	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
33	New York	1900	8,073,769	7,424,177	1,246,633	5,274,356	18,257	136,127	7,771	113,718	32,350	$342,845
		1890	8,806,273	8,017,481	1,107,191	5,894,434	14,959	266,932	1,300	13,000	.....	.....
34	North Carolina	1900	725,016	705,085	126,458	639,248	2,070	14,262	5	150	735	4,220
		1890	346,270	333,150	52,544	293,710	1,689	15,290	.....	.....	.....	.....
35	North Dakota	1900	158,874	158,874	22,660	131,874	750	9,000	200	3,000	.....	.....
		1890	45,775	45,775	6,300	45,775	.....	.....	.....	.....	.....	.....
36	Ohio	1900	16,480,812	9,486,007	465,986	2,418,401	29,218	256,494	19,611	210,061	145,657	1,133,509
		1890	10,860,938	7,315,489	533,238	2,960,466	28,474	354,101	958	12,447	21,720	214,380
37	Oklahoma	1900	149,712	149,712	17,278	112,692	650	10,500	.....	.....	.....	.....
		1890	11,500	11,500	1,430	11,500	.....	.....	.....	.....	.....	.....
38	Oregon	1900	317,978	306,774	28,155	182,551	323	2,460	450	16,000	.....	.....
		1890	461,648	461,648	57,845	411,959	1,300	26,925	.....	.....	.....	.....
39	Pennsylvania	1900	14,081,844	12,917,327	780,387	4,519,324	50,363	461,345	38,421	497,655	39,017	702,782
		1890	11,143,668	10,381,470	805,634	5,547,782	50,960	923,212	40	800	.....	.....
40	South Carolina	1900	596,693	587,158	118,932	544,838	3,935	25,600	52	620	.....	.....
		1890	279,889	268,214	44,864	250,078	1,125	10,655	4	36	.....	.....
41	South Dakota	1900	46,150	46,150	6,575	46,150	.....	.....	.....	.....	.....	.....
		1890	134,650	134,650	16,000	110,905	1,686	19,860	.....	.....	.....	.....
42	Tennessee	1900	944,610	876,690	112,520	552,349	9,646	58,336	29	267	5,780	69,289
		1890	1,277,397	1,248,217	182,507	1,050,417	10,840	94,700	.....	.....	.....	.....
43	Texas	1900	1,212,266	1,130,759	173,006	939,955	3,816	32,941	3,470	26,880	3,206	31,530
		1890	1,311,270	1,230,740	151,090	1,062,830	13,810	122,660	.....	.....	.....	.....
44	Utah	1900	215,049	207,349	29,132	167,031	1,552	17,967	60	500	.....	.....
		1890	421,658	421,658	54,695	396,208	865	17,300	.....	.....	.....	.....
45	Vermont	1900	131,525	131,525	18,510	92,725	400	3,600	.....	.....	.....	.....
		1890	119,039	95,291	13,800	84,291	150	2,700	.....	.....	.....	.....
46	Virginia	1900	1,089,399	1,080,294	128,455	763,128	11,184	113,061	7,528	129,076	5,000	50,000
		1890	1,361,438	1,345,298	146,358	1,047,702	19,957	264,380	.....	.....	.....	.....
47	Washington	1900	583,857	570,507	55,444	403,378	565	12,210	932	19,580	937	14,260
		1890	1,529,479	1,525,909	162,494	1,293,760	3,409	58,410	.....	.....	.....	.....
48	West Virginia	1900	1,541,239	955,929	49,843	269,356	1,896	12,868	300	3,350	65,451	505,089
		1890	304,865	285,993	17,605	100,493	.....	.....	.....	.....	.....	.....
49	Wisconsin	1900	1,810,206	1,797,061	178,497	1,071,631	4,460	40,800	2,415	19,377	30	450
		1890	1,785,442	1,740,377	191,879	1,171,905	8,100	107,885	.....	.....	.....	.....
50	Wyoming	1900	8,450	8,450	915	7,300	60	1,150	.....	.....	.....	.....
		1890	25,900	25,900	2,750	25,900	.....	.....	.....	.....	.....	.....
51	All other states and territories.[2]	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		1890	315,300	280,300	17,800	123,000	.....	.....	.....	.....	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.

VALUE OF PRODUCTS, BY STATES AND TERRITORIES: 1890 AND 1900[1]—Continued.

BRICK, TILE, AND TERRA COTTA—continued.														
Electrical conduits.	Sewer pipe.	Draintile.	Flue linings.	Stove linings.	Furnace fittings.	Gas retorts.	Glass-melting pots.	Fire brick.	Roofing, floor, and encaustic tile.	Hollow brick, fireproofing, and terra-cotta lumber.	Chimney tops.	Architectural terra cotta.	All other brick, tile, and terra-cotta products.	
.....	.....	$2,000	.....	.....	.....	.....	.....	$6,000	.....	.....	.....	.....	$7,000	32
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
$20,000	$51,293	41,176	$10,480	$74,507	$50,649	$4,750	.....	227,814	$91,645	$108,926	$175,025	$417,350	283,516	33
.....	557,765	106,323	.....	90,500	.....	11,400	$17,450	365,755	26,745	145,000	542	380,645	140,990	
.....	38,000	3,575	1,000	.....	.....	.....	.....	3,380	.....	.....	.....	.....	1,250	34
.....	1,500	4,400	.....	.....	.....	.....	.....	13,050	.....	.....	.....	.....	4,600	
.....	.....	.....	.....	.....	.....	.....	.....	15,000	.....	.....	.....	.....	.....	35
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
315,305	1,680,724	968,483	83,119	7,563	155,543	33,509	136,620	976,693	565,094	346,090	29,472	.....	169,827	36
33,500	1,320,500	1,084,180	.....	.....	.....	.....	78,750	1,068,920	13,700	29,800	27,987	53,690	63,068	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26,520	37
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	36,700	20,415	600	.....	.....	.....	.....	1,300	1,000	15,500	3,045	.....	27,203	38
.....	1,800	20,564	.....	.....	.....	.....	.....	400	.....	.....	.....	.....	.....	
.....	204,400	26,519	10,535	106,851	323,475	11,400	205,210	4,921,339	61,086	110,210	2,266	139,100	613,880	39
.....	485,407	249,133	.....	500	7,200	.....	187,567	2,594,883	20,650	45,250	8,910	124,650	185,526	
.....	.....	2,240	.....	.....	.....	.....	.....	11,220	.....	.....	.....	.....	2,640	40
.....	980	3,989	.....	.....	.....	.....	.....	1,976	.....	.....	.....	.....	500	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41
.....	.....	.....	.....	.....	.....	.....	.....	3,885	.....	.....	.....	.....	.....	
.....	142,999	16,695	4,497	.....	.....	.....	.....	28,049	.....	.....	.....	.....	4,209	42
.....	.....	5,880	.....	800	.....	.....	.....	19,100	150	.....	.....	.....	77,170	
.....	58,753	2,325	.....	.....	.....	.....	.....	23,234	.....	2,802	300	.....	12,039	43
.....	7,800	3,150	.....	5,000	.....	.....	.....	4,500	500	.....	1,750	3,150	19,400	
.....	8,000	475	.....	.....	.....	.....	.....	3,250	.....	.....	500	.....	9,626	44
.....	.....	.....	.....	.....	.....	.....	.....	7,750	.....	.....	.....	.....	400	
.....	.....	3,200	.....	30,000	.....	.....	.....	.....	.....	.....	.....	.....	2,000	45
.....	5,300	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	3,860	.....	.....	.....	.....	.....	937	.....	.....	.....	.....	20,232	46
.....	4,909	19,417	.....	.....	.....	.....	.....	350	1,300	.....	.....	.....	7,240	
.....	76,694	5,346	924	.....	.....	.....	.....	16,053	.....	2,152	300	9,300	10,310	47
.....	107,023	570	7,000	.....	.....	.....	.....	9,960	17,976	.....	3,660	.....	27,550	
.....	42,350	3,656	10,000	.....	.....	.....	.....	54,400	22,632	78	.....	.....	32,150	48
.....	36,000	.....	.....	.....	.....	.....	.....	146,000	500	.....	.....	.....	3,000	
.....	.....	23,334	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	641,469	49
.....	73,926	336,600	.....	.....	.....	.....	.....	23,340	14,800	.....	120	.....	11,801	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51
.....	152,750	.....	.....	2,000	.....	.....	.....	.....	.....	.....	350	.....	2,200	

[1] Includes establishments distributed as follows: Brick and tile—Indian Territory, 1; Rhode Island, 2. Pottery—Delaware, 2; Florida, 1; Nebraska, 1; Oregon, 1; Rhode Island, 2; Utah, 1.

TABLE 16.—CLAY PRODUCTS: COMPARATIVE SUMMARY, KINDS, QUANTITY, AND VALUE OF PRODUCTS, BY STATES AND TERRITORIES: 1890 AND 1900[1]—Continued.

STATES AND TERRITORIES.	Year.	POTTERY.								
		Total value.	Stoneware.	Yellow and Rockingham ware.	C. C., or cream-colored ware.	White granite ware.	Semivitreous porcelain ware.	China (porcelain).	Art pottery and porcelain.	All other pottery products.
United States	1900	$17,197,415	$1,970,710	$159,553	$1,540,488	$1,787,101	$3,048,762	$1,255,978	$629,402	$6,805,421
	1890	12,339,292	2,056,463	439,553	1,226,161	1,676,579	669,107	460,394	957,168	[2]4,853,927
Alabama	1900	25,842	24,662							1,180
	1890	23,281	17,167	1,576			281		1,944	2,313
Arizona	1900									
	1890									
Arkansas	1900	20,071	19,840							231
	1890	34,269	33,125							1,144
California	1900	31,813	4,389							27,424
	1890	12,260	2,460						200	9,600
Colorado	1900	16,050								16,050
	1890	20,287	15,787							4,500
Connecticut	[3]1900	81,750							28,500	53,250
	1890	166,700	25,500		45,000					96,200
Delaware	1900									
	1890									
District of Columbia	1900	18,770								18,770
	1890	12,500	3,500							9,000
Florida	1900									
	1890									
Georgia	1900	25,455	22,215							3,240
	1890	42,070	21,800	1,868			14,000		4,000	402
Idaho	1900									
	1890									
Illinois	1900	763,005	572,075							190,930
	1890	414,991	224,886				18,320			171,785
Indiana	1900	346,034	48,648							297,386
	1890	68,470	49,850	500	5,000			1,000		12,120
Indian Territory	1900									
	1890									
Iowa	1900	29,730	22,398							7,332
	1890	146,434	132,134				10,000			4,300
Kansas	1900	27,980	27,680							300
	1890	19,605	8,690				10,625			290
Kentucky	1900	104,125	93,835							10,290
	1890	69,800	21,400	27,200			16,900			4,300
Louisiana	1900	12,640								12,640
	1890	32,570								32,570
Maine	1900	7,161								7,161
	1890	50,300	44,000							6,300
Maryland	1900	361,501							20,000	341,501
	1890	298,475	12,167	8,080	111,000	40,500	2,400	300	250	123,778
Massachusetts	1900	293,833	35,435						25,607	232,791
	1890	334,401	67,500		23,500		30,000		35,000	178,401
Michigan	1900	29,641								29,641
	1890	31,700								31,700
Minnesota	1900	206,300								206,300
	1890	131,550	110,000				250		5,300	16,000
Mississippi	1900	18,400	18,400							
	1890	44,000	44,000							
Missouri	1900	78,177	63,170							15,007
	1890	180,389	149,713	3,946			1,600		2,000	23,130
Montana	1900	950								950
	1890									
Nebraska	1900									
	1890									
Nevada	1900									
	1890									
New Hampshire	1900									
	1890	38,000							35,000	3,000
New Jersey	1900	5,070,566	35,500		751,444	442,354	372,350	494,870	125,500	2,848,548
	1890	4,793,901	22,289	95,600	418,783	526,311	376,021	425,683	363,826	2,565,438

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes sanitary or plumber's earthenware to the value of $1,214,400 in the state of New Jersey.
[3] Includes 1 establishment in Rhode Island.

TABLE 16.—CLAY PRODUCTS: COMPARATIVE SUMMARY, KINDS, QUANTITY, AND VALUE OF PRODUCTS, BY STATES AND TERRITORIES: 1890 AND 1900[1]—Continued.

STATES AND TERRITORIES.	Year.	POTTERY.								
		Total value.	Stoneware.	Yellow and Rockingham ware.	C. C., or cream-colored ware.	White granite ware.	Semivitreous porcelain-ware.	China (porcelain).	Art pottery and porcelain.	All other pottery products.
New Mexico	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	1900	$649,592	$33,344	.....	.....	.....	.....	$336,680	$1,000	$278,568
	1890	788,792	185,293	.....	$15,729	$43,568	$1,650	33,351	115,000	394,201
North Carolina	1900	19,931	19,671	.....	.....	.....	.....	.....	.....	260
	1890	13,120	9,600	.....	.....	.....	2,780	.....	.....	740
North Dakota	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio	1900	6,994,805	582,132	$159,553	789,044	1,143,990	2,676,412	424,428	428,795	790,451
	1890	3,545,449	487,391	275,299	571,399	1,002,848	105,280	.....	334,648	768,589
Oklahoma	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oregon	1900	11,204	.....	.....	.....	.....	.....	.....	.....	11,204
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pennsylvania	1900	1,164,517	174,450	.....	.....	200,757	.....	.....	.....	789,310
	1890	762,198	200,950	19,636	35,800	63,357	79,000	.....	60,000	303,455
South Carolina	1900	9,535	8,485	.....	.....	.....	.....	.....	.....	1,050
	1890	11,675	1,875	.....	.....	.....	.....	.....	.....	9,800
South Dakota	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tennessee	1900	67,920	66,920	.....	.....	.....	.....	.....	.....	1,000
	1890	29,180	15,780	.....	.....	.....	.....	.....	.....	13,400
Texas	1900	81,507	67,647	.....	.....	.....	.....	.....	.....	13,860
	1890	80,530	45,720	.....	.....	.....	.....	.....	.....	34,810
Utah	1900	7,700	.....	.....	.....	.....	.....	.....	.....	7,700
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vermont	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	23,748	22,500	1,248	.....	.....	.....	.....	.....	.....
Virginia	1900	9,105	.....	.....	.....	.....	.....	.....	.....	9,105
	1890	16,140	14,240	.....	.....	.....	.....	.....	.....	1,900
Washington	1900	13,350	13,350	.....	.....	.....	.....	.....	.....	.....
	1890	3,570	720	.....	.....	.....	.....	.....	.....	2,850
West Virginia	1900	585,310	16,464	.....	.....	.....	.....	.....	.....	568,846
	1890	18,872	11,572	.....	.....	.....	.....	.....	.....	7,300
Wisconsin	1900	13,145	.....	.....	.....	.....	.....	.....	.....	13,145
	1890	45,065	29,354	.....	.....	.....	.....	.....	.....	15,711
Wyoming	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other states and territories.[2]	1900	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1890	35,000	25,500	4,600	.....	.....	.....	.....	.....	4,900

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes establishments distributed as follows: Brick and tile—Indian Territory, 1; Rhode Island, 2. Pottery—Delaware, 2; Florida, 1; Nebraska, 1; Oregon, 1; Rhode Island, 2; Utah, 1.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900.[1]

	United States.	Alabama.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.[2]	Delaware.
Number of establishments	5,423	72	19	55	56	65	37	25
Character of organization—								
Individual	3,315	41	11	37	32	35	17	18
Firm and limited partnership	1,501	25	7	13	11	18	11	5
Incorporated company	599	6	1	5	13	12	9	2
Miscellaneous	8	.....	.....	.....	.....	.....	.....	.....
Capital:								
Total	$82,086,438	$431,749	$56,945	$310,295	$1,205,295	$525,725	$1,578,276	$283,637
Land	$20,227,140	$37,165	$8,320	$77,585	$244,643	$154,225	$407,296	$17,685
Buildings	$21,095,183	$123,025	$10,555	$98,280	$411,428	$81,325	$474,871	$58,695
Machinery, tools, and implements	$17,249,838	$107,601	$6,695	$65,069	$176,607	$139,930	$231,022	$54,730
Cash and sundries	$23,514,277	$163,958	$31,375	$69,361	$372,617	$150,245	$465,087	$152,527
Proprietors and firm members	6,652	93	24	66	60	76	39	27
Salaried officials, clerks, etc.:								
Total number	2,426	44	3	23	45	18	58	9
Total salaries	$2,024,683	$24,719	$2,700	$17,721	$42,790	$18,450	$60,155	$8,860
Officers of corporations—								
Number	563	6	.....	8	11	4	14	2
Salaries	$653,924	$6,000	.....	$7,400	$13,040	$7,200	$21,500	$2,500
General superintendents, managers, clerks, etc.—								
Total number	1,863	38	3	15	34	14	44	7
Total salaries	$1,370,759	$18,719	$2,700	$10,321	$29,750	$11,250	$38,655	$6,360
Men—								
Number	1,779	37	2	15	33	14	37	7
Salaries	$1,335,273	$17,969	$2,100	$10,321	$29,510	$11,250	$37,099	$6,360
Women—								
Number	84	1	1	.....	1	.....	7	.....
Salaries	$35,486	$750	$600	.....	$240	.....	$1,556	.....
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	112,179	2,038	220	868	1,307	955	1,765	375
Least number employed at any one time during the year	58,019	1,019	122	418	685	476	642	156
Average number	61,979	1,122	89	402	720	438	1,029	215
Wages	$21,883,333	$256,708	$46,980	$100,252	$332,724	$237,105	$421,452	$70,063
Men, 16 years and over—								
Average number	59,956	992	88	382	710	435	1,013	211
Wages	$21,577,962	$239,852	$45,752	$97,582	$330,326	$236,310	$417,753	$69,338
Women, 16 years and over—								
Average number	76	.....	1	.....	2	.....	7	1
Wages	$16,857	.....	$70	.....	$504	.....	$1,970	$100
Children, under 16 years—								
Average number	1,947	130	5	20	8	3	9	3
Wages	$288,514	$16,851	$1,158	$2,670	$1,894	$795	$1,729	$625
Average number of wage-earners, including pieceworkers, employed during each month:[3]								
Men, 16 years and over—								
January	19,887	456	39	190	265	126	260	30
February	20,367	477	51	205	297	122	273	30
March	30,767	719	101	264	372	196	364	64
April	62,802	1,241	129	417	672	386	999	229
May	89,158	1,515	157	565	1,067	705	1,410	302
June	93,938	1,447	136	510	1,137	726	1,563	296
July	93,103	1,365	112	539	1,161	728	1,586	345
August	90,873	1,346	101	511	1,123	714	1,632	347
September	83,897	1,108	76	432	1,010	654	1,638	324
October	64,711	977	53	391	692	433	1,492	274
November	41,536	742	38	305	412	250	616	181
December	28,433	507	9	250	314	182	331	110
Children, under 16 years—								
January	444	56	.....	7	2	1	.....	.....
February	456	55	.....	3	.....	1	6	.....
March	779	120	7	11	.....	1	6	.....
April	2,105	184	7	25	.....	3	8	.....
May	3,157	197	7	34	9	4	15	3
June	3,321	191	6	30	12	5	15	7
July	3,322	160	8	34	21	6	15	7
August	3,236	161	4	40	20	6	15	7
September	2,873	143	7	25	19	6	9	7
October	2,027	141	7	18	11	5	9	5
November	984	95	4	11	4	1	.....	.....
December	660	62	.....	6	2	1	2	.....
Miscellaneous expenses:								
Total	$3,584,319	$38,046	$9,950	$7,392	$62,027	$36,838	$68,885	$7,772
Rent of works	$620,013	$6,464	$325	$232	$5,516	$12,932	$4,130	$5,039
Taxes, not including internal revenue	$382,419	$2,713	$725	$1,356	$4,974	$2,958	$7,116	$592
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$2,421,546	$10,844	$400	$5,804	$46,537	$19,328	$52,589	$2,091
Contract work	$160,341	$18,025	$8,500	.....	$5,000	$1,620	.....	.....
Materials used:								
Total cost	$11,006,148	$142,932	$15,202	$51,724	$165,843	$86,197	$176,784	$22,439
Clay purchased—								
Tons	586,432	1,000	.....	537	2,415	3,441	90,000	60
Cost	$335,668	$1,000	.....	$537	$1,227	$4,266	$14,400	$60
Coal, used as an ingredient—								
Tons	85,090	288	.....	.....	579	3,262	3,623	4
Cost	$131,658	$795	.....	.....	$1,320	$4,123	$6,845	$5
Sand—								
Tons	211,444	4,035	300	1,651	2,190	2,966	3,419	98
Cost	$189,803	$3,419	$290	$1,661	$1,847	$2,239	$1,308	$140
Manganese—								
Pounds	1,128,280	.....	.....	.....	.....	300	500	.....
Cost	$19,004	.....	.....	.....	.....	$3	$5	.....
Salt—								
Tons	1,100	.....	.....	.....	5	21	.....	.....
Cost	$6,460	.....	.....	.....	$38	$159	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes 1 establishment in Rhode Island.
[3] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	United States.	Alabama.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.[2]	Delaware.
Materials used—Continued.								
Total cost—Continued.								
Iron—								
Pounds	2,402,200							
Cost	$2,641							
Coloring matter	$9,622					$12	$835	$125
Carbonate of barium	$8,355							
Fuel	$8,774,852	$110,449	$14,105	$37,391	$124,875	$67,727	$138,537	$20,945
Rent of power and heat	$9,768				$1,415		$375	
Mill supplies	$411,935	$5,402	$457	$1,675	$4,362	$3,077	$3,262	$755
All other materials	$500,437	$5,172	$350	$1,224	$21,384	$2,420	$9,201	$265
Freight	$605,945	$16,695		$9,236	$9,375	$2,171	$2,016	$144
Products:								
Total value	$51,270,476	$657,794	$101,758	$277,207	$834,262	$497,328	$901,359	$167,692
Common brick—								
Number of 1,000	7,455,212	106,495	15,655	39,961	129,302	73,729	150,665	18,310
Value	$38,650,478	$595,659	$101,638	$257,107	$798,410	$409,772	$751,239	$137,526
Red front brick (both pressed and wire-cut)—								
Number of 1,000	267,430	3,545		110	2,766	5,313	4,800	2,212
Value	$2,397,171	$20,110		$950	$30,813	$57,934	$42,000	$23,566
Fancy colored front brick (all except red)—								
Number of 1,000	124,446					300		
Value	$1,601,441					$6,000		
Ornamental-shaped brick (all brick not rectangular, plain brick)—								
Number of 1,000	15,672		2		25	60	44	20
Value	$429,588		$120		$396	$3,422	$1,600	$900
Vitrified paving brick—								
Number of 1,000	474,740	5,000		1,000		1,850	5,000	
Value	$3,857,179	$40,000		$10,000		$19,100	$50,000	
Draintile—								
Value	$3,195,434	$325		$9,150	$2,218	$1,100		$5,700
All other products—								
Value	$1,139,185	$1,700			$2,425		$56,520	
Power:								
Number of establishments reporting	3,232	41	1	12	21	21	36	5
Total horsepower (owned)	177,205	1,501	25	555	1,583	1,083	3,421	342
Engines—								
Steam—								
Number	3,781	45	1	13	28	21	53	2
Horsepower	175,456	1,501	25	555	1,468	1,083	3,421	346
Gas or gasoline—								
Number	45							
Horsepower	909							
Water wheels—								
Number	10							
Horsepower	208							
Electric motors—								
Number	17				5			
Horsepower	505				115			
Other power—								
Number	6							
Horsepower	127							
Machinery:								
Clay-grinding machines—								
Disintegrators	2,033	21	11	16	15	12	30	10
Dry pans	596	2		2	1	13	5	
All other	1,560	28	7	13	8	14	5	5
Clay-tempering machines—								
Ring pits	1,825	42	6	29	14	17		9
Pug mills	2,080	20	10	21	62	46	32	6
Wet pans	152	1			2			5
All other	243	4		4	1	3	1	1
Molding machines—								
Soft mud	2,683	16	3	20	34	17	47	4
Stiff mud	1,288	22		4	5	3	6	3
Dry presses	424	8		3	1	12	3	2
Shape-brick power presses	619	6		4	2	2	3	1
Hand presses	1,003	19	5	15	20	13	3	13
Sewer-pipe presses	44				1			
Tile machines	1,169	2		5	2	1		1
All other	435	2		2	1	2	1	2
Mold sanders	2,109	32		28	23	7	45	15
Dryers	4,104	40	8	18	37	42	28	3
All other machines	674	1		2	4	1	5	3
Establishments classified by number of persons employed, not including proprietors and firm members:								
Total number of establishments	5,423	72	19	55	56	65	37	25
No employees	17		2		1			
Under 5	660		6	2	5	7		10
5 to 20	3,174	29	10	45	33	43	7	11
21 to 50	1,120	33	1	6	10	12	21	2
51 to 100	322	9		1	4	3	5	1
101 to 250	115	1		1	3		3	1
251 to 500	11						1	
501 to 1,000	3							
Over 1,000	1							

[1] The report for the Twelfth Census is for the calendar year 1899.

[2] Includes 1 establishment in Rhode Island.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	District of Columbia.	Florida.	Georgia.	Idaho.	Illinois.	Indiana.	Indian Territory.	Iowa.
Number of establishments	11	17	70	23	566	558	13	332
Character of organization—								
Individual	4	7	39	18	362	368	6	191
Firm and limited partnership	4	6	18	5	141	158	7	110
Incorporated company	3	4	13	.....	62	34	.....	37
Miscellaneous	.....	.....	.....	.....	1	3	.....	1
Capital:								
Total	$715,840	$195,885	$1,045,179	$49,457	$9,198,944	$4,505,080	$26,077	$3,076,355
Land	$469,280	$62,250	$257,732	$8,880	$2,145,974	$972,048	$3,043	$574,067
Buildings	$92,650	$46,400	$213,320	$10,125	$2,688,093	$1,356,516	$5,130	$1,036,217
Machinery, tools, and implements	$88,270	$44,575	$239,455	$7,340	$2,369,067	$1,030,364	$9,784	$727,141
Cash and sundries	$65,640	$42,660	$334,672	$23,112	$1,995,810	$1,146,152	$8,120	$738,600
Proprietors and firm members	12	19	77	28	688	691	22	441
Salaried officials, clerks, etc.:								
Total number	17	11	59	.....	208	148	1	94
Total salaries	$16,304	$9,550	$45,745	.....	$217,513	$104,310	$720	$65,068
Officers of corporations—								
Number	3	.....	17	.....	66	31	.....	29
Salaries	$5,000	.....	$18,550	.....	$85,637	$29,880	.....	$25,628
General superintendents, managers, clerks, etc.—								
Total number	14	11	42	.....	142	117	1	65
Total salaries	$11,304	$9,550	$27,195	.....	$131,876	$74,430	$720	$39,370
Men—								
Number	13	11	41	.....	134	111	1	59
Salaries	$10,944	$9,550	$27,120	.....	$128,386	$71,730	$720	$36,620
Women—								
Number	1	.....	1	.....	8	6	.....	6
Salaries	$360	.....	$75	.....	$3,540	$2,700	.....	$2,750
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	657	384	2,788	181	9,125	6,589	149	4,062
Least number employed at any one time during the year	355	226	1,683	119	5,272	4,325	90	2,106
Average number	437	258	1,701	43	5,224	3,609	45	1,986
Wages	$166,483	$66,449	$347,297	$17,664	$2,130,854	$1,195,540	$17,960	$768,800
Men, 16 years and over—								
Average number	437	246	1,683	43	5,111	3,510	43	1,942
Wages	$166,483	$64,850	$341,099	$17,664	$2,113,241	$1,180,437	$17,658	$761,385
Women, 16 years and over—								
Average number	.....	.....	2	.....	.....	1	.....	1
Wages	.....	.....	$500	.....	.....	$150	.....	$300
Children, under 16 years—								
Average number	.....	12	66	.....	113	98	2	43
Wages	.....	$1,599	$5,698	.....	$17,613	$14,953	$302	$7,132
Average number of wage-earners, including pieceworkers, employed during each month:[2]								
Men, 16 years and over—								
January	169	182	845	.....	1,571	1,361	3	331
February	171	198	862	.....	1,627	1,341	3	317
March	444	223	1,199	14	2,714	1,789	24	656
April	582	280	1,982	38	5,418	3,818	76	1,916
May	640	294	2,279	110	7,184	5,201	95	3,119
June	643	312	2,294	131	8,036	5,489	76	3,332
July	604	280	2,108	90	7,901	5,329	87	3,275
August	607	289	2,080	65	7,728	5,269	60	3,199
September	565	225	2,000	38	7,335	4,879	47	3,032
October	440	251	1,745	18	5,653	3,780	18	2,292
November	202	217	1,242	6	3,678	2,210	18	1,253
December	171	205	962	.....	2,484	1,656	10	572
Children, under 16 years—								
January	.....	9	17	.....	26	15	.....	1
February	.....	9	18	.....	20	14	.....	1
March	.....	12	28	.....	34	16	.....	4
April	.....	16	80	.....	98	123	1	40
May	.....	16	102	.....	170	180	5	79
June	.....	16	94	.....	192	183	.....	85
July	.....	14	91	.....	209	184	3	89
August	.....	11	106	.....	205	167	3	90
September	.....	11	100	.....	184	139	3	80
October	.....	11	76	.....	129	97	3	41
November	.....	7	42	.....	56	38	3	2
December	.....	7	32	.....	38	20	3	1
Miscellaneous expenses:								
Total	$34,926	$5,854	$44,587	$1,071	$326,909	$161,722	$2,281	$115,897
Rent of works	$400	$2,675	$9,505	$257	$17,036	$14,622	$1,661	$11,569
Taxes, not including internal revenue	$4,312	$702	$6,678	$186	$36,648	$25,026	$159	$14,462
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$29,714	$2,477	$28,104	$628	$258,828	$122,230	$461	$83,732
Contract work	$500	.....	$400	.....	$14,397	$1,844	.....	$6,194
Materials used:								
Total cost	$62,569	$33,248	$264,016	$8,233	$1,025,681	$552,447	$6,419	$460,318
Clay purchased—								
Tons	26,860	.....	8,075	30	21,506	81,168	180	7,643
Cost	$7,150	.....	$8,075	$30	$13,336	$34,307	$180	$5,829
Coal used as an ingredient—								
Tons	.....	.....	.....	101	5,360	784	85	931
Cost	.....	.....	.....	$275	$8,631	$1,473	$120	$1,632
Sand—								
Tons	825	.....	769	39	8,198	15,545	188	5,137
Cost	$845	.....	$764	$41	$7,775	$16,625	$188	$4,766
Manganese—								
Pounds	.....	.....	12,000	.....	69,998	42,100	.....	20,660
Cost	.....	.....	$100	.....	$1,072	$578	.....	$223
Salt—								
Tons	.....	.....	.....	2	140	219	.....	162
Cost	.....	.....	.....	$15	$798	$887	.....	$977

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	District of Columbia.	Florida.	Georgia.	Idaho.	Illinois.	Indiana.	Indian Territory.	Iowa.
Materials used—Continued.								
Total cost—Continued.								
Iron—								
Pounds					14,000	368,000		
Cost					$15	$368		
Coloring matter			$100	$5	$128	$2,545		$40
Carbonate of barium			$1,232		$40			
Fuel	$46,997	$25,558	$198,811	$7,236	$847,907	$428,321	$5,467	$378,873
Rent of power and heat					$600	$312		$27
Mill supplies	$1,602	$2,231	$11,690	$151	$34,707	$30,482	$114	$15,253
All other materials	$1,975	$3,787	$13,396	$100	$33,186	$14,295		$14,271
Freight	$4,000	$1,672	$29,848	$380	$77,486	$22,254	$350	$38,428
Products:								
Total value	$364,142	$134,803	$1,053,255	$43,609	$5,081,394	$2,931,211	$35,075	$1,976,323
Common brick—								
Number of 1,000	45,657	25,974	201,551	6,155	654,267	358,416	5,680	211,706
Value	$358,232	$131,268	$966,855	$43,209	$3,186,302	$1,702,074	$35,075	$1,277,997
Red front brick (both pressed and wire-cut)—								
Number of 1,000	434		8,000		13,604	10,857		10,999
Value	$5,810		$70,600		$114,789	$107,153		$91,361
Fancy colored front brick (all except red)—								
Number of 1,000	20	60	500		12,597	3,000		6,256
Value	$600	$600	$7,500		$132,535	$30,000		$69,279
Ornamental-shaped brick (all brick not rectangular, plain brick)—								
Number of 1,000			160		753	319		150
Value			$4,550		$27,368	$8,341		$4,700
Vitrified paving brick—								
Number of 1,000			600		87,079	28,120		25,905
Value			$3,750		$692,270	$258,471		$194,144
Draintile—								
Value		$1,921		$400	$904,060	$815,545		$291,445
All other products—								
Value		$1,014			$23,570	$9,627		$47,397
Power:								
Number of establishments reporting	7	11	58	1	362	394	3	188
Total horsepower (owned)	502	488	3,120	20	23,901	12,721	125	8,567
Engines—								
Steam—								
Number	9	16	76	1	436	409	3	199
Horsepower	442	488	3,120	20	23,810	12,588	125	8,448
Gas or gasoline—								
Number	1				5	6		5
Horsepower	60				39	133		119
Water wheels—								
Number					1			
Horsepower					2			
Electric motors—								
Number					1			
Horsepower					25			
Other power—								
Number					1			
Horsepower					25			
Machinery:								
Clay-grinding machines—								
Disintegrators	8	10	35	2	201	185	1	112
Dry pans	1		3		71	21		47
All other	4	5	20	6	216	108	1	95
Clay-tempering machines—								
Ring pits	16	5	16	1	108	224	2	84
Pug mills	8	13	23	17	164	106	5	151
Wet pans			1	2	13	10		12
All other			1		38	29		4
Molding machines—								
Soft mud	1	2	17	10	174	171	1	95
Stiff mud		15	39		215	64	3	121
Dry presses	5	1	5		52	18	1	36
Shape-brick power presses			7	2	64	37		17
Hand presses	12	4	30	5	79	64	3	61
Sewer-pipe presses	1				2	5		3
Tile machines		4	1	1	241	248	1	115
All other	5		1		8	5		34
Mold sanders		13	17	1	45	68	1	286
Dryers	71	13	17	4	694	217		367
All other machines		5	2	1	52	46		42
Establishments classified by number of persons employed, not including proprietors and firm members:								
Total number of establishments	11	17	70	23	566	558	13	339
No employees					2	1		4
Under 5			1	4	68	137	2	44
5 to 20		11	21	19	398	347	9	244
21 to 50	5	4	30		69	57	2	40
51 to 100	5	2	11		17	8		6
101 to 250	1		7		10	8		1
251 to 500					2			
501 to 1,000								
Over 1,000								

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.
Number of establishments	57	84	58	71	45	81	177	104
Character of organization—								
Individual	35	52	37	53	27	51	113	70
Firm and limited partnerships	12	22	14	13	12	21	49	26
Incorporated company	10	10	7	5	6	9	15	8
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....
Capital:								
Total	$754,710	$805,446	$672,138	$454,953	$3,992,800	$2,318,664	$1,497,347	$1,040,656
Land	$96,513	$144,280	$182,255	$94,101	$1,586,110	$669,263	$477,012	$348,158
Buildings	$220,186	$297,087	$209,280	$93,085	$1,002,355	$381,134	$258,957	$211,495
Machinery, tools, and implements	$251,944	$143,330	$112,901	$68,438	$1,001,091	$431,218	$322,078	$170,670
Cash and sundries	$186,067	$220,749	$167,702	$199,329	$403,244	$837,049	$439,300	$310,393
Proprietors and firm members	67	97	66	78	50	108	220	125
Salaried officials, clerks, etc.:								
Total number	49	36	43	24	57	54	52	31
Total salaries	$29,184	$25,843	$25,935	$7,914	$52,399	$44,205	$29,943	$22,890
Officers of corporations—								
Number	10	7	6	1	7	6	19	10
Salaries	$8,225	$5,170	$4,900	$600	$11,000	$8,450	$16,380	$8,525
General superintendents, managers, clerks, etc.—								
Total number	39	29	37	23	50	48	33	24
Total salaries	$20,959	$20,673	$21,035	$7,314	$41,399	$35,755	$13,563	$14,365
Men—								
Number	37	28	36	22	49	47	31	24
Salaries	$20,470	$19,473	$20,835	$7,014	$41,070	$35,580	$13,113	$14,365
Women—								
Number	2	1	1	1	1	1	2	.....
Salaries	$489	$1,200	$200	$300	$329	$175	$450	.....
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	1,571	1,670	1,706	917	2,448	2,800	2,968	1,933
Least number employed at any one time during the year	681	850	880	421	944	1,049	1,218	843
Average number	905	918	1,044	392	1,501	1,429	1,443	819
Wages	$314,330	$251,547	$260,633	$162,105	$453,143	$622,311	$479,786	$328,899
Men, 16 years and over—								
Average number	892	874	944	391	1,484	1,426	1,396	810
Wages	$312,594	$246,757	$248,423	$162,025	$450,918	$621,661	$472,170	$322,049
Women, 16 years and over—								
Average number	.....	.....	2	.....	.....	.....	19	5
Wages	.....	.....	$480	.....	.....	.....	$3,277	$1,170
Children, under 16 years—								
Average number	13	44	98	1	17	3	28	31
Wages	$1,736	$4,790	$11,730	$80	$2,225	$650	$4,339	$5,680
Average number of wage-earners, including pieceworkers, employed during each month:[2]								
Men, 16 years and over—								
January	490	212	490	65	751	331	296	127
February	494	235	588	65	692	330	335	122
March	603	465	813	75	943	422	377	172
April	1,006	931	1,043	237	1,461	1,284	1,284	700
May	1,218	1,249	1,123	685	2,152	2,296	2,329	1,551
June	1,110	1,314	1,246	768	2,186	2,498	2,573	1,691
July	1,124	1,355	1,326	815	1,961	2,662	2,564	1,641
August	1,056	1,355	1,287	823	2,301	2,507	2,550	1,441
September	1,071	1,268	1,180	706	1,988	2,179	2,246	1,232
October	991	1,057	902	298	1,398	1,430	1,257	671
November	803	623	708	100	1,073	783	591	237
December	742	428	627	55	902	392	394	129
Children, under 16 years—								
January	1	4	55	4	2	2	1	2
February	1	4	70	.....	2	2	.....	2
March	7	4	79	.....	3	2	.....	2
April	29	42	115	3	8	4	28	25
May	35	53	119	.....	33	4	50	61
June	34	80	130	.....	34	4	53	63
July	16	90	124	4	35	5	56	70
August	14	92	118	.....	35	4	60	72
September	12	76	112	.....	27	4	45	64
October	4	58	107	.....	21	2	25	36
November	.....	20	77	.....	2	2	12	2
December	.....	3	70	.....	2	1	8	2
Miscellaneous expenses:								
Total	$57,709	$23,718	$47,404	$24,940	$51,366	$90,672	$55,197	$32,987
Rent of works	$1,284	$4,045	$4,280	$3,455	$2,763	$16,582	$12,088	$539
Taxes, not including internal revenue	$5,343	$4,127	$3,450	$3,248	$10,692	$18,564	$6,672	$6,761
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$43,982	$14,021	$36,324	$16,425	$37,911	$52,826	$36,062	$23,437
Contract work	$7,100	$1,525	$3,350	$1,812	.....	$2,750	$375	$2,250
Materials used:								
Total cost	$156,294	$127,603	$102,476	$106,026	$155,934	$400,365	$238,556	$185,284
Clay purchased—								
Tons	15,558	8,670	.....	100	488	44,905	1,539	225
Cost	$15,558	$14,141	.....	$100	$688	$34,905	$1,322	$525
Coal, used as an ingredient—								
Tons	600	55	.....	310	16	2,668	365	45
Cost	$945	$59	.....	$630	$18	$4,980	$794	$50
Sand—								
Tons	2,162	3,490	636	1,812	2,975	15,644	2,398	1,321
Cost	$2,361	$3,456	$536	$1,760	$3,724	$8,819	$2,631	$1,310
Manganese—								
Pounds	.....	.....	.....	.....	109,000	.....	.....	20,000
Cost	.....	.....	.....	.....	$1,090	.....	.....	$450
Salt—								
Tons	16	.....	1	.....	.....	.....	.....	54
Cost	$82	.....	$5	.....	.....	.....	.....	$261

[1] The report for the Twelfth Census is for the calendar year 1899.

[2] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.
Materials used—Continued.								
Total cost—Continued.								
Iron—								
Pounds	28,000					200,000	50,000	40,000
Cost	$28					$300	$50	$80
Coloring matter	$39	$25				$290	$8	$160
Carbonate of barium								$160
Fuel	$121,068	$94,695	$92,502	$98,366	$113,883	$302,294	$195,970	$148,672
Rent of power and heat		$10		$360				$915
Mill supplies	$8,316	$3,101	$4,348	$1,763	$4,576	$4,885	$9,352	$4,509
All other materials	$2,400	$4,130	$4,297	$847	$31,620	$29,289	$18,410	$8,920
Freight	$5,497	$7,986	$788	$2,200	$335	$14,603	$10,019	$19,272
Products:								
Total value	$724,351	$630,839	$531,588	$439,975	$844,335	$1,468,264	$1,135,569	$772,308
Common brick—								
Number of 1,000	76,545	96,023	101,837	72,649	110,909	230,207	198,814	136,226
Value	$393,090	$509,524	$514,313	$399,110	$678,147	$1,255,434	$926,911	$711,825
Red front brick (both pressed and wire-cut)—								
Number of 1,000	4,422	2,505	1,730	5,586	11,867	2,250	3,780	1,915
Value	$36,853	$20,275	$14,775	$39,165	$86,460	$31,200	$52,900	$14,810
Fancy colored front brick (all except red)—								
Number of 1,000					2,218	10	340	2,000
Value					$68,458	$80	$5,000	$26,000
Ornamental-shaped brick (all brick not rectangular, plain brick)—								
Number of 1,000	36	16		50	138	2,710	510	116
Value	$1,074	$250		$500	$6,897	$131,550	$11,280	$4,083
Vitrified paving brick—								
Number of 1,000	40,635	5,019			50		2,400	
Value	$276,384	$52,698			$700		$28,800	
Draintile—								
Value	$5,950	$31,092	$1,000	$1,200	$3,673		$107,284	$10,400
All other products—								
Value	$11,000	$17,000	$1,500			$50,000	$3,334	$5,190
Power:								
Number of establishments reporting	28	30	30	18	19	59	150	68
Total horsepower (owned)	2,274	1,890	1,217	516	2,613	3,858	5,649	2,484
Engines—								
Steam—								
Number	38	41	32	12	49	73	158	70
Horsepower	2,274	1,890	1,217	491	2,613	3,833	5,629	2,342
Gas or gasoline—								
Number								7
Horsepower								142
Water wheels—								
Number						1	1	
Horsepower						25	20	
Electric motors—								
Number				3				
Horsepower				25				
Other power—								
Number								
Horsepower								
Machinery:								
Clay-grinding machines—								
Disintegrators	17	28	19	41	12	39	96	45
Dry pans	19	4	3	1	8	1	8	1
All other	9	13	16	29	11	38	52	19
Clay-tempering machines—								
Ring pits	6	31	32	18	69	8	37	49
Pug mills	31	36	28	19	41	58	39	25
Wet pans	2	1	1	5	1	2	3	15
All other	3	3	3	5		9	6	4
Molding machines—								
Soft mud	11	33	25	103	22	76	118	49
Stiff mud	21	13	12	4	20	10	76	27
Dry presses	11	3	5		3		8	3
Shape-brick power presses	4	8	1		2	1	14	5
Hand presses	14	10	15	17	41	25	24	21
Sewer-pipe presses							2	
Tile machines	4	10	2	1	6		82	9
All other	4	18		6	2		3	10
Mold sanders	20	52	11	10	15	93	21	41
Dryers	37	70	98	11	36	130	105	44
All other machines	8	1	3		2		2	3
Establishments classified by number of persons employed, not including proprietors and firm members:								
Total number of establishments	57	84	58	71	45	81	177	104
No employees								1
Under 5	9	4	2	10	3	3	20	6
5 to 20	31	52	31	49	33	25	112	56
21 to 50	10	23	15	10	6	40	39	39
51 to 100	4	3	8	2		9	4	2
101 to 250	2	2	2		2	4	2	
251 to 500	1							
501 to 1,000								
Over 1,000					1			

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Mississippi.	Missouri.	Montana.	Nebraska.	Nevada.	New Hampshire.	New Jersey.	New Mexico.
Number of establishments	74	219	28	106	7	55	76	10
Character of organization—								
Individual	40	133	15	60	4	39	41	4
Firm and limited partnership	24	58	6	31	3	14	21	5
Incorporated company	10	27	2	15	.....	2	14	1
Miscellaneous	.....	1	.....	.....	.....	.....	.....	.....
Capital:								
Total	$494,524	$6,051,078	$107,145	$1,275,533	$19,905	$655,713	$3,607,413	$30,395
Land	$71,664	$1,196,076	$7,335	$172,050	$1,850	$166,900	$902,441	$3,550
Buildings	$164,265	$1,050,803	$20,350	$356,005	$6,350	$113,958	$970,897	$6,100
Machinery, tools, and implements	$117,123	$849,871	$28,980	$230,125	$1,685	$111,120	$450,797	$13,165
Cash and sundries	$141,472	$2,954,328	$55,480	$517,353	$10,020	$263,740	$1,283,278	$7,580
Proprietors and firm members	94	260	27	134	10	71	76	16
Salaried officials, clerks, etc.:								
Total number	38	97	9	40	.....	34	79	4
Total salaries	$20,322	$112,717	$3,540	$26,446	.....	$17,746	$83,169	$3,000
Officers of corporations—								
Number	4	33	.....	12	.....	1	14	1
Salaries	$2,400	$54,843	.....	$8,460	.....	$312	$33,233	$900
General superintendents, managers, clerks, etc.—								
Total number	34	64	9	28	.....	33	65	3
Total salaries	$17,922	$57,874	$3,540	$17,986	.....	$17,434	$49,936	$3,000
Men—								
Number	33	60	7	27	.....	33	62	3
Salaries	$17,622	$54,934	$2,460	$17,806	.....	$17,434	$48,475	$3,000
Women—								
Number	1	4	2	1	.....	.....	3	.....
Salaries	$300	$2,940	$1,080	$180	.....	.....	$1,461	.....
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	1,728	4,366	343	1,708	46	1,217	3,843	142
Least number employed at any one time during the year	946	2,171	177	880	46	649	1,162	89
Average number	908	2,440	124	855	14	591	2,370	81
Wages	$200,946	$866,946	$69,338	$327,544	$9,885	$227,615	$835,655	$33,586
Men, 16 years and over—								
Average number	851	2,305	122	837	14	587	2,320	80
Wages	$195,088	$848,925	$68,538	$324,256	$9,885	$227,012	$826,598	$33,486
Women, 16 years and over—								
Average number	.....	.....	1	.....	.....	2	12	.....
Wages	.....	.....	$350	.....	.....	$399	$3,807	.....
Children, under 16 years—								
Average number	57	135	1	18	.....	2	38	1
Wages	$5,858	$18,021	$450	$3,288	.....	$204	$5,250	$100
Average number of wage-earners, including pieceworkers, employed during each month:[2]								
Men, 16 years and over—								
January	327	914	7	127	.....	109	628	31
February	324	800	7	154	.....	112	626	45
March	612	1,481	36	229	3	102	1,059	69
April	910	2,696	130	1,052	3	409	2,472	101
May	1,129	3,354	193	1,444	8	1,085	3,385	100
June	1,199	3,499	272	1,452	36	1,137	3,556	89
July	1,294	3,450	231	1,386	43	1,122	3,529	97
August	1,285	3,347	234	1,294	38	1,116	3,365	100
September	1,066	2,981	226	1,262	21	998	3,264	100
October	912	2,421	70	964	5	581	2,921	106
November	708	1,641	46	476	5	162	1,950	74
December	444	1,117	12	207	5	111	1,080	45
Children, under 16 years—								
January	20	20	.....	.....	.....	.....	12	.....
February	20	20	.....	2	.....	.....	12	.....
March	48	45	.....	2	.....	.....	11	.....
April	71	160	.....	17	.....	.....	41	4
May	71	235	.....	33	.....	5	56	4
June	77	275	.....	33	.....	5	59	.....
July	75	244	4	36	.....	4	63	.....
August	77	224	4	39	.....	4	64	.....
September	72	197	4	33	.....	4	62	.....
October	65	122	.....	16	.....	2	56	.....
November	48	52	.....	6	.....	.....	11	.....
December	41	25	.....	.....	.....	.....	9	.....
Miscellaneous expenses:								
Total	$25,882	$170,569	$3,640	$41,334	$541	$26,287	$180,105	$1,203
Rent of works	$2,434	$20,504	$1,046	$6,436	$85	$4,210	$23,526	$245
Taxes, not including internal revenue	$3,566	$22,020	$357	$5,003	$68	$4,719	$12,229	$332
Rent of offices, interest, insurance and all sundry expenses not hitherto included	$19,657	$119,593	$2,037	$29,895	$388	$15,858	$142,403	$275
Contract work	$225	$8,452	$200	.....	.....	$1,500	$1,947	$150
Materials used:								
Total cost	$98,871	$472,120	$30,150	$203,247	$3,499	$146,675	$319,637	$18,528
Clay purchased—								
Tons	260	12,233	480	8,821	.....	400	6,733	5,000
Cost	$260	$14,808	$480	$9,113	.....	$400	$4,680	$2,500
Coal, used as an ingredient—								
Tons	176	2,338	300	352	.....	.....	8,190	.....
Cost	$176	$4,809	$500	$983	.....	.....	$10,072	.....
Sand—								
Tons	1,202	6,109	726	1,971	240	976	2,431	75
Cost	$1,103	$4,734	$811	$2,084	$240	$976	$2,395	$75
Manganese—								
Pounds	.....	193,000	.....	56,700	.....	.....	76,000	.....
Cost	.....	$1,975	.....	$734	.....	.....	$3,489	.....
Salt—								
Tons	1	35	1	104	.....	4	.....	.....
Cost	$5	$158	$5	$553	.....	$30	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Mississippi.	Missouri.	Montana.	Nebraska.	Nevada.	New Hampshire.	New Jersey.	New Mexico.
Materials used—Continued.								
Total cost—Continued.								
Iron—								
Pounds		3,000		119,000			366,000	
Cost		$3		$214			$400	
Coloring matter				$5			$1,225	$12
Carbonate of barium	$3							
Fuel	$87,414	$415,032	$25,112	$159,558	$3,167	$135,129	$226,613	$15,024
Rent of power and heat			$500					
Mill supplies	$4,152	$10,633	$642	$5,821	$67	$3,759	$11,285	$672
All other materials	$1,506	$10,841	$800	$6,168	$25	$1,761	$27,797	$245
Freight	$4,252	$9,127	$1,300	$18,014		$4,620	$31,681	
Products:								
Total value	$522,325	$1,988,250	$134,334	$839,815	$17,850	$537,752	$1,845,950	$77,190
Common brick—								
Number of 1,000	88,203	250,295	20,260	118,952	2,085	98,900	300,891	6,212
Value	$508,135	$1,330,816	$133,260	$779,236	$17,440	$505,951	$1,355,132	$44,100
Red front brick (both pressed and wire-cut):								
Number of 1,000	1,195	21,524	72	1,588		2,193	9,550	2,099
Value	$12,775	$177,996	$1,037	$23,653		$21,301	$132,650	$18,590
Fancy colored front brick (all except red)—								
Number of 1,000		8,451	2				19,915	500
Value		$102,973	$37				$310,350	$6,500
Ornamental-shaped brick (all brick not rectangular, plain brick)—								
Number of 1,000		1,054		59			1,375	
Value		$49,213		$4,143			$25,618	
Vitrified paving brick—								
Number of 1,000		22,579		2,110				
Value		$188,615		$15,090				
Draintile—								
Value	$1,035	$34,801					$21,300	$1,000
All other products—								
Value	$380	$103,836		$17,693	$410	$10,500	$900	$7,000
Power:								
Number of establishments reporting	29	75	8	51		24	55	4
Total horsepower (owned)	1,483	4,378	348	2,254		1,068	4,798	255
Engines—								
Steam—								
Number	32	111	6	56		25	87	4
Horsepower	1,483	4,363	236	2,128		1,068	4,773	255
Gas or gasoline—								
Number		1	1	1				
Horsepower		15	12	16				
Water wheels—								
Number				2				
Horsepower				50				
Electric motors—								
Number			2					
Horsepower			100					
Other power—								
Number				1			1	
Horsepower				60			25	
Machinery:								
Clay-grinding machines—								
Disintegrators	13	48	5	33	6	89	61	
Dry pans		15	1	6			3	3
All other	21	120	9	25	3	53	18	1
Clay-tempering machines—								
Ring pits	20	44		14	2	36	193	2
Pug mills	19	47	10	42	9	59	18	7
Wet pans	5				4	4	4	
All other	7	14		1		5		
Molding machines—								
Soft mud	21	40	12	49	2	67	149	2
Stiff mud	13	38	4	35		10	15	1
Dry presses	1	52		7			6	3
Shape-brick power presses	4	18	1	4		3	16	
Hand presses	17	36	5	23		27	51	4
Sewer-pipe presses								
Tile machines	3	22		3			7	
All other		2		1		17	1	1
Mold sanders	42	23	5	29		12	64	2
Dryers	77	271		150	4	23	42	2
All other machines	3	7		1			20	2
Establishments classified by number of persons employed, not including proprietors and firm members:								
Total number of establishments	74	219	23	106	7	55	76	10
No employees		1		1		1		
Under 5	1	30		8	1	3	4	1
5 to 20	45	149	19	70	6	25	22	7
21 to 50	20	27	3	23		20	22	2
51 to 100	7	6	1	4		6	19	
101 to 250	1	4					8	
251 to 500		1					1	
501 to 1,000		1						
Over 1,000								

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	South Carolina.	South Dakota.
Number of establishments	217	157	12	686	36	46	385	76	11
Character of organization—									
Individual	113	85	5	434	26	28	220	45	6
Firm and limited partnership	68	58	6	189	8	12	110	24	5
Incorporated company	36	13	1	63	2	5	55	7	.....
Miscellaneous	.....	1	.....	.....	.....	1	.....	.....	.....
Capital:									
Total	$8,740,660	$445,187	$174,050	$7,343,627	$109,825	$194,469	$10,506,823	$340,960	$64,125
Land	$2,483,632	$91,710	$34,950	$1,634,603	$12,415	$30,450	$2,796,468	$42,680	$7,050
Buildings	$1,982,756	$72,795	$33,150	$2,205,306	$15,065	$30,275	$2,885,801	$50,130	$11,200
Machinery, tools, and implements	$1,833,949	$129,981	$21,000	$1,497,325	$39,340	$53,165	$2,108,046	$106,961	$15,125
Cash and sundries	$2,440,323	$150,701	$84,950	$2,006,393	$43,005	$80,579	$2,716,508	$141,189	$30,750
Proprietors and firm members	258	216	20	853	42	58	507	107	19
Salaried officials, clerks, etc.:									
Total number	183	36	4	208	5	12	269	41	.....
Total salaries	$167,031	$10,949	$2,600	$189,192	$3,845	$9,264	$247,674	$19,606	.....
Officers of corporations—									
Number	32	6	1	66	.....	5	61	7	.....
Salaries	$41,061	$2,480	$1,200	$71,220	.....	$3,304	$81,448	$7,000	.....
General superintendents, managers, clerks, etc.—									
Total number	151	30	3	142	5	7	208	34	.....
Total salaries	$125,970	$8,469	$1,400	$117,972	$3,845	$5,960	$166,226	$12,606	.....
Men—									
Number	147	30	3	135	5	6	198	34	.....
Salaries	$123,352	$8,469	$1,400	$115,119	$3,845	$5,600	$162,222	$12,606	.....
Women—									
Number	4	.....	.....	7	.....	1	10	.....	.....
Salaries	$2,618	.....	.....	$2,853	.....	$360	$4,004	.....	.....
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	12,277	3,125	288	8,832	449	571	10,535	2,408	164
Least number employed at any one time during the year	5,438	1,896	162	5,497	263	328	5,906	1,335	95
Average number	6,737	1,408	108	5,353	173	220	6,733	1,145	48
Wages	$2,764,879	$269,042	$48,477	$1,966,971	$62,902	$97,636	$2,626,291	$241,106	$19,687
Men, 16 years and over—									
Average number	6,662	1,320	101	5,240	170	214	6,433	1,085	48
Wages	$2,748,130	$260,824	$46,877	$1,948,024	$62,263	$96,228	$2,568,232	$235,294	$19,687
Women, 16 years and over—									
Average number	1	.....	3	6	.....	1	2	5	.....
Wages	$225	.....	$600	$1,086	.....	$276	$270	$563	.....
Children, under 16 years—									
Average number	74	88	4	107	3	5	298	55	.....
Wages	$16,524	$8,218	$1,000	$17,861	$639	$1,132	$57,789	$5,249	.....
Average number of wage-earners, including pieceworkers, employed during each month:[2]									
Men, 16 years and over—									
January	783	330	12	2,158	39	36	3,034	379	.....
February	894	336	12	2,323	63	43	2,991	402	.....
March	1,408	606	17	3,063	123	130	4,315	781	.....
April	6,495	1,803	20	5,124	294	282	6,984	1,343	63
May	10,873	2,348	200	7,334	387	374	8,343	1,701	115
June	11,448	2,299	240	7,718	302	446	8,713	1,843	126
July	11,427	2,127	251	7,758	235	394	8,698	1,704	98
August	11,227	2,070	245	7,581	200	344	8,502	1,741	88
September	10,653	1,853	142	7,154	172	242	8,113	1,426	42
October	8,380	1,183	46	5,609	136	151	7,090	832	32
November	4,375	541	12	3,888	39	81	5,681	509	12
December	1,983	344	11	3,164	44	45	4,728	356	.....
Children, under 16 years—									
January	6	9	.....	13	.....	.....	73	18	.....
February	6	12	.....	13	.....	.....	71	19	.....
March	6	25	.....	14	.....	5	140	31	.....
April	52	106	.....	94	3	7	334	73	.....
May	132	171	7	188	9	8	465	104	.....
June	134	177	12	200	9	8	468	102	.....
July	143	161	12	203	9	11	480	93	.....
August	147	168	12	207	4	8	458	86	.....
September	134	131	9	187	4	5	430	61	.....
October	89	62	2	124	.....	4	334	38	.....
November	35	22	.....	28	.....	2	196	21	.....
December	5	13	.....	19	.....	2	131	16	.....
Miscellaneous expenses:									
Total	$561,721	$19,277	$2,615	$337,959	$3,459	$11,372	$535,607	$25,162	$1,378
Rent of works	$235,210	$5,157	$200	$28,507	$483	$1,993	$112,412	$7,474	$335
Taxes, not including internal revenue	$53,434	$2,247	$383	$35,845	$607	$920	$34,100	$3,095	$274
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$271,552	$11,563	$1,532	$264,396	$2,369	$6,909	$343,219	$13,893	$269
Contract work	$1,525	$310	.....	$9,211	.....	$1,550	$45,876	$700	.....
Materials used:									
Total cost	$1,108,595	$146,911	$30,484	$981,676	$24,420	$37,119	$1,137,944	$131,615	$12,625
Clay purchased—									
Tons	17,073	922	.....	65,516	367	1,765	56,175	1,935	.....
Cost	$11,031	$922	.....	$34,066	$392	$1,775	$37,733	$1,935	.....
Coal, used as an ingredient—									
Tons	41,749	1,325	.....	5,635	248	5	3,212	.....	305
Cost	$64,693	$1,859	.....	$9,170	$521	$10	$2,782	.....	$610
Sand—									
Tons	64,943	1,718	960	13,590	978	1,371	20,206	725	15
Cost	$57,620	$1,559	$960	$13,118	$978	$1,352	$18,526	$725	$15
Manganese—									
Pounds	113,000	.....	.....	238,568	1,500	1,000	153,954	.....	.....
Cost	$2,081	.....	.....	$4,096	$30	$20	$2,768	.....	.....
Salt—									
Tons	.....	.....	.....	50	39	15	38	.....	.....
Cost	.....	.....	.....	$372	$281	$95	$245	.....	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	South Carolina.	South Dakota.
Materials used—Continued.									
Total cost—Continued.									
Iron—									
Pounds				86,000	106,000		400,200		
Cost				$90	$106		$402		
Coloring matter	$1,529			$2,017			$155		
Carbonate of barium	$5,118			$1,800			$2		
Fuel	$791,637	$126,459	$26,540	$775,515	$20,390	$30,579	$856,318	$113,571	$11,260
Rent of power and heat	$1,660	$6		$25		$99	$5	$260	
Mill supplies	$45,649	$6,631	$538	$51,644	$702	$1,304	$51,535	$7,895	$550
All other materials	$72,715	$4,706	$251	$26,809	$650	$1,653	$62,361	$4,722	$190
Freight	$54,862	$4,769	$2,195	$62,954	$370	$232	$105,112	$2,507	
Products:									
Total value	$5,684,320	$641,280	$131,874	$4,629,587	$149,712	$227,141	$5,954,415	$573,438	$46,150
Common brick—									
Number of 1,000	1,232,935	122,958	22,660	450,047	17,278	27,675	767,329	118,932	6,575
Value	$5,199,242	$621,748	$131,874	$2,341,063	$112,692	$180,086	$4,441,875	$544,838	$46,150
Red front brick (both pressed and wire cut)—									
Number of 1,000	15,629	2,070		26,961	650	310	50,163	3,935	
Value	$110,583	$14,262		$238,919	$10,500	$2,040	$458,845	$25,600	
Fancy colored front brick (all except red)—									
Number of 1,000	7,671	5		18,554			31,290	52	
Value	$112,718	$150		$197,961			$412,116	$620	
Ornamental-shaped brick (all brick not rectangular, plain brick)—									
Number of 1,000	110			2,565		39	2,463		
Value	$1,109			$40,887		$950	$54,099		
Vitrified paving brick—									
Number of 1,000	20,893	735		118,804			73,155		
Value	$224,673	$4,220		$924,585			$568,717		
Draintile—									
Value	$26,460	$500		$836,631		$18,415	$13,339	$2,240	
All other products—									
Value	$9,535	$400		$49,591	$26,520	$25,650	$5,424	$140	
Power:									
Number of establishments reporting	180	71	5	523	8	21	262	67	4
Total horsepower (owned)	18,107	2,493	165	22,715	253	511	20,921	2,342	162
Engines—									
Steam—									
Number	228	80	6	570	8	22	338	75	4
Horsepower	17,989	2,483	125	22,671	252	511	20,790	2,242	162
Gas or gasoline—									
Number	3		2	3			7	1	
Horsepower	53		40	14			131	100	
Water wheels—									
Number	1	1		1	1				
Horsepower	50	10		30	1				
Electric motors—									
Number									
Horsepower									
Other power—									
Number	2								
Horsepower	15								
Machinery:									
Clay-grinding machines:									
Disintegrators	117	51	1	203	19	12	164	24	1
Dry pans	24	2		101	1		170	1	
All other	72	49	3	142	10	9	63	30	5
Clay-tempering machines:									
Ring pits	241	38	6	95	13	8	134	4	1
Pug mills	85	40	5	178	16	23	249	19	7
Wet pans		3		10	3		18	1	
All other	18	3		20	7	14	22		
Molding machines:									
Soft mud	562	26	14	195	9	19	190	24	2
Stiff mud	43	37		119	4	10	109	24	3
Dry presses	12	3		40	2	2	58	6	
Shape-brick power presses	22	4		61		6	253	2	
Hand presses	25	32	2	58	7	5		10	5
Sewer-pipe presses	1			3			23		
Tile machines	27	4		305		17	5	2	
All other	12	39		19	1		166	6	
Mold sanders	302	32	8	80	13	4	391	5	2
Dryers	144	107	37	349	5	12	359	17	10
All other machines	277	4		60		4	21	2	
Establishments classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	217	157	12	686	36	46	385	76	11
No employees						1			
Under 5	7	7	1	156	3	2	34	1	2
5 to 20	44	99	7	406	30	37	168	30	8
21 to 50	85	45	3	89	2	6	131	34	
51 to 100	54	5		32	1		43	8	1
101 to 250	22	1	1	3			8	3	
251 to 500	3						1		
501 to 1,000	2								
Over 1,000									

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.
Number of establishments	91	143	49	15	80	32	42	168	4
Character of organization—									
Individual	54	100	26	12	44	19	17	117	4
Firm and limited partnership	30	29	21	2	23	7	14	30	.....
Incorporated company	7	14	2	1	13	6	11	21	.....
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....	.....
Capital:									
Total	$891,095	$1,293,271	$171,357	$99,298	$1,531,352	$370,325	$609,576	$2,210,504	$6,775
Land	$148,572	$141,747	$16,778	$14,700	$450,897	$100,662	$115,012	$545,033	.....
Buildings	$206,834	$453,207	$43,661	$23,520	$306,861	$98,150	$201,480	$401,845	$4,275
Machinery, tools, and implements	$156,862	$376,550	$61,530	$14,525	$340,485	$74,984	$173,305	$648,719	$500
Cash and sundries	$378,827	$321,767	$49,388	$46,553	$433,109	$96,529	$119,779	$614,907	$2,000
Proprietors and firm members	121	161	77	15	90	29	48	165	4
Salaried officials, clerks, etc.:									
Total number	34	64	11	5	56	27	22	61	.....
Total salaries	$31,020	$51,491	$6,705	$3,864	$46,221	$27,520	$18,422	$48,521	.....
Officers of corporations—									
Number	1	12	2	2	12	6	6	22	.....
Salaries	$1,200	$14,850	$1,380	$2,400	$9,818	$8,400	$6,750	$15,610	.....
General superintendents, managers, clerks, etc.—									
Total number	33	52	9	3	44	21	16	39	.....
Total salaries	$29,820	$36,641	$5,325	$1,464	$36,403	$19,120	$11,672	$32,911	.....
Men—									
Number	32	51	7	3	42	20	16	36	.....
Salaries	$29,220	$36,401	$4,325	$1,464	$35,503	$18,640	$11,672	$32,155	.....
Women—									
Number	1	1	2	.....	2	1	.....	3	.....
Salaries	$600	$240	$1,000	.....	$900	$480	.....	$756	.....
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	2,235	2,746	503	257	2,297	675	917	3,000	36
Least number employed at any one time during the year	1,040	1,495	256	82	1,289	352	535	1,328	22
Average number	1,152	1,579	249	115	1,418	329	550	1,469	11
Wages	$298,835	$419,573	$89,245	$42,722	$403,696	$185,834	$184,376	$542,015	$4,900
Men, 16 years and over—									
Average number	1,075	1,532	228	114	1,342	324	523	1,410	11
Wages	$283,887	$413,505	$85,550	$42,622	$394,686	$184,674	$181,102	$531,388	$4,900
Women, 16 years and over—									
Average number	.....	.....	.....	.....	.....	1	.....	1	.....
Wages	.....	.....	.....	.....	.....	$600	.....	$100	.....
Children, under 16 years—									
Average number	77	47	21	1	76	4	27	58	.....
Wages	$9,448	$6,068	$3,695	$100	$9,010	$560	$3,274	$10,527	.....
Average number of wage-earners, including pieceworkers, employed during each month:[2]									
Men, 16 years and over—									
January	428	896	42	12	420	125	104	353	.....
February	390	930	60	12	396	125	137	355	.....
March	520	1,346	140	15	787	170	321	477	.....
April	1,293	1,608	209	54	1,526	340	610	868	4
May	1,576	1,975	339	199	1,900	420	743	2,325	19
June	1,633	2,012	399	245	1,957	565	717	2,497	24
July	1,714	2,074	376	248	1,970	586	761	2,539	32
August	1,484	1,984	351	244	1,927	499	752	2,471	32
September	1,393	1,734	325	204	1,872	410	727	2,257	21
October	1,089	1,487	204	86	1,583	283	603	1,420	4
November	757	1,320	167	33	1,138	208	491	934	.....
December	622	1,020	126	16	630	157	309	425	.....
Children, under 16 years—									
January	6	25	.....	.....	28	.....	7	2	.....
February	6	30	.....	.....	22	.....	13	2	.....
March	16	42	7	.....	31	2	14	4	.....
April	62	59	11	.....	84	7	31	49	.....
May	123	62	34	2	115	10	39	108	.....
June	140	60	42	2	116	10	43	115	.....
July	150	58	46	2	109	9	47	122	.....
August	156	58	38	2	106	4	41	99	.....
September	143	54	38	2	104	4	36	91	.....
October	77	41	17	2	89	2	18	61	.....
November	30	39	13	.....	55	.....	18	30	.....
December	20	32	10	.....	50	.....	14	13	.....
Miscellaneous expenses:									
Total	$60,712	$47,014	$9,932	$5,474	$54,788	$29,339	$30,530	$95,003	$216
Rent of works	$6,155	$1,715	$488	$495	$5,487	$2,998	$1,020	$13,353	$205
Taxes, not including internal revenue	$4,579	$5,677	$825	$493	$5,730	$2,375	$3,319	$12,058	.....
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$49,658	$38,872	$8,589	$2,886	$43,436	$14,966	$24,991	$69,574	$11
Contract work	$320	$750	$30	$1,600	$135	$9,000	$1,200	$18	.....
Materials used:									
Total cost	$165,819	$234,517	$32,666	$18,287	$194,653	$81,206	$96,969	$730,297	$1,033
Clay purchased—									
Tons	19,139	1,800	960	75	28,258	1,427	26,500	16,198	.....
Cost	$7,923	$1,437	$508	$75	$15,258	$827	$13,212	$18,703	.....
Coal, used as an ingredient—									
Tons	162	80	100	208	434	885	52	166	.....
Cost	$290	$155	$125	$385	$854	$655	$67	$247	.....
Sand—									
Tons	2,703	2,220	650	187	2,332	962	2,488	5,806	62
Cost	$2,875	$2,100	$622	$125	$1,417	$1,227	$2,821	$5,278	$62
Manganese—									
Pounds	.....	.....	.....	.....	20,000	.....	.....	.....	.....
Cost	.....	.....	.....	.....	$290	.....	.....	.....	.....
Salt—									
Tons	75	7	1	.....	69	.....	1	40	.....
Cost	$362	$54	$5	.....	$865	.....	$8	$200	.....

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] The average number of women, 16 years and over, employed during each month is not shown in the table on account of the small number reported.

TABLE 17.—BRICK AND TILE, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.
Materials used—Continued.									
Total cost—Continued.									
Iron—									
Pounds		20,000			400,000	2,000		200,000	
Cost		$20			$383	$2		$180	
Coloring matter				$367					
Carbonate of barium									
Fuel	$128,781	$207,778	$26,295	$16,765	$157,159	$68,651	$65,195	$663,321	$950
Rent of power and heat	$25		$1,060			$1,938		$176	
Mill supplies	$9,667	$8,996	$829	$296	$7,703	$4,017	$6,440	$14,420	$18
All other materials	$12,549	$7,543	$2,888	$234	$2,668	$2,700	$7,637	$20,079	
Freight	$3,347	$6,434	$334	$50	$8,056	$1,189	$2,089	$7,693	$3
Products:									
Total value	$684,900	$1,020,205	$186,449	$99,525	$1,006,221	$426,553	$436,356	$1,795,993	$8,450
Common brick—									
Number of 1,000	110,650	168,646	28,632	18,510	127,655	55,444	47,343	178,497	915
Value	$541,199	$919,625	$164,281	$92,725	$759,128	$403,378	$256,856	$1,071,631	$7,300
Red front brick (both pressed and wire-cut)—									
Number of 1,000	9,646	3,766	1,552	400	11,104	565	1,243	4,460	60
Value	$58,336	$32,641	$17,967	$3,600	$112,261	$12,210	$8,371	$40,800	$1,150
Fancy colored front brick (all except red)—									
Number of 1,000	29	3,470	60		4,731			2,415	
Value	$267	$26,880	$500		$64,940			$19,377	
Ornamental-shaped brick (all brick not rectangular, plain brick)—									
Number of 1,000	100	155	41		481		2,030	91	
Value	$2,083	$2,907	$906		$16,117		$22,100	$1,975	
Vitrified paving brick—									
Number of 1,000	5,780	3,206			5,000	640	19,150	30	
Value	$69,289	$31,580			$50,000	$8,320	$145,373	$450	
Draintile—									
Value	$11,600	$2,000	$75	$3,200	$3,200	$825	$3,656	$22,694	
All other products—									
Value	$2,126	$4,622	$2,720		$575	$1,820		$639,066	
Power:									
Number of establishments reporting	39	39	7	6	53	15	31	88	
Total horsepower (owned)	2,821	2,456	367	204	3,119	694	1,680	5,156	
Engines—									
Steam—									
Number	49	50	7	4	66	16	33	115	
Horsepower	2,821	2,456	207	192	3,119	624	1,670	5,111	
Gas or gasoline—									
Number							1	1	
Horsepower							10	25	
Water wheels—									
Number								1	
Horsepower								20	
Electric motors—									
Number			3	1		2			
Horsepower			160	10		70			
Other power—									
Number				1					
Horsepower				2					
Machinery:									
Clay-grinding machines—									
Disintegrators	29	41	13	9	31	20	18	59	
Dry pans	12	20	1		3	2	11	9	
All other	22	50	9	15	27	7	13	61	1
Clay-tempering machines—									
Ring pits	39	23	4	2	25	9	4	45	
Pug mills	29	49	35	10	43	24	24	66	6
Wet pans	4	4			1	4		11	
All other	2	1			4	1		5	
Molding machines:									
Soft mud	62	13	19	19	18	18	11	91	
Stiff mud	27	21	8	1	24	12	13	34	
Dry presses	7	25	6		7	2	2	13	
Shape-brick power presses	11	7			12	5	8	7	
Hand presses	30	45	9	8	48	17	8	17	1
Sewer-pipe presses							2	1	
Tile machines	7	2		3	7		2	17	
All other	24	2	15				2	21	
Mold sanders	18	57	20	4	39	3	5	105	
Driers	85	39	6		97	11	42	129	1
All other machines	10	15	3	2	14	33		13	
Establishments classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	91	143	49	15	80	32	42	168	4
No employees		1	1						
Under 5	3	6	13	2	1	5	2	23	1
5 to 20	51	101	32	10	43	15	21	110	3
21 to 50	30	25	2	2	24	10	17	24	
51 to 100	6	7		1	9	1	1	6	
101 to 250	1	3	1		3	1	1	4	
251 to 500								1	
501 to 1,000									
Over 1,000									

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900.[1]

	United States.	Alabama.	Arkansas.	California.	Colorado.	Connecticut.	District of Columbia.	Georgia.	Illinois.	Indiana.
Number of establishments	1,000	21	10	18	10	8	6	21	53	49
Character of organization—										
Individual	395	16	8	6	4	3	3	13	19	19
Firm and limited partnership	221	2	1	5	1	.....	2	5	9	11
Incorporated company	381	3	1	7	5	5	1	3	25	18
Miscellaneous	8	.....	.....	.....	.....	.....	.....	.....	.....	1
Capital:										
Total	$65,951,885	$199,585	$78,024	$1,306,869	$855,985	$283,862	$256,200	$266,710	$3,511,765	$1,525,658
Land	$10,567,191	$30,710	$6,483	$111,704	$169,559	$32,450	$55,000	$38,125	$429,372	$182,163
Buildings	$20,966,418	$63,748	$22,588	$435,040	$203,951	$94,097	$84 500	$80,415	$1,130,122	$442,676
Machinery, tools, and implements	$11,487,949	$41,350	$28,958	$212,352	$130,605	$56,323	$43,500	$53,110	$800,971	$331,136
Cash and sundries	$22,930,327	$63,777	$19,995	$547,773	$351,870	$100,992	$73,200	$95,060	$1,151,300	$599,683
Proprietors and firm members	944	28	10	16	7	3	8	28	41	40
Salaried officials, clerks, etc.:										
Total number	2,777	15	4	41	42	18	5	21	153	60
Total salaries	$3,011,512	$8,450	$4,920	$58,540	$59,612	$23,201	$6,300	$17,800	$201,156	$59,673
Officers of corporations—										
Number	618	.....	1	10	7	8	.....	6	37	10
Salaries	$1,129,650	.....	$2,000	$23,980	$26,800	$11,225	.....	$7,700	$88,055	$17,550
General superintendents, managers, clerks, etc.—										
Total number	2,159	15	3	31	35	10	5	15	116	50
Total salaries	$1,881,862	$8,450	$2,920	$34,560	$32,812	$11,976	$6,300	$10,100	$113,101	$42,123
Men—										
Number	1,965	15	3	29	32	9	5	14	106	49
Salaries	$1,799,144	$8,450	$2,920	$33,360	$29,812	$11,508	$6,300	$9,320	$108,695	$41,811
Women—										
Number	194	.....	.....	2	3	1	.....	1	10	1
Salaries	$82,718	.....	.....	$1,200	$3,000	$468	.....	$780	$4,406	$312
Wage-earners, including pieceworkers, and total wages:										
Greatest number employed at any one time during the year	52,688	288	124	523	463	166	121	387	2,441	1,550
Least number employed at any one time during the year	37,126	156	62	335	269	100	99	279	1,448	1,053
Average number	43,714	227	92	391	374	138	109	285	2,005	1,250
Wages	$17,691,737	$66,667	$27,000	$246,270	$215,844	$65,036	$37,594	$66,795	$841,053	$531,242
Men, 16 years and over—										
Average number	38,171	209	92	387	371	126	109	279	1,923	1,025
Wages	$16,379,286	$64,166	$27,000	$245,226	$214,994	$62,610	$37,594	$66,156	$824,823	$487,419
Women, 16 years and over—										
Average number	4,481	.....	.....	.....	1	12	.....	1	37	199
Wages	$1,125,722	.....	.....	.....	$350	$2,426	.....	$75	$9,250	$38,553
Children, under 16 years—										
Average number	1,062	18	.....	4	2	.....	.....	5	45	26
Wages	$186,729	$2,501	.....	$1,044	$500	.....	.....	$564	$6,980	$5,270
Average number of wage-earners, including pieceworkers, employed during each month:										
Men, 16 years and over—										
January	32,521	173	60	280	300	131	93	329	1,506	970
February	33,091	163	61	344	266	134	103	306	1,467	952
March	35,065	199	89	352	352	138	99	317	1,724	1,016
April	37,876	222	96	373	364	123	103	296	1,896	1,072
May	39,472	232	100	462	376	118	109	258	1,994	1,076
June	40,198	220	111	457	413	115	114	261	2,106	1,125
July	40,103	246	106	428	428	119	112	238	2,119	962
August	41,099	231	96	410	426	116	115	245	2,153	1,025
September	41,444	228	100	408	412	136	115	253	2,168	1,049
October	40,713	218	98	408	421	133	114	284	2,058	1,048
November	39,066	201	92	390	360	134	115	285	1,982	1,044
December	37,404	180	97	333	334	115	121	274	1,903	963
Women, 16 years and over—										
January	4,078	.....	.....	.....	.....	14	.....	1	36	197
February	4,237	.....	.....	.....	2	14	.....	1	21	198
March	4,389	.....	.....	.....	2	13	.....	1	39	200
April	4,540	.....	.....	.....	2	14	.....	1	39	203
May	4,565	.....	.....	.....	1	12	.....	1	37	200
June	4,446	.....	.....	.....	2	11	.....	1	37	205
July	4,350	.....	.....	.....	2	12	.....	1	36	166
August	4,532	.....	.....	.....	2	12	.....	1	36	200
September	4,651	.....	.....	.....	.....	13	.....	1	37	201
October	4,690	.....	.....	.....	1	12	.....	1	38	201
November	4,797	.....	.....	.....	1	12	.....	1	40	220
December	4,502	.....	.....	.....	1	11	.....	1	45	203
Children, under 16 years—										
January	908	12	.....	2	.....	.....	.....	5	43	23
February	942	12	.....	2	.....	.....	.....	5	42	23
March	1,020	15	.....	2	.....	.....	.....	5	47	24
April	1,101	15	.....	5	4	.....	.....	5	46	26
May	1,147	20	.....	4	4	.....	.....	5	47	29
June	1,117	21	.....	2	4	.....	.....	5	47	30
July	1,065	22	.....	8	3	.....	.....	5	50	22
August	1,147	21	.....	8	3	.....	.....	5	49	28
September	1,153	22	.....	7	2	.....	.....	7	44	26
October	1,114	21	.....	4	2	.....	.....	5	41	28
November	1,042	15	.....	4	.....	.....	.....	5	45	25
December	988	13	.....	4	.....	.....	.....	5	42	22
Miscellaneous expenses:										
Total	$3,260,721	$4,812	$1,242	$50,275	$23,319	$11,129	$8,406	$15,587	$172,446	$79,553
Rent of works	$106,022	$770	$180	$2,635	$720	$535	$125	$361	$3,769	$3,185
Taxes, not including internal revenue	$300,171	$887	$174	$5,324	$3,713	$956	$636	$2,051	$11,253	$8,394
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$2,738,969	$3,105	$888	$42,316	$18,886	$9,638	$7,645	$13,150	$131,730	$67,550
Contract work	$115,559	$50	.....	.....	.....	.....	.....	$25	$20,694	$426
Materials used:										
Total cost	$11,915,236	$59,523	$11,863	$261,270	$160,852	$41,851	$28,385	$42,273	$576,061	$312,195
China clay (domestic)—										
Tons	48,582	.....	.....	.....	.....	.....	.....	.....	359	1,166
Cost	$390,804	.....	.....	.....	.....	.....	.....	.....	$7,163	$10,040
China clay (foreign)—										
Tons	14,227	.....	.....	.....	.....	15	.....	.....	86	251
Cost	$171,790	.....	.....	.....	.....	$202	.....	.....	$1,600	$2,758

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	United States.	Alabama.	Arkansas.	California.	Colorado.	Connecticut.	District of Columbia.	Georgia.	Illinois.	Indiana.
Materials used—Continued.										
Total cost—Continued.										
Ball clay (domestic)—										
Tons	19,884					20			260	975
Cost	$113,954					$90			$1,565	$5,945
Ball clay (foreign)—										
Tons	12,466			25		15			55	90
Cost	$116,629			$500		$187			$905	$1,416
Stoneware clay—										
Tons	128,136	1,200	812	140	921	104	250	100	40,105	5,686
Cost	$171,161	$1,441	$843	$489	$1,255	$438	$187	$210	$41,152	$6,001
Slip clay—										
Tons	3,733	30	68	12	15	1		17	458	141
Cost	$17,830	$199	$618	$195	$20	$8		$127	$900	$1,048
Fire clay—										
Tons	1,440,805	17,960	331	7,505	9,451	5,105		50	34,459	65,203
Cost	$1,554,228	$17,995	$363	$5,146	$7,911	$4,850		$62	$19,362	$44,362
Pipe clay—										
Tons	160,806			23,586	8,000			273	3,972	903
Cost	$150,489			$30,470	$5,200			$546	$4,478	$439
Terra cotta clay—										
Tons	141,053			1,327	500	4,000	200	900	9,012	225
Cost	$133,339			$1,054	$325	$2,400	$450	$900	$12,798	$350
Brick clay, purchased—										
Tons	210,807		10	8,088	52,921	195	200	25	730	210
Cost	$191,918		$10	$5,553	$32,687	$211	$250	$25	$490	$252
All other clay—										
Tons	218,300	1,000		1,451	2	315			2,154	8,316
Cost	$200,526	$1,000		$1,209	$4	$335			$3,131	$18,452
Coal, used as an ingredient—										
Tons	6,199			8		15			350	
Cost	$6,731			$75		$30			$580	
Sand—										
Tons	84,548	78	1	4,784	28	2,663		300	2,764	1,017
Cost	$92,017	$85	$3	$1,098	$32	$1,801		$300	$1,139	$1,065
Manganese—										
Pounds	778,248	1,100	100	25,050	7,610	300		2,000	79,530	26,852
Cost	$25,914	$10	$5	$502	$166	$6		$25	$2,203	$583
Salt—										
Tons	5,855	2	2	455	60		34	240	302	181
Cost	$24,756	$20	$15	$1,620	$399		$176	$990	$1,488	$641
Iron—										
Pounds	12,412,872	10,000				3,000		1,000	75,000	44,000
Cost	$13,184	$10				$3		$1	$75	$44
Coloring matter	$70,688		$44	$25	$257	$104	$20		$101	$1,419
Carbonate of barium	$15,073			$1,000					$2,050	
Sawdust	$19,687		$1	$587					$1,242	$360
Flint (quartz)—										
Tons	51,504		1	253	10	48			279	1,190
Cost	$325,434		$5	$586	$25	$240			$2,281	$8,597
Feldspar—										
Tons	31,384	2		23	10	12			805	877
Cost	$265,231	$10		$109	$93	$139			$8,047	$7,378
Plaster—										
Tons	16,111	3		621	4	20		4	1,692	155
Cost	$120,545	$25		$6,870	$11	$300		$60	$9,547	$1,320
Liquid and coin gold	$117,422					$200			$202	$876
Oxide of lead, zinc, and cobalt	$225,099	$25		$1,510	$50	$1,497			$14,094	$5,942
Packing materials (crates, hogsheads, barrels, boxes, straw, etc.)	$586,198	$25	$60	$1,292	$1,821	$3,810		$875	$17,627	$15,492
Fuel	$3,858,828	$28,488	$9,277	$147,255	$34,153	$12,173	$26,031	$24,998	$238,499	$104,930
Rent of power and heat	$11,889			$60		$763			$5,380	
Mill supplies	$346,613	$859	$450	$7,680	$2,255	$1,616	$746	$2,605	$21,012	$5,451
All other materials	$1,361,285	$7,469	$90	$10,235	$2,175	$1,836	$525	$800	$82,269	$28,927
Freight	$1,216,024	$1,862	$79	$36,150	$72,013	$8,612		$9,749	$74,681	$38,107
Products:										
Aggregate value	$44,263,386	$225,335	$59,692	$751,476	$574,060	$172,843	$117,003	$206,322	$2,143,521	$1,291,318
Pottery:										
Total value	$17,222,040	$25,842	$20,071	$31,813	$16,050	$81,750	$18,770	$25,455	$763,005	$346,034
Red earthenware—										
Value	$762,260	$1,180		$24,474		$50,850	$18,700	$3,240	$52,300	$4,818
Stoneware—										
Gallons	45,350,881	543,200	468,500	65,558				416,300	14,473,815	756,177
Value	$1,970,710	$24,662	$19,840	$4,380				$22,215	$572,075	$48,548
Yellow and Rockingham ware—										
Value	$159,553									
C. C., or cream-colored ware—										
Value	$1,540,488									
White graniteware—										
Value	$1,787,101									
Semivitreous porcelain ware (stone porcelain)—										
Value	$3,048,762									
China (porcelain)—										
Value	$1,255,978									
Bone china, Delft, and Belleek ware—										
Value	$42,000									
Sanitary ware—										
Value	$1,850,225									
Solid porcelain bath tubs, laundry tubs, etc.—										
Value	$361,652									
Porcelain electrical supplies—										
Value	$470,855									
Porcelain door knobs—										
Value	$78,833									
Porcelain hardware trimmings—										
Value	$48,528									
Art pottery and porcelain—										
Value	$629,402					$28,500				
All other pottery products—										
Value	$3,216,693		$231	$2,950	$16,050	$2,400	$70		$138,630	$292,568

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	United States.	Alabama.	Arkansas.	California.	Colorado.	Connecticut.	District of Columbia.	Georgia.	Illinois.	Indiana.
Products—Continued.										
Aggregate value—Continued.										
Terra cotta, fire, and other clay products—										
Total value	$26,420,354	$199,343	$39,621	$719,663	$558,010	$86,293	$96,233	$180,867	$1,380,516	$944,734
Architectural terra cotta—										
Value	$2,027,532			$76,000				$44,200	$422,009	$22,560
Chimney tops—										
Value	$242,289	$25		$19,800	$250		$400	$1,750	$186	$5,100
Fireproofing, including terra cotta, lumber, and hollow building tile or blocks—										
Tons	326,349			850	425	2,400		500	34,574	15,047
Value	$1,665,031			$7,100	$2,514	$15,000		$4,000	$198,360	$62,575
Roofing tile—										
Value	$293,292			$3,400					$130,085	$1,200
Floor tile—										
Value	$755,931									$186,841
Encaustic tile—										
Value	$227,077									$190,000
Fire brick—										
Number of 1,000	800,862	9,804	535	1,777	7,112	1,000		1,626	11,500	7,123
Value	$8,636,562	$114,050	$8,100	$28,798	$162,633	$23,000		$24,400	$132,759	$72,350
Glass-melting pots—										
Value	$407,141			$1,000					$260	$48,900
Fire-clay retorts—										
Value	$196,567	$450			$2,640				$92	$2,000
Furnace linings and settings—										
Value	$564,211			$1,741		$12,000				
Locomotive tiles and tank blocks—										
Value	$478,874	$7,068		$4,775	$12,800	$6,400		$2,500	$2,504	
Stove linings—										
Value	$416,235			$1,350		$1,200		$10		
Saggers—										
Value	$146,186	$50		$600	$58,100					$3,859
Clay crucibles, muffles, and scorifiers—										
Value	$37,969			$533	$20,681					
Flue linings—										
Value	$310,989			$12,620	$2,503	$15,000	$4,301	$1,500	$30,390	$5,175
Draintile—										
Value	$466,750		$84	$7,080	$4,297		$475	$1,895	$121,409	$17,802
Sewer pipe—										
Tons	1,130,115			95,719	17,204		19,855	23,231	59,507	47,253
Value	$4,560,334			$479,537	$60,218		$69,495	$100,612	$229,040	$161,935
Electrical conduits—										
Value	$685,273						$21,562			$76,400
Enameled brick—										
Number of 1,000	5,785			20					438	
Value	$329,969			$1,500					$28,609	
Vitrified paving brick—										
Number of 1,000	115,980	6,075	300	10	2,910				968	
Value	$971,277	$60,600	$2,700	$100	$29,100				$8,254	
Ornamental-shaped brick (all not rectangular, plain brick)—										
Number of 1,000	3,305	10	7	304	6					25
Value	$120,992	$350	$200	$16,339	$378					$500
Fancy colored front brick (all except red)—										
Number of 1,000	26,455	300		826	1,697	10				
Value	$480,559	$3,750		$28,225	$30,546	$230				
Red front brick (both pressed and wire-cut)—										
Number of 1,000	15,112	500	774	10	4,511				700	460
Value	$140,741	$4,500	$7,740	$400	$42,133				$4,630	$2,825
Common brick—										
Number of 1,000	199,316	1,000	3,482	190	1,874				1,935	4,866
Value	$1,024,271	$5,000	$20,797	$1,600	$12,752				$11,685	$19,692
All other terra cotta, fire, and other clay products[2]—										
Value	$1,234,302	$3,500		$27,165	$116,465	$13,463			$60,244	$115,080
All other products	$620,992	$150				$4,800	$2,000			$550
Power:										
Number of establishments reporting	775	7	3	11	9	3	4	7	41	39
Total horsepower owned	77,694	429	135	1,107	1,005	165	327	416	5,133	2,633
Engines—										
Steam—										
Number	1,058	8	3	12	11	4	6	13	55	47
Horsepower	73,848	425	135	1,084	1,005	130	327	416	4,494	2,621
Gas or gasoline—										
Number	23									
Horsepower	694									
Water wheels—										
Number	11					1			6	
Horsepower	773					25			486	
Electric motors—										
Number	78	1		3		1			6	1
Horsepower	1,892	4		23		10			153	12
Other power—										
Number	16									
Horsepower	577									
Machinery and kilns:										
Pottery—										
Disintegrators (blunger)	363				2	3		1	12	36
Agitators	331			1	1	2		2	11	10
Slip pumps	446	2	4	2	5	2		2	35	25
Lawns	268					2			7	24
Clay presses—										
Iron	389			2	1		1	1	24	19
Wood	75			1		1	1		2	1

[1] The report for the Twelfth Census is for the calendar year 1899.

[2] Including acid-proof brick, adobes, aquaria ornaments, condensers, cupola blocks, fire kindlers, gas logs, glass-house furnace blocks, grate tile, grave markers, hollow brick, lead pots, open-hearth runner brick, patent panels, perforated paving brick, porous cups, porous hollow brick, sewer brick, sidewalk tile and blocks, statuary, stone pumps, toy marbles, vases, web tile, and well brick and tile.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	United States.	Alabama.	Arkansas.	California.	Colorado.	Connecticut.	District of Columbia.	Georgia.	Illinois.	Indiana.
Machinery and kilns—Continued.										
Pottery—Continued.										
Pug mills—										
Regular	431	3	4	6	1	4	4	4	23	16
Sagger	122	1			1	1			4	4
Wad mills	159					2			3	4
Jiggers	1,210	2	1	6	2	4	1	2	76	24
Batters	512		1		2				3	7
Dry presses	276					2			3	57
Polishers	57								4	
Lathes	505	5	3	6		4		2	28	8
All other machines	504	2	2	7	2	4	2	2	19	6
Kilns—										
Up-draft	916	6	3	4	2	2	3	4	31	27
Down-draft	668		1	18	5	8	7	10	57	35
Muffle—										
Large	87	2		2					1	17
Decorating	275					2			4	9
All other	61	1	2		1			1	3	1
Terra cotta, tile, and brick—										
Clay-grinding machines—										
Disintegrators	217	3	4	3			3	5	11	12
Dry pans	448	5	2	7	5	2		4	33	16
All other	170	1		1	1	1	3	1	11	5
Clay-tempering machines—										
Ring pits	99	2	1		1				4	2
Pug mills	448	5	3	11	13	3	2	5	27	18
Wet pans	432	3		8	3	1		5	14	8
All other	55	1		2					1	3
Molding machines—										
Soft mud	284		1	2					5	10
Stiff mud	207	4	1	3	6				13	7
Dry presses	116	1	3	6	6				10	
Shape brick power presses	123	3	1	3	3		1	1	1	
Hand presses	797	7		17	17	3		3	18	4
Sewer-pipe presses	190			9	2	1	4	4	12	6
Tile machines	229		1	4	1		1	2	17	14
All other	1,433	1	10	5		2			7	10
Mold sanders	59									1
All other machinery	322			2			1	2	72	3
Kilns—										
Clamp	212	5	10	2	10					17
Down-draft—										
Round	1,971	16	3	35	25	8	16	33	116	61
Rectangular	817	8	1	4	2			1	30	12
Muffle	154	1		10				3	32	2
Continuous	15				1				2	
All other kilns	258	1	1	1	2			2	1	8
Dryers	759	8	1	9	6	4	1	5	36	22
Idle machinery	740	502		8		2		1	14	9
Establishments, classified by number of persons employed, not including proprietors and firm members:										
Total number of establishments	1,000	21	10	18	10	8	6	21	53	49
No employees	20		1	1		1				2
Under 5	188	10	1	6	2	2	2	9	14	9
5 to 20	291	7	7	3	4	2	2	7	8	20
21 to 50	196	2		5		2	1	2	15	9
51 to 100	139	1	1	1	2	1	1	2	8	4
101 to 250	130	1		2	2			1	7	5
251 to 500	26								1	
501 to 1,000	8									
Over 1,000	2									

	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.
Number of establishments	17	3	16	3	3	18	29	9	8	
Character of organization—										
Individual	8	1	8	2	2	7	14	2	3	2
Firm and limited partnership	4	1	2	1	1	3	6	1	1	1
Incorporated company	5	1	6			8	9	6	4	1
Miscellaneous										
Capital:										
Total	$361,258	$19,700	$698,560	$10,865	$168,382	$1,081,463	$1,627,575	$280,185	$539,042	$11,690
Land	$85,550	$1,300	$118,553	$5,250	$2,500	$64,200	$370,880	$44,300	$59,882	$700
Buildings	$111,567	$4,200	$233,852	$2,500	$5,000	$214,479	$522,942	$83,399	$177,667	$3,600
Machinery, tools, and implements	$71,100	$9,400	$95,788	$1,750	$2,000	$262,684	$197,273	$63,336	$85,164	$2,180
Cash and sundries	$93,041	$4,800	$250,372	$1,365	$158,882	$540,100	$536,480	$89,150	$216,329	$6,210
Proprietors and firm members	17	3	11	4	4	15	26	5	5	4
Salaried officials, clerks, etc.:										
Total number	13	1	47	1	9	47	72	16	15	3
Total salaries	$13,359	$1,200	$45,416	$700	$10,909	$44,243	$60,360	$13,150	$24,050	$1,500
Officers of corporations—										
Number	7	1	15			15	9	6	5	3
Salaries	$8,832	$1,200	$21,188			$15,960	$11,400	$6,750	$10,200	$1,500
General superintendents, managers, clerks, etc.—										
Total number	6		32	1	9	32	63	10	10	
Total salaries	$4,527		$24,228	$700	$10,909	$28,283	$48,960	$6,400	$13,850	
Men—										
Number	6		30	1	7	31	57	10	9	
Salaries	$4,527		$23,638	$700	$10,077	$28,043	$45,683	$6,400	$13,250	
Women—										
Number			2		2	1	6		1	
Salaries			$590		$832	$240	$3,277		$600	
Wage-earners, including pieceworkers, and total wages:										
Greatest number employed at any one time during the year	318	32	1,104	22	177	1,175	758	231	508	24
Least number employed at any one time during the year	198	24	656	17	122	935	572	124	349	17
Average number	234	22	841	20	155	1,082	584	149	427	21

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.
Wage-earners, etc.—Continued.										
Wages	$93,299	$11,520	$233,253	$6,388	$70,225	$384,655	$262,141	$51,144	$152,603	$6,517
Men, 16 years and over—										
Average number	233	22	801	17	155	842	526	146	422	21
Wages	$93,024	$11,520	$226,569	$6,208	$70,225	$327,958	$246,136	$50,884	$151,592	$6,517
Women, 16 years and over—										
Average number			10			80	54		5	
Wages			$1,729			$31,287	$15,064		$1,011	
Children, under 16 years—										
Average number	1		30	3		160	4	3		
Wages	$275		$4,955	$180		$25,410	$941	$260		
Average number of wage-earners, including piecework, employed during each month:										
Men, 16 years and over—										
January	101	17	671	17	146	830	436	77	360	16
February	176	18	693	18	143	832	460	85	364	16
March	199	17	719	18	147	845	458	78	364	16
April	240	23	811	18	135	868	558	94	402	21
May	267	26	828	18	152	848	568	134	475	21
June	281	23	835	18	174	870	589	155	479	21
July	276	23	819	19	169	843	622	161	478	23
August	279	28	848	18	163	830	632	178	475	23
September	278	28	886	18	161	854	609	207	477	23
October	264	22	901	16	164	858	482	198	459	23
November	239	17	800	16	158	850	458	200	367	23
December	194	17	796	16	148	775	440	185	360	24
Women, 16 years and over—										
January						80	51		6	
February			5			80	53		3	
March			8			80	59		4	
April			9			80	51		8	
May			15			80	46		6	
June			10			80	46		6	
July			15			80	48		6	
August			13			80	54		5	
September			11			80	57		5	
October			11			80	61		5	
November			13			80	61			
December			10			80	61		4	
Children, under 16 years—										
January	3		18	3		163	1	3		
February	3		23	3		162	1	3		
March	2		25	3		157	1	3		
April	2		30	3		161	7	3		
May	3		28	3		160	7	3		
June	3		28	3		160	8	3		
July	1		34	3		163	4	3		
August			35	3		160	5	3		
September			37	3		161	5	3		
October			39	3		159	6	3		
November			31	3		162	5	3		
December			33	3		152	3	3		
Miscellaneous expenses:										
Total	$24,562	$564	$41,157	$585	$36,779	$41,580	$76,266	$10,647	$17,788	$455
Rent of works			$708	$150		$8,199	$2,509	$1,715		
Taxes, not including internal revenue	$2,093	$145	$2,893	$5	$2,164	$8,590	$9,531	$2,688	$4,050	$237
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$22,219	$419	$36,670	$430	$34,615	$21,980	$58,850	$6,244	$13,738	$218
Contract work	$250		$886			$2,811	$5,376			
Materials used:										
Total cost	$57,267	$5,824	$198,659	$5,517	$57,716	$196,365	$188,278	$36,771	$154,378	$4,274
China clay (domestic)—										
Tons			355			883	682		6	
Cost			$2,059			$7,611	$4,479		$93	
China clay (foreign)—										
Tons						8			12	
Cost						$119			$186	
Ball clay (domestic)—										
Tons						228	250			
Cost						$1,732	$1,500			
Ball clay (foreign)—										
Tons						216	242			
Cost						$1,794	$2,546			
Stoneware clay—										
Tons	540	560	8,215	173	301	225	1,515		7,487	75
Cost	$759	$2,032	$14,047	$429	$1,215	$370	$3,969		$7,719	$170
Slip clay—										
Tons	3	20	71		3	16	83		5	15
Cost	$64	$180	$600		$50	$96	$412		$25	$207
Fire clay—										
Tons	150		42,518	500		6,718	11,678	500	2	
Cost	$166		$40,207	$1,000		$11,462	$20,223	$200	$10	
Pipe clay—										
Tons	60		3,241	26	8,445	5,000		3,500	32,361	
Cost	$180		$10,198	$51	$16,685	$2,500		$875	$16,810	
Terra cotta clay—										
Tons						426	335		800	
Cost						$429	$825		$400	
Brick clay, purchased—										
Tons	243		320	450	6,675	420	3,347	200		
Cost	$152		$143	$450	$9,593	$540	$6,958	$150		
All other clay—										
Tons	1	17	650		8,640	250	60			
Cost	$2	$170	$775		$1,141	$250	$60			
Coal, used as an ingredient—										
Tons			36		75		700			
Cost			$72		$255		$1,500			
Sand—										
Tons	13	113	1,360		605	452	1,561	885	447	
Cost	$13	$113	$1,694		$774	$530	$2,470	$142	$357	
Manganese—										
Pounds	200		1,350			4,300	25,061			
Cost	$10		$49			$41	$396			

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900 [1]—Continued.

	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.
Materials used—Continued.										
Total cost—Continued.										
Salt—										
Tons	100		95		78		20	40	60	6
Cost	$700		$395		$326		$148	$120	$267	$63
Iron—										
Pounds			33,000	1,024,000						
Cost			$33	$1,024						
Coloring matter	$287		$2,580	$5		$5,170	$1,026		$8	
Carbonate of barium							$1,175			
Sawdust			$284	$22					$435	
Flint (quartz)—										
Tons			302			971	222		19	
Cost			$1,778			$6,694	$2,207		$140	
Feldspar—										
Tons			188			503	239		93	
Cost			$1,958			$5,339	$2,767		$883	
Plaster—										
Tons	7	6	65	2	2	149	240	11	120	
Cost	$60	$70	$566	$24	$30	$1,385	$2,443	$108	$1,408	
Liquid and coin gold			$22			$5,410				
Oxide of lead, zinc, and cobalt	$50		$593			$3,331	$729		$3,293	
Packing materials (crates, hogsheads, barrels, boxes, straw, etc.	$909		$3,017		$1,075	$14,492	$14,840	$1,537	$4,888	$5
Fuel	$46,456	$2,658	$71,489	$2,032	$24,809	$52,323	$58,774	$28,531	$89,496	$3,740
Rent of power and heat			$50		$60		$545			
Mill supplies	$2,303	$95	$13,630	$55	$277	$5,563	$3,711	$1,407	$5,215	$64
All other materials	$1,804	$106	$7,382	$425	$1,426	$57,027	$37,467	$2,900	$7,080	$25
Freight	$3,352	$400	$25,038			$12,157	$17,108	$801	$15,665	
Products:										
Aggregate value	$248,597	$29,060	$724,255	$21,877	$222,260	$834,831	$713,246	$145,021	$445,435	$18,400
Pottery—										
Total value	$29,730	$27,980	$104,125	$12,640	$7,161	$361,501	$293,883	$29,641	$206,300	$18,400
Red earthenware—										
Value	$7,332		$10,290	$10,000		$9,000	$163,231	$29,641	$17,535	
Stoneware—										
Gallons	526,360	712,000	1,979,000				583,916			356,000
Value	$22,398	$27,680	$93,835				$35,435			$18,400
Art pottery and porcelain—										
Value						$20,000	$25,607			
All other pottery products—										
Value		$300		$2,640	$7,161	$332,501	$69,560		$188,765	
Terra cotta, fire, and other clay products—										
Total value	$192,707	$1,080	$498,542	$7,237	$215,099	$473,330	$406,499	$111,380	$235,135	
Architectural terra cotta—										
Value							$52,224			
Chimney tops—										
Value	$50		$1,780			$1,400				
Fireproofing, including terra cotta, lumber, and hollow building tile or blocks—										
Tons			210				11,321	630	8,200	
Value			$1,750				$70,573	$5,900	$31,000	
Roofing tile—										
Value						$7,255				
Floor tile—										
Value			$1,500							
Encaustic tile—										
Value			$1,500		$18,989					
Fire brick—										
Number of 1,000	20		21,340			18,575	763	150		
Value	$300		$334,630			$325,812	$22,792	$3,000		
Glass-melting pots—										
Value										
Fire-clay retorts—										
Value						$11,500				
Furnace linings and settings—										
Value				$2,100			$26,154			
Locomotive tiles and tank blocks—										
Value					$17,886		$20,750			
Stove linings—										
Value					$500	$32,457	$143,547			
Saggers—										
Value			$1,344			$3,550				
Clay crucibles, muffles, and scorifiers—										
Value										
Flue linings—										
Value			$4,700					$15,375		
Draintile—										
Value	$67,813	$600	$5,040	$2,335	$2,338		$824	$31,605	$1,000	
Sewer pipe—										
Tons	13,634		27,051		40,000	6,000		15,485	30,400	
Value	$47,719		$104,441		$173,455	$24,000		$50,300	$158,545	
Electrical conduits—										
Value										
Enameled brick—										
Number of 1,000						1,006				
Value						$42,252				
Vitrified paving brick—										
Number of 1,000	3,650		900		87					
Value	$30,900		$7,700		$802					
Ornamental-shaped brick (all not rectangular, plain brick)—										
Number of 1,000						1	70			
Value						$100	$3,800			
Fancy colored front brick (all except red)—										
Number of 1,000						250	1,450			
Value						$3,000	$48,000			

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.
Products—Continued.										
Aggregate value—Continued.										
Terra cotta, etc.—Continued.										
Total value—Continued.										
Red front brick (both pressed and wire cut)—										
Number of 1,000	25							150	20	
Value	$250							$800	$240	
Common brick—										
Number of 1,000	7,225	60	7,481			550	230	950	9,000	
Value	$42,475	$480	$34,157			$3,850	$1,333	$4,400	$42,000	
All other terra cotta, fire, and other clay products[2]—										
Value	$3,200			$2,802	$1,129	$18,154	$16,502		$2,350	
All other products	$26,160		$121,588	$2,000			$12,914	$4,000	$4,000	
Power:										
Number of establishments reporting	13	3	12	2	3	15	22	9	6	1
Total horsepower owned	764	112	1,581	15	209	663	1,229	687	845	50
Engines—										
Steam—										
Number	13	4	20	2	4	15	29	9	10	1
Horsepower	762	112	1,576	15	206	645	1,196	573	845	50
Gas or gasoline—										
Number	1					2	1			
Horsepower	2					18	13			
Water wheels—										
Number										
Horsepower										
Electric motors—										
Number			1		1		2	1		
Horsepower			5		8		20	4		
Other power—										
Number								2		
Horsepower								60		
Machinery and kilns:										
Pottery—										
Disintegrators (blunger)	2		6			8	2			
Agitators		1	5			7			4	
Slip pumps	8	2	9		1	7	4		3	
Lawns			2			6	16		1	
Clay presses:										
Iron	2		6	2	1	2	1			
Wood						5	1			
Pug mills—										
Regular	7		7	3		9	14	2	2	1
Sagger			1		1	3	2			
Wad mills			3			4	3			
Jiggers	9	2	12	1	2	25	42	6	24	
Batters			1			5				
Dry presses			21							
Polishers		1								
Lathes	12	3	10	8	5	4	14		1	
All other machines	1	1	5	3		9	20	6	17	
Kilns:										
Up-draft	6		28	3	2	19	20	4		6
Down-draft	4	1	15	1			6		17	1
Muffle—										
Large	2		1				1	1		
Decorating			1			6	2			
All other kilns			1				4			
Terra cotta, tile, and brick:										
Clay-grinding machines—										
Disintegrators	2	1	6		1	5	6	1	5	1
Dry pans	8		12			7	8	3	1	
All other			3		3		2	1		
Clay-tempering machines—										
Ring pits			1			1	7		2	
Pug mills	8		12	1	6	7	9		2	
Wet pans	3		24			4	3	8	4	1
All other									2	
Molding machines—										
Soft mud	136		3					2	3	
Stiff mud	6	1	4			3	6	1	3	
Dry presses	3		1			1	1		1	
Shape-brick power presses	1		1		3		3			
Hand presses	3		16		3	21	18		1	
Sewer-pipe presses	2		3		4	3	2	3	2	
Tile machines	8	1	1		2	4	4	6	3	
All other	1		5		1		4	1		
Mold sanders			2			2			2	
All other machines	2					6				
Kilns—										
Clamp	3		10				2	1	1	
Down-draft—										
Round	45		43		26	12	17	48	19	
Rectangular	5		15			13	8		1	
Muffle						1	7			
Continuous										
All other	4		4			5	8		4	
Dryers	13		11			12	43	10	3	1
Idle machinery	1		5	1		7	4		3	
Establishments, classified by number of persons employed, not including proprietors and firm members:										
Total number of establishments	17	3	16	3	3	18	29	9	8	4
No employees							1			1
Under 5	5		1			2	5			2
5 to 20	6	3	5	3	2	7	9	6	1	
21 to 50	4		2			3	9	2	3	1
51 to 100	2		4			3	3	1	2	
101 to 250			3		1	1	2		2	
251 to 500			1			2				
500 to 1,000										
Over 1,000										

[1] The report for the Twelfth Census is for the calendar year 1899.

[2] Including acid-proof brick, adobes, aquaria ornaments, condensers, cupola blocks, fire kindlers, gas logs, glass-house furnace blocks, grate tile, grave markers, hollow brick, lead pots, open-hearth runner brick, patent panels, perforated paving brick, porous cups, porous hollow brick, sewer brick, sidewalk tile and blocks, statuary, stone pumps, toy marbles, vases, web tile, and well brick and tile.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Missouri.	Montana.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	South Carolina.
Number of establishments	37	5	81	52	21	248	5	143	10
Character of organization—									
Individuals	16	1	22	26	16	68	1	46	8
Firm and limited partnership	4	1	13	9	4	64	1	44	2
Incorporated companies	17	3	46	17	1	114	3	53	.....
Miscellaneous	.....	.....	.....	.....	.....	2	.....	.....	.....
Capital:									
Total	$2,952,107	$344,564	$15,324,966	$4,102,667	$82,738	$15,563,969	$213,355	$11,308,786	$25,751
Land	$877,991	$47,500	$2,415,663	$908,764	$10,645	$1,980,872	$50,860	$2,080,698	$7,350
Buildings	$731,508	$101,501	$5,009,945	$1,163,615	$21,965	$5,215,460	$85,919	$3,570,302	$8,185
Machinery, tools, and implements	$380,819	$83,903	$3,118,988	$641,221	$17,635	$2,776,469	$42,059	$1,386,793	$5,740
Cash and sundries	$961,789	$111,660	$4,780,370	$1,389,067	$32,493	$5,591,168	$34,487	$4,270,993	$4,476
Proprietors and firm members	27	3	67	43	24	225	3	172	12
Salaried officials, clerks, etc.—									
Total number	123	7	464	176	7	818	9	468	2
Total salaries	$161,997	$9,388	$634,238	$200,468	$4,700	$765,915	$9,416	$450,905	$840
Officers of corporations—									
Number	28	.....	111	34	.....	187	6	89	.....
Salaries	$69,684	.....	$292,973	$68,822	.....	$252,691	$6,836	$142,204	.....
General superintendents, managers, clerks, etc.—									
Total number	95	7	353	142	7	631	3	379	2
Total salaries	$92,313	$9,388	$341,265	$131,646	$4,700	$513,224	$2,580	$308,701	$840
Men—									
Number	93	7	326	125	7	540	2	359	1
Salaries	$91,537	$9,388	$330,389	$124,600	$4,700	$477,287	$2,100	$299,967	$840
Women—									
Number	2	.....	27	17	.....	91	1	20	1
Salaries	$776	.....	$10,876	$7,046	.....	$35,937	$480	$8,734	$500
Wage-earners, including piece workers, and total wages:									
Greatest number employed at any one time during the year	2,006	226	9,459	2,774	197	13,895	78	10,548	70
Least number employed at any one time during the year	1,342	59	6,587	1,720	91	10,953	45	7,729	43
Average number	1,607	102	8,117	2,270	138	11,870	57	8,872	46
Wages	$647,728	$81,554	$3,841,404	$872,583	$23,886	$5,000,846	$27,237	$3,007,354	$10,000
Men, 16 years and over—									
Average number	1,586	101	7,007	1,908	122	9,621	53	8,120	45
Wages	$643,641	$81,404	$3,521,820	$781,208	$22,611	$4,453,264	$26,187	$2,885,794	$9,800
Women, 16 years and over—									
Average number	.....	.....	917	341	2	2,148	.....	409	.....
Wages	.....	.....	$283,282	$88,929	$300	$527,777	.....	$60,173	.....
Children, under 16 years—									
Average number	21	1	193	21	14	101	4	343	1
Wages	$4,087	$150	$36,302	$2,446	$975	$19,805	$1,050	$61,387	$200
Average number of wage-earners, including piece workers, employed during each month:									
Men, 16 years and over—									
January	1,186	45	5,991	1,555	57	8,202	44	7,555	28
February	1,285	21	5,999	1,504	63	8,628	43	7,568	28
March	1,382	33	6,399	1,660	105	8,808	43	7,840	28
April	1,595	85	6,855	1,923	113	9,487	50	8,106	60
May	1,630	119	7,228	2,074	147	9,659	54	8,343	64
June	1,770	141	7,430	2,010	152	9,944	62	8,227	64
July	1,743	157	7,549	2,086	154	9,921	64	8,001	66
August	1,820	215	7,680	2,103	157	10,223	56	8,181	54
September	1,748	177	7,570	2,127	157	10,368	62	8,559	54
October	1,668	89	7,547	2,044	150	10,406	60	8,464	34
November	1,649	73	7,146	1,928	125	10,163	46	8,308	28
December	1,550	63	6,695	1,878	87	9,641	47	8,283	28
Women, 16 years and over—									
January	.....	.....	886	315	.....	1,871	.....	354	.....
February	.....	.....	893	334	.....	2,033	.....	339	.....
March	.....	.....	922	348	.....	2,069	.....	382	.....
April	.....	.....	935	333	3	2,181	.....	415	.....
May	.....	.....	942	345	3	2,199	.....	414	.....
June	.....	.....	937	339	3	2,103	.....	403	.....
July	.....	.....	907	329	3	2,112	.....	370	.....
August	.....	.....	916	336	3	2,214	.....	397	.....
September	.....	.....	935	357	3	2,231	.....	456	.....
October	.....	.....	940	353	3	2,252	.....	463	.....
November	.....	.....	950	359	1	2,330	.....	460	.....
December	.....	.....	842	340	.....	2,183	.....	452	.....
Children, under 16 years—									
January	15	.....	173	23	5	71	3	304	1
February	18	.....	174	23	5	90	3	312	1
March	21	.....	180	23	12	94	3	349	1
April	21	.....	203	22	14	99	5	363	1
May	22	.....	206	22	16	107	5	383	1
June	23	.....	205	21	20	112	6	355	1
July	20	1	195	21	20	101	6	330	1
August	29	1	196	21	20	120	7	357	1
September	23	1	201	21	20	115	7	372	1
October	25	1	206	22	15	109	4	346	1
November	19	1	195	22	12	101	2	323	1
December	21	1	180	16	8	88	2	326	1
Miscellaneous expenses:									
Total	$191,727	$11,525	$792,475	$334,157	$6,687	$691,591	$6,504	$402,589	$1,162
Rent of works	$5,207	$675	$14,371	$10,939	$110	$21,694	.....	$17,551	$167
Taxes, not including internal revenue	$13,716	$1,537	$55,198	$25,629	$414	$80,224	$693	$43,253	$110
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$169,451	$9,313	$690,482	$296,589	$5,663	$562,536	$5,611	$321,803	$710
Contract work	$3,353	.....	$32,424	$1,000	$500	$27,187	$200	$19,982	$175
Materials used:									
Total cost	$369,957	$61,456	$2,384,059	$522,408	$26,596	$3,229,385	$23,159	$2,451,980	$5,371
China clay (domestic)—									
Tons	.....	.....	9,784	2,333	.....	25,307	.....	6,973	.....
Cost	.....	.....	$99,001	$19,481	.....	$199,278	.....	$34,168	.....
China clay (foreign)—									
Tons	2	.....	5,882	570	.....	5,200	1	1,059	.....
Cost	$25	.....	$67,368	$8,641	.....	$60,948	$12	$13,128	.....

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900—Continued.

	Missouri.	Montana.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	South Carolina.
Materials used—Continued.									
Total cost—Continued.									
Ball clay (domestic)—									
Tons	124	.....	6,698	691	.....	8,688	2	498	.....
Cost	$466	.....	$44,379	$4,040	.....	$40,995	$10	$2,218	.....
Ball clay (foreign)—									
Tons	.....	.....	4,764	86	.....	5,885	.....	888	.....
Cost	.....	.....	$48,185	$787	.....	$50,311	.....	$7,993	.....
Stoneware clay—									
Tons	2,717	.....	332	2,320	755	38,112	388	5,204	182
Cost	$6,667	.....	$2,547	$5,127	$1,297	$45,294	$2,329	$12,106	$250
Slip clay—									
Tons	160	.....	114	35	7	1,277	1	963	5
Cost	$1,155	.....	$1,125	$160	$52	$6,800	$7	$2,087	$27
Fire clay—									
Tons	56,620	3,300	95,108	39,662	5,000	282,157	336	750,045	250
Cost	$70,258	$16,936	$120,825	$51,573	$2,000	$200,184	$212	$900,855	$375
Pipe clay—									
Tons	18,835	.....	2,047	6,620	.....	27,940	2,800	1,850	.....
Cost	$25,208	.....	$1,293	$8,149	.....	$11,494	$2,100	$2,462	.....
Terra cotta clay—									
Tons	8,980	.....	56,557	8,343	.....	38,630	2,350	8,236	.....
Cost	$8,532	.....	$56,329	$15,142	.....	$21,056	$1,880	$10,358	.....
Brick clay, purchased—									
Tons	4,306	.....	79,778	3,776	.....	22,780	.....	16,480	.....
Cost	$6,474	.....	$87,093	$4,361	.....	$12,197	.....	$19,717	.....
All other clay—									
Tons	4,343	90	94,830	5,140	5,000	69,184	510	15,925	.....
Cost	$4,318	$27	$52,871	$6,380	$5,000	$71,062	$290	$33,249	.....
Coal, used as an ingredient—									
Tons	.....	.....	2,637	50	.....	2,150	.....	.....	.....
Cost	.....	.....	$2,787	$100	.....	$1,175	.....	.....	.....
Sand—									
Tons	1,709	284	22,720	3,919	.....	19,434	166	18,603	60
Cost	$1,293	$279	$24,286	$4,888	.....	$22,018	$166	$26,292	$40
Manganese—									
Pounds	28,000	500	110,640	71,450	.....	254,821	860	67,084	.....
Cost	$498	$8	$4,916	$2,629	.....	$11,486	$46	$1,327	.....
Salt—									
Tons	435	2	455	78	66	2,351	60	538	.....
Cost	$1,382	$20	$1,895	$341	$334	$9,117	$300	$2,719	.....
Iron—									
Pounds	4,662,000	.....	202,000	.....	.....	676,322	.....	5,658,550	.....
Cost	$4,662	.....	$203	.....	.....	$721	.....	$6,383	.....
Coloring matter	$34	$25	$19,547	$447	.....	$28,497	.....	$11,052	.....
Carbonate of barium	$1,935	.....	$4,885	$2,751	.....	$252	.....	$1,025	.....
Sawdust	$125	.....	$15,017	$404	.....	$563	$205	$422	.....
Flint (quartz)—									
Tons	3	1,739	12,712	1,107	.....	18,367	26	12,266	3
Cost	$24	$4,410	$88,690	$9,658	.....	$146,953	$206	$40,115	$8
Feldspar—									
Tons	17	.....	13,664	1,023	.....	11,630	51	1,223	2
Cost	$148	.....	$94,511	$10,793	.....	$112,968	$331	$10,622	$11
Plaster—									
Tons	663	.....	4,193	3,776	.....	3,073	4	1,081	.....
Cost	$4,053	.....	$34,076	$16,007	.....	$27,891	$40	$11,685	.....
Liquid and coin gold	.....	.....	$20,675	$4,199	.....	$70,056	.....	$9,682	.....
Oxide of lead, zinc, and cobalt	$80	.....	$51,412	$2,240	.....	$115,319	$34	$18,057	.....
Packing materials (crates, hogsheads, barrels, boxes, straw, etc.)	$7,437	.....	$147,771	$16,879	$250	$267,766	$245	$40,509	.....
Fuel	$164,576	$29,143	$707,531	$207,079	$9,876	$968,881	$9,796	$545,729	$3,393
Rent of power and heat	.....	$300	$2,580	$735	.....	$109	.....	$1,059	.....
Mill supplies	$12,422	$1,209	$46,097	$13,690	$2,054	$86,317	$570	$88,316	$181
All other materials	$28,061	$5,959	$275,553	$59,378	$128	$328,407	$1,270	$406,922	$1,045
Freight	$20,124	$3,145	$260,666	$46,349	$5,605	$311,270	$3,110	$191,733	$41
Products:									
Aggregate value	$1,662,150	$180,006	$8,940,723	$2,389,449	$83,736	$11,851,225	$90,837	$8,127,429	$23,255
Pottery—									
Total value	$78,177	$950	$5,070,566	$649,592	$19,931	$6,994,805	$11,204	$1,164,517	$9,535
Red earthenware—									
Value	$6,379	.....	$24,000	$33,955	.....	$164,798	$2,501	$99,786	$1,000
Stoneware—									
Gallons	1,553,460	.....	1,014,000	348,593	400,860	14,517,342	.....	3,082,000	172,700
Value	$63,170	.....	$35,500	$33,344	$19,671	$582,132	.....	$174,450	$8,485
Yellow and Rockingham ware—									
Value	.....	.....	.....	.....	.....	$159,553	.....	.....	.....
C. C., or cream-colored ware—									
Value	.....	.....	$751,444	.....	.....	$789,044	.....	.....	.....
White granite ware—									
Value	.....	.....	$442,354	.....	.....	$1,143,990	.....	$200,757	.....
Semivitreous porcelain ware (stone porcelain)—									
Value	.....	.....	$372,350	.....	.....	$2,676,412	.....	.....	.....
China (porcelain)—									
Value	.....	.....	$494,870	$336,680	.....	$424,428	.....	.....	.....
Bone china, Delft, and Belleek ware—									
Value	.....	.....	$42,000	.....	.....	.....	.....	.....	.....
Sanitary ware—									
Value	.....	.....	$1,850,225	.....	.....	.....	.....	.....	.....
Solid porcelain bath tubs, laundry tubs, etc.—									
Value	.....	.....	$276,246	$43,679	.....	.....	.....	$41,727	.....
Porcelain electrical supplies—									
Value	.....	.....	$154,807	$125,234	.....	$190,314	.....	.....	.....
Porcelain doorknobs—									
Value	.....	.....	$32,000	.....	.....	$46,333	.....	.....	.....
Porcelain hardware trimmings—									
Value	.....	.....	$42,500	$6,028	.....	.....	.....	.....	.....
Art pottery and porcelain—									
Value	.....	.....	$125,500	$1,000	.....	$428,795	.....	.....	.....
All other pottery products—									
Value	$8,628	$950	$426,770	$69,672	$260	$389,006	$8,703	$647,797	$50

[1] The report for the Twelfth Census is for the calendar year 1899.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Missouri.	Montana.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	South Carolina.
Products—Continued.									
Aggregate value—Continued.									
Terra cotta, fire, and other clay products—									
Total value	$1,530,502	$178,128	$3,644,010	$1,682,358	$63,105	$4,843,615	$79,633	$6,883,330	$11,220
Architectural terra cotta—									
Value	$184,495	.....	$660,304	$417,350	.....	.....	.....	$139,100	.....
Chimney tops—									
Value	$590	$50	.....	$175,025	.....	$29,472	$3,045	$2,266	.....
Fireproofing, including terra cotta, lumber, and hollow building tile or blocks—									
Tons	3,353	79	144,303	15,883	.....	51,098	1,938	35,021	.....
Value	$26,257	$1,100	$658,144	$108,926	.....	$346,090	$15,500	$110,210	.....
Roofing tile—									
Value	$7,000	.....	.....	$66,045	.....	$54,675	$1,000	.....	.....
Floor tile—									
Value	.....	.....	$37,123	$25,600	.....	$510,419	.....	$44,448	.....
Encaustic tile—									
Value	.....	.....	.....	.....	.....	.....	.....	$16,588	.....
Fire brick—									
Number of 1,000	26,502	1,810	40,281	11,649	288	69,129	60	558,016	960
Value	$375,023	$72,088	$633,158	$227,814	$3,380	$976,693	$1,300	$4,921,339	$11,220
Glass-melting pots—									
Value	$3,151	.....	$12,000	.....	.....	$136,620	.....	$205,210	.....
Fire-clay retorts—									
Value	$52,560	.....	$77,666	$4,750	.....	$33,509	.....	$11,400	.....
Furnace linings and settings—									
Value	$96,155	.....	$70,000	$30,052	.....	$134,587	.....	$190,822	.....
Locomotive tiles and tank blocks—									
Value	$184,085	.....	$46,500	$19,997	.....	$20,956	.....	$132,653	.....
Stove linings—									
Value	$10,000	$250	$8,000	$74,507	.....	$7,563	.....	$106,851	.....
Saggers—									
Value	.....	.....	$5,595	$45,786	.....	$24,014	$60	$3,228	.....
Clay crucibles, muffles, and scorifiers—									
Value	.....	.....	$2,800	$12,000	.....	.....	.....	$1,455	.....
Flue linings—									
Value	$6,540	.....	$91,730	$10,480	$1,000	$83,119	$600	$10,535	.....
Draintile—									
Value	$18,329	.....	$6,360	$14,716	$3,075	$131,852	$2,000	$13,180	.....
Sewer pipe—									
Tons	83,363	5,333	27,350	11,289	10,857	466,469	12,200	34,435	.....
Value	$436,624	$25,000	$99,000	$51,293	$38,000	$1,680,724	$36,700	$204,400	.....
Electrical conduits—									
Value	$2,000	.....	$250,006	$20,000	.....	$315,305	.....	.....	.....
Enameled brick—									
Number of 1,000	.....	.....	3,336	.....	.....	.....	2	983	.....
Value	.....	.....	$183,113	.....	.....	.....	$120	$74,375	.....
Vitrified paving brick—									
Number of 1,000	15	85	210	11,457	.....	26,853	.....	15,862	.....
Value	$172	$1,445	$2,687	$118,172	.....	$208,924	.....	$134,065	.....
Ornamental-shaped brick (all not rectangular, plain brick)—									
Number of 1,000	.....	16	425	2,235	.....	60	5	114	.....
Value	.....	$330	$17,750	$75,280	.....	$1,200	$275	$3,200	.....
Fancy colored front brick (all except red)—									
Number of 1,000	2	.....	7,953	100	.....	1,057	450	7,131	.....
Value	$68	.....	$162,035	$1,000	.....	$12,100	$16,000	$85,539	.....
Red front brick (both pressed and wire-cut)—									
Number of 1,000	.....	124	407	2,628	.....	2,257	13	200	.....
Value	.....	$1,403	$4,784	$25,544	.....	$17,575	$420	$2,500	.....
Common brick—									
Number of 1,000	90	8,465	93,763	13,698	3,500	15,939	480	13,058	.....
Value	$701	$55,079	$454,174	$75,114	$17,500	$77,338	$2,465	$77,449	.....
All other terra cotta, fire, and other clay products[2]—									
Value	$126,752	$21,383	$166,081	$82,307	$150	$40,880	$148	$392,517	.....
All other products	$53,471	$928	$226,147	$57,499	$700	$12,805	.....	$79,582	$2,500
Power:									
Number of establishments reporting	25	5	73	42	3	239	4	124	3
Total horsepower owned	2,861	521	9,525	5,560	293	20,501	352	16,567	114
Engines—									
Steam—									
Number	44	8	121	55	3	290	5	202	1
Horsepower	2,799	426	8,489	5,426	275	19,579	352	15,890	50
Gas or gasoline—									
Number	1	.....	.....	5	.....	8	.....	5	.....
Horsepower	6	.....	.....	132	.....	276	.....	157	.....
Water wheels—									
Number	.....	.....	.....	.....	1	1	.....	.....	2
Horsepower	.....	.....	.....	.....	18	180	.....	.....	64
Electric motors—									
Number	5	2	17	1	.....	25	.....	11	.....
Horsepower	56	95	545	2	.....	450	.....	510	.....
Other power—									
Number	.....	.....	12	.....	.....	1	.....	1	.....
Horsepower	.....	.....	491	.....	.....	16	.....	10	.....
Machinery and kilns:									
Pottery—									
Disintegrators (blunger)	.....	.....	68	11	.....	154	1	35	1
Agitators	.....	.....	79	10	.....	173	.....	17	1
Slip pumps	8	.....	79	19	.....	163	1	33	1
Lawns	.....	.....	55	15	.....	99	.....	26	1
Clay presses:									
Iron	2	1	73	22	.....	175	1	33	3
Wood	5	.....	45	.....	.....	5	.....	7	.....

[1] The report for the Twelfth Census is for the calendar year 1899.

[2] Including acid-proof brick, adobes, aquaria ornaments, condensers, cupola blocks, fire kindlers, gas logs, glass-house furnace blocks, grate tile, grave markers, hollow brick, lead pots, open-hearth runner brick, patent panels, perforated paving brick, porous cups, porous hollow brick, sewer brick, sidewalk tile and blocks, statuary, stone pumps, toy marbles, vases, web tile, and well brick and tile.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Missouri.	Montana.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	South Carolina.
Machinery and kilns—Continued.									
Pottery—Continued.									
Pug mills—									
Regular	8	1	67	16	3	122	2	55	6
Sagger	.....	.....	33	6	1	52	.....	8	.....
Wad mills	1	.....	39	5	6	71	.....	11	.....
Jiggers	7	.....	193	75	.....	536	2	96	2
Batters	3	.....	380	8	.....	30	.....	70	.....
Dry presses	.....	.....	88	52	.....	32	.....	21	.....
Polishers	2	.....	14	1	.....	32	.....	1	.....
Lathes	9	.....	89	59	10	138	3	37	7
All other machines	6	.....	110	16	.....	188	4	41	2
Kilns—									
Up-draft	14	.....	192	24	13	318	1	107	.....
Down-draft	4	1	44	34	15	291	3	49	2
Muffle—									
Large	2	.....	27	1	.....	18	.....	9	2
Decorating	.....	.....	57	9	.....	137	.....	27	.....
All other	.....	.....	6	8	2	15	.....	7	2
Terra cotta, tile, and brick—									
Clay-grinding machines—									
Disintegrators	9	6	33	20	2	36	2	28	.....
Dry pans	34	2	31	19	2	128	1	94	3
All other	10	7	27	9	1	49	1	11	2
Clay-tempering machines—									
Ring pits	1	1	39	5	2	11	.....	9	.....
Pug mills	27	12	66	34	.....	68	1	83	.....
Wet pans	27	5	36	3	8	117	4	127	.....
All other	5	4	6	2	1	23	.....	2	.....
Molding machines—									
Soft mud	.....	12	53	8	1	21	.....	15	.....
Stiff mud	5	1	33	14	1	37	1	34	.....
Dry presses	2	3	16	11	.....	27	1	12	.....
Shape brick power presses	.....	.....	16	7	1	11	.....	45	.....
Hand presses	36	9	122	37	2	77	1	341	2
Sewer-pipe presses	9	1	9	6	2	75	2	15	.....
Tile machines	11	4	25	10	1	66	2	19	.....
All other	1	10	507	51	1	31	.....	775	.....
Mold sanders	.....	10	14	8	.....	2	.....	16	.....
All other machines	12	2	5	184	.....	10	2	18	.....
Kilns:									
Clamp	10	5	62	10	5	11	1	19	2
Down-draft—									
Round	123	13	173	93	.....	715	12	136	.....
Rectangular	27	.....	42	21	.....	111	2	491	.....
Muffle	19	1	39	9	.....	5	.....	21	.....
Continuous	2	1	5	2	.....	.....	.....	1	.....
All other kilns	7	14	23	11	.....	42	.....	105	2
Dryers	59	23	119	45	7	142	3	135	2
Idle machinery	6	4	46	33	1	39	1	36	.....
Establishments, classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	37	5	81	52	21	248	5	143	10
No employees	.....	.....	2	1	.....	3	.....	6	.....
Under 5	14	.....	5	9	15	32	2	16	4
5 to 20	9	1	17	6	4	74	1	28	5
21 to 50	4	3	15	16	.....	43	2	38	1
51 to 100	3	.....	11	9	2	48	.....	26	.....
101 to 250	4	1	22	10	.....	41	.....	20	.....
251 to 500	3	.....	5	1	.....	5	.....	6	.....
501 to 1,000	.....	.....	3	.....	.....	2	.....	2	.....
Over 1,000	.....	.....	1	.....	.....	.....	.....	1	.....

	Tennessee.	Texas.	Utah.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[2]
Number of establishments	18	28	7	5	8	14	4	8
Character of organization—								
Individual	10	24	5	1	1	4	2	4
Firm and limited partnership	4	3	1	2	4	3	2	3
Incorporated company	4	1	1	2	3	7	.....	1
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....
Capital:								
Total	$171,898	$203,395	$38,050	$309,361	$436,560	$1,610,266	$23,349	$156,725
Land	$17,085	$36,216	$8,100	$12,620	$52,329	$230,517	$6,500	$14,800
Buildings	$57,220	$95,743	$10,500	$139,239	$195,398	$584,845	$5,700	$53,600
Machinery, tools, and implements	$40,255	$29,956	$11,800	$82,571	$77,726	$289,964	$5,650	$37,425
Cash and sundries	$57,338	$41,480	$7,650	$74,931	$111,107	$505,440	$5,499	$51,000
Proprietors and firm members	15	31	8	6	8	13	9	8
Salaried officials, clerks, etc.:								
Total number	15	7	2	10	15	57	.....	14
Total salaries	$11,755	$6,900	$2,000	$13,384	$17,900	$51,592	.....	$15,575
Officers of corporations—								
Number	4	1	2	2	4	6	.....	4
Salaries	$3,000	$2,000	$2,000	$6,000	$7,200	$18,200	.....	$3,700
General superintendents, managers, clerks, etc.—								
Total number	11	6	.....	8	11	51	.....	10
Total salaries	$8,755	$4,900	.....	$7,384	$10,700	$33,392	.....	$11,875
Men—								
Number	11	6	.....	7	11	47	.....	10
Salaries	$8,755	$4,900	.....	$6,760	$10,700	$31,352	.....	$11,875
Women—								
Number	.....	.....	.....	1	.....	4	.....	.....
Salaries	.....	.....	.....	$624	.....	$2,040	.....	.....
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	389	411	56	144	168	1,688	17	150
Least number employed at any one time during the year	281	184	41	51	102	992	8	133

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes establishments distributed as follows: Florida, 1; Idaho, 1; Nebraska, 1; New Hampshire, 2; New Mexico, 1; North Dakota, 1; Vermont, 1.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Tennessee.	Texas.	Utah.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[2]
Wage-earners, including pieceworkers, and total wages—Continued.								
Average number	300	280	36	100	126	1,269	10	108
Wages	$91,417	$77,423	$10,906	$23,892	$59,928	$500,444	$3,739	$42,150
Men, 16 years and over—								
Average number	291	279	35	90	124	975	8	100
Wages	$90,696	$77,324	$10,750	$22,006	$59,612	$429,434	$3,164	$39,950
Women, 16 years and over—								
Average number				2		263		
Wages				567		64,949		
Children, under 16 years—								
Average number	9	1	1	8	2	31	2	8
Wages	$721	$99	$156	$1,319	$316	$6,061	$575	$2,200
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	236	162	21	50	108	719	10	39
February	243	197	21	47	107	687	10	39
March	275	225	26	80	129	769	10	106
April	298	251	33	80	133	955	9	128
May	303	337	45	93	137	1,037	9	131
June	306	349	53	107	127	951	7	131
July	320	375	48	104	121	1,074	3	126
August	324	366	44	112	140	1,195	2	126
September	296	335	44	107	135	1,157	9	129
October	310	315	33	106	116	1,061	10	131
November	290	227	25	99	115	1,035	9	69
December	286	210	21	99	119	1,065	8	49
Women, 16 years and over—								
January				1		261		
February						261		
March				1		261		
April				3		263		
May				1		263		
June						263		
July						263		
August						263		
September				1		263		
October				6		263		
November				6		263		
December				6		263		
Children, under 16 years—								
January	4		1	3	2	16	3	8
February	2		1	2	1	20	3	8
March	6	1	1	10	1	23	3	8
April	9	2	1	8	1	34	3	8
May	12	2	1	11		35	3	8
June	10	1	1	6	3	29		8
July	10	1	1	6	1	25		8
August	12	1	1	10	3	40		8
September	11	1	1	8	3	42	1	8
October	12	1	1	11	2	38	1	8
November	10		1	8	2	36	3	8
December	11		1	8	1	33	3	8
Miscellaneous expenses:								
Total	$50,832	$12,294	$1,214	$12,111	$7,599	$114,834	$635	$5,633
Rent of works	$100	$580	$590		$225	$3,254		
Taxes, not including internal revenue	$1,276	$1,043	$467	$857	$2,156	$7,014	$170	$630
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$49,456	$10,401	$157	$11,254	$5,218	$104,566	$465	$5,003
Contract work		$270						
Materials used:								
Total cost	$74,244	$43,876	$6,196	$34,455	$29,392	$219,134	$1,277	$32,969
China clay (domestic)—								
Tons						724		10
Cost						$7,276		$155
China clay (foreign)—								
Tons						1,131		10
Cost						$16,641		$172
Ball clay (domestic)—								
Tons		225				1,220		5
Cost		$1,200				$9,764		$50
Ball clay (foreign)—								
Tons						188		12
Cost						$1,870		$135
Stoneware clay—								
Tons	4,311	3,834		20	1,147	235		170
Cost	$5,053	$4,190		$20	$2,855	$360		$340
Slip clay—								
Tons	76	109		1	8	11		8
Cost	$294	$1,119		$4	$91	$120		$40
Fire clay—								
Tons	1,970	650	750	225	26	361		2,215
Cost	$7,880	$578	$750	$225	$21	$462		$7,775
Pipe clay—								
Tons	10,445		500	402				
Cost	$10,447		$500	$404				
Terra cotta clay—								
Tons					232			
Cost					$116			
Brick clay, purchased—								
Tons		35		8,208	11	1,399		
Cost		$35		$4,432	$6	$139		
All other clay—								
Tons	250		112	40		20		
Cost	$252		$434	$60		$54		
Coal, used as an ingredient—								
Tons	178							
Cost	$207							
Sand—								
Tons	171	75	18		51	717		50
Cost	$178	$35	$18		$41	$804		$63

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes establishments distributed as follows: Florida, 1; Idaho, 1; Nebraska, 1; New Hampshire, 2; New Mexico, 1; North Dakota, 1; Vermont, 1.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Tennessee.	Texas.	Utah.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[2]
Materials used—Continued.								
Total cost—Continued.								
Manganese—								
Pounds		2,500	800	68,040				100
Cost		$118	$82	$858				$5
Salt—								
Tons	106	84			1	3		1
Cost	$544	$701			$13	$9		$10
Iron—								
Pounds								24,000
Cost								$25
Coloring matter								$40
Carbonate of barium								
Sawdust		$20						
Flint (quartz)—								
Tons	19	7				1,850		110
Cost	$147	$60				$12,235		$375
Feldspar—								
Tons	16	21				880		105
Cost	$250	$314				$7,535		$1,025
Plaster—								
Tons	4	36			25	152		3
Cost	$30	$397			$177	$1,932		$30
Liquid and coin gold						$5,700		$100
Oxide of lead, zinc, and cobalt	$41	$99	$300	$65	$15	$6,063		$260
Packing materials (crates, hogsheads, barrels, boxes, straw, etc.)	$1,442	$902	$25	$1,419	$180	$14,204		$5,404
Fuel	$35,830	$28,845	$2,404	$12,015	$15,097	$100,446	$695	$11,380
Rent of power and heat						$248		
Mill supplies	$5,602	$2,686	$129	$1,028	$1,055	$8,684	$89	$1,540
All other materials	$1,528	$691	$4	$1,198	$107	$353	$118	$545
Freight	$4,519	$1,883	$1,600	$12,727	$9,618	$24,235	$425	$3,200
Products:								
Aggregate value	$259,710	$192,061	$28,600	$88,178	$157,304	$1,104,883	$14,213	$130,075
Pottery—								
Total value	$67,920	$81,507	$7,700	$9,105	$13,350	$585,310	$13,145	$24,625
Red earthenware—								
Value		$5,860	$7,500	$745			$13,145	
Stoneware—								
Gallons	1,435,200	1,432,400			197,500	316,000		
Value	$66,920	$67,647			$13,350	$16,464		
Art pottery and porcelain—								
Value								
All other pottery products—								
Value	$1,000	$8,000	$200	$8,360		$568,846		$24,625
Terra cotta, fire, and other clay products—								
Total value	$191,790	$110,034	$14,900	$74,078	$143,954	$519,323	$640	$103,450
Architectural terra cotta—								
Value					$9,300			$50
Chimney tops—								
Value		$300	$500		$300			
Fireproofing, including terra cotta, lumber, and hollow building tile or blocks—								
Tons		280			229	8		
Value		$2,802			$2,152	$78		
Roofing tile—								
Value						$22,632		
Floor tile—								
Value								
Encaustic tile—								
Value								
Fire brick—								
Number of 1,000	2,744	1,401	164	50	533	4,600		1,400
Value	$28,049	$23,234	$3,250	$937	$16,053	$54,400		$36,000
Glass-melting pots—								
Value								
Fire-clay retorts—								
Value								
Furnace linings and settings—								
Value								
Locomotive tiles and tank blocks—								
Value								
Stove linings—								
Value								$30,000
Saggers—								
Value								
Clay crucibles, muffles, and scorifiers—								
Value					$500			
Flue linings—								
Value	$4,497				$924	$10,000		
Draintile—								
Value	$5,095	$325	$400	$660	$4,521		$640	$1,000
Sewer pipe—								
Tons	35,749	15,200	4,000		11,318	17,071		142
Value	$142,999	$58,753	$8,000		$76,694	$42,350		$500
Electrical conduits—								
Value								
Enameled brick—								
Number of 1,000								
Value								
Vitrified paving brick—								
Number of 1,000					297	46,301		
Value					$5,940	$359,716		
Ornamental-shaped brick (all not rectangular, plain brick)—								
Number of 1,000		12			15			
Value		$240			1,050			
Fancy colored front brick (all except red)—								
Number of 1,000				2,797	932	300		200
Value				$64,136	$19,580	$3,350		$3,000

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes establishments distributed as follows: Florida, 1; Idaho, 1; Nebraska, 1; New Hampshire, 2; New Mexico, 1: North Dakota, 1; Vermont, 1.

TABLE 18.—POTTERY, TERRA COTTA, AND FIRE-CLAY PRODUCTS, BY STATES AND TERRITORIES: 1900[1]—Continued.

	Tennessee.	Texas.	Utah.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[2]
Products—Continued.								
Aggregate value—Continued.								
Terra cotta, etc.—Continued.								
Total value—Continued.								
Red front brick (both pressed and wire-cut)—								
Number of 1,000		50		80		653		1,550
Value		$300		$800		$4,497		$19,400
Common brick—								
Number of 1,000	1,870	4,360	500	800		2,500		1,500
Value	$11,150	$20,330	$2,750	$4,000		$12,500		$13,500
All other terra cotta, fire, and other clay products:[3]								
Value		$3,750		$3,540	$6,940	$9,800		
All other products		$520	$6,000			$250	$428	$2,000
Power:								
Number of establishments reporting	8	9	3	3	3	12	2	7
Total horsepower owned	577	370	150	395	155	1,837	45	416
Engines—								
Steam—								
Number	9	9	3	4	3	24	2	9
Horsepower	577	370		395	155	1,837	45	416
Gas or gasoline—			150					
Number								
Horsepower								
Water wheels—								
Number								
Horsepower								
Electric motors—								
Number								
Horsepower								
Other power—								
Number								
Horsepower								
Machinery and kilns:								
Pottery—								
Disintegrators (blunger)	5		1	1	1	8	3	2
Agitators			1			6		
Slip pumps	11	6			1	10		3
Lawns	1		2			5		1
Clay presses—								
Iron	3	2				11	1	
Wood								1
Pug mills—								
Regular	9	17	1		2	6	3	3
Sagger						3		1
Wad mills	1	1		1		3		1
Jiggers	11	7	1	4	2	22	3	6
Batters			2					
Dry presses								
Polishers		1				1		
Lathes	11	14	1	1	3	8		2
All other machines	11	6		7	2			1
Kilns—								
Up-draft	12	19	2	3	3	26		3
Down-draft	9	8	4		3	11	1	3
Muffle—								
Large								1
Decorating						20		1
All other		2	1		1	1	2	
Terra cotta, tile, and brick								
Clay-grinding machines:								
Disintegrators		2	1	2	1	2		4
Dry pans	3	2	1	3	2	9		1
All other clay-grinding machines	1	7		2	4		1	5
Clay-tempering machines—								
Ring pits	5	5						
Pug mills		4	8	3	2	8		5
Wet pans	5	1	1	4	2	3		
All other	1				1	1		
Molding machines—								
Soft mud		1	2		2	6		1
Stiff mud	2	1	1	2	1	14		2
Dry presses				1	5	4		1
Shape-brick power presses	3			1	1	17		
Hand presses	5	4	1	16	7	3		3
Sewer-pipe presses	4	2	1	1	2	4		
Tile machines	2	3	2	2	2	10	1	
All other		7			1			2
Mold sanders						1		1
All other machines						1		
Kilns—								
Clamp	2	4	3	2		14		1
Down-draft—								
Round	31	17		3	18	110	1	3
Rectangular			1	6	1	9		6
Muffle				3	1			
Continuous						1		
All other				1		10		2
Dryers	4	2		3	9	16	1	4
Idle machinery	4	1	1	5	5			1
Establishments, classified by number of persons employed, not including proprietors and firm members:								
Total number of establishments	18	28	7	5	8	14	4	8
No employees				1				
Under 5	3	8	2	1	1	1	3	2
5 to 20	10	17	4		4	5	1	3
21 to 50	4	2	1	2	2	1		2
51 to 100					1	2		1
101 to 250	1	1		1		2		
251 to 500						2		
501 to 1,000						1		
Over 1,000								

[1] The report for the Twelfth Census is for the calendar year 1899.
[2] Includes establishments distributed as follows: Florida, 1; Idaho, 1; Nebraska, 1; New Hampshire, 2; New Mexico, 1; North Dakota, 1; Vermont, 1.
[3] Including acid-proof brick, adobes, aquaria ornaments, condensers, cupola blocks, fire kindlers, gas logs, glass-house furnace blocks, grate tile, grave markers, hollow brick, lead pots, open-hearth runner brick, patent panels, perforated paving brick, porous cups, porous hollow brick, sewer brick, sidewalk tile and blocks, statuary, stone pumps, toy marbles, vases, web tile, and well brick and tile.

Twelfth Census of the United States.

CENSUS BULLETIN.

No. 195. WASHINGTON, D. C. June 18, 1902.

MANUFACTURES.

LEATHER, TANNED, CURRIED, AND FINISHED.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

Sir: I transmit herewith, for publication in bulletin form, a report on the manufacture of leather, tanned, curried, and finished, prepared under my direction by Mr. George C. Houghton, acting in the capacity of an expert special agent of the division of manufactures of the Census Office.

At no other census has a special report been made of leather, tanned, curried, and finished, and the statistics here presented are, therefore, of unusual interest. The factory manufacture of boots and shoes will be similarly treated, but it has been thought advisable, to submit now, in a single table for comparative purposes, a condensed view of the entire leather manufacture for the half century. Comparative tables are also given for boot and shoe cut stock, saddlery and harness, leather goods, and for leather belting and hose.

The statistics are presented in 17 tables. Table 1 is a comparative summary of the principal leather manufactures, 1850 to 1900; Table 2 is a comparative summary of the manufacture of boot and shoe cut stock, 1880 to 1900; Table 3 is a comparative summary of saddlery and harness, 1850 to 1900; Table 4 is a comparative summary of leather goods, pocketbooks, trunks, and valises, 1860 to 1900; Table 5 is a comparative summary of leather belting and hose, 1850 to 1900; Table 6 is a comparative summary of leather, tanned, curried, and finished, 1850 to 1900; Table 7 is a summary of all establishments manufacturing leather, tanned, curried, and finished, including those with a product of less than $500; Table 8 is a comparative summary of leather, tanned, curried, and finished, by states, 1890 and 1900, with kinds, quantity, and value of products; Table 9 shows the rank of states according to capital, average number of wage-earners, total wages, and value of products, 1890 and 1900; Table 10 shows, by states, the average number of wage-earners, 1890 and 1900, by kind, and the percentage each is of the total; Table 11 shows the miscellaneous expenses, 1900, with percentage each class is of total; Table 12 shows the materials and products, 1900, by kinds, quantities, and values; Table 13 shows the kinds of leather made in 1900, by establishments, according to states; Table 14 is an exhibit of the exports of the principal kinds of leather, 1891 to 1900, inclusive; Table 15 presents statistics as to capital, etc., of industrial combinations in the manufacture of leather, 1900; Table 16 is a summary of the manufacturing statistics of these combinations, 1900; Table 17 is a detailed summary of leather, tanned, curried, and finished, 1900.

In drafting the schedules of inquiry for the census of 1900 care was taken to preserve the basis of comparison with prior censuses. Comparison may be made safely with respect to all the items of inquiry except those relating to capital, salaried officials, clerks, etc., and their salaries, the average number of employees, and the total amount of wages paid. Live capital—that is, cash on hand, bills receivable, unsettled ledger accounts,

raw materials, stock in process of manufacture, finished products on hand, and other sundries—was first called for at the census of 1890. No definite attempt was made, prior to the census of 1890, to secure a return of live capital invested.

Changes were made in the inquiries relating to employees and wages in order to eliminate defects found to exist on the form of inquiry adopted in 1890. At the census of 1890 the average number of persons employed during the entire year was called for, and also the average number employed at stated weekly rates of pay, and the average number was computed for the actual time the establishments were reported as being in operation. At the census of 1900 the greatest and least numbers of employees were reported, and also the average number employed during each month of the year. The average number of wage-earners (men, women, and children) employed during the entire year was ascertained by using 12, the number of calendar months, as a divisor into the total of the average numbers reported for each month. This difference in the method of ascertaining the average number of wage-earners during the entire year may have resulted in a variation in the number, and should be considered in making comparisons.

At the census of 1890 the number and salaries of proprietors and firm members actively engaged in the business or in supervision were reported, combined with clerks and other officials. In cases where proprietors and firm members were reported without salaries, the amount that would ordinarily be paid for similar services was estimated. At the census of 1900 only the number of proprietors and firm members actively engaged in the industry or in supervision was ascertained, and no salaries were reported for this class. It is therefore impossible to compare the number and salaries of salaried officials of any character for the two censuses.

Furthermore, the schedules for 1890 included in the wage-earning class, overseers, foremen, and superintendents (not general superintendents or managers), while the census of 1900 separates from the wage-earning class such salaried employees as general superintendents, clerks, and salesmen. It is possible and probable that this change in the form of the question has resulted in eliminating from the wage-earners, as reported by the present census, many high-salaried employees included in that group for the census of 1890.

In some instances, the number of proprietors and firm members, shown in the accompanying tables, falls short of the number of establishments reported. This is accounted for by the fact that no proprietors or firm members are reported for corporations or cooperative establishments. The number of salaried officials, clerks, etc., is the greatest number reported employed at any one time during the year.

The reports show a capital of $173,977,421 invested in the manufacture of leather, tanned, curried, and finished. This sum represents the value of land, buildings, machinery, tools, and implements, and the live capital utilized, but does not include the capital stock of any of the manufacturing corporations. The value of the products is returned at $204,038,127, to produce which involved an outlay of $3,158,842 for salaries of officials, clerks, etc.; $22,591,091 for wages; $7,023,416 for miscellaneous expenses, including rent, taxes, etc.; and $155,000,004 for materials used, mill supplies, freight, and fuel. It is not to be assumed, however, that the difference between the aggregate of these sums and the value of the products is in any sense indicative of the profits in the manufacture of the products during the census year. The census schedule takes no cognizance of the cost of selling manufactured articles, or of interest on capital invested, or of the mercantile losses incurred in the business, or of depreciation in plant. The value of the product given is the value as obtained or fixed at the shop or factory. This statement is necessary in order to avoid erroneous conclusions from the figures presented.

Very respectfully,

S. N. D. North

Chief Statistician for Manufactures.

LEATHER, TANNED, CURRIED, AND FINISHED.

By George C. Houghton, *Expert Special Agent.*

This report presents the statistics of the manufacture of leather, tanned, curried, and finished, at the census of 1900. In this classification are included leather, morocco; leather, patent and enameled; leather, tanned and curried; and leather, dressed skins, which were separately reported in 1890. In all the comparative tables these manufactures, so far as reported for each decade of the half century, are similarly combined under the same classification.

The statistics of the principal manufactures of leather from 1850 to 1900, inclusive, are given in a preliminary table, as they are of interest for comparative purposes. The differing classifications, from decade to decade, have been made uniform, so that the statistics representing the same kinds of manufactures are really comparable.

The leather manufactures may be taken as fairly representative of national progress and industrial development. At no time in the history of the United States have there been any really important imports of leather manufactures. The domestic production of leather and leather goods has continued from 1789 fairly to supply the home demand, and within the past two decades a considerable export movement has developed.

Table 1 is a comparative summary of the principal leather manufactures for the census years 1850 to 1900, inclusive. In the total value of the products of the group there is necessarily some duplication, because leather is valued as a product in a number of the manufactures, and as material also in some of the others. This duplication is probably no more than appears in groupings of some other manufactures, and does not affect the number of establishments, capital invested, wage-earners employed, and wages paid.

Table 1.—PRINCIPAL LEATHER MANUFACTURES: COMPARATIVE SUMMARY, 1850 TO 1900.

	Year.	Number of establishments.	Capital.	Wage-earners.		Cost of materials used.	Value of products.
				Average number.	Total wages.		
Total	1900	40,751	$356,581,838	251,920	$105,571,004	$405,208,784	$615,720,395
Boots and shoes, factory product	1900	1,600	101,795,233	142,922	59,175,883	169,604,054	261,028,580
Leather, tanned, curried, and finished[1]	1900	1,306	173,977,421	52,109	22,591,091	155,000,004	204,038,127
Saddlery and harness	1900	12,934	43,354,136	24,123	10,725,647	33,127,926	62,630,902
Leather goods, pocketbooks, trunks, and valises	1900	772	13,505,819	14,990	5,679,767	13,485,761	26,905,814
Boots and shoes, custom work and repairing	1900	23,560	9,262,134	9,698	4,128,361	8,288,664	26,550,678
Boot and shoe cut stock	1900	342	7,003,080	6,155	2,230,691	17,800,282	23,242,892
Belting and hose, leather	1900	105	7,410,219	1,667	913,937	7,500,413	10,623,177
Boot and shoe uppers	1900	132	273,796	256	125,627	401,680	700,225
Total	1890	33,970	265,687,684	233,496	107,978,195	307,376,267	529,311,269
Boots and shoes, factory product	1890	2,082	95,282,311	133,690	60,667,145	118,785,831	220,649,358
Leather, tanned, curried, and finished	1890	1,749	97,653,898	42,095	21,090,176	122,221,982	171,063,337
Saddlery and harness	1890	7,931	35,346,620	22,672	10,908,918	24,674,225	52,970,801
Leather goods, pocketbooks, trunks, and valises	1890	613	11,148,694	10,074	4,448,796	8,785,822	18,814,885
Boots and shoes, custom work and repairing	1890	20,803	14,230,081	16,981	7,422,377	10,403,383	34,856,651
Boot and shoe cut stock	1890	344	5,401,834	4,992	1,891,031	13,744,655	17,908,346
Belting and hose, leather	1890	93	4,973,420	1,342	780,615	6,132,704	8,633,634
Boot and shoe uppers	1890	317	1,216,026	1,353	609,324	1,902,925	3,346,002
Leather, dressed skins	1890	38	434,800	297	159,813	724,739	1,072,755
Total	1880	32,327	152,380,350	207,096	79,747,644	308,679,003	461,189,543
Boots and shoes, factory product	1880	1,959	42,994,028	111,152	43,001,438	102,442,442	166,050,354
Leather, tanned, curried, and finished	1880	5,426	67,117,674	34,887	14,062,456	145,320,852	184,865,633
Saddlery and harness	1880	7,999	16,508,019	21,446	7,997,752	19,968,716	38,081,648
Leather goods, pocketbooks, trunks, and valises	1880	378	3,961,256	6,998	2,737,726	5,951,039	11,068,749
Boots and shoes, custom work and repairing	1880	16,013	11,364,273	22,667	7,993,706	12,524,133	30,870,127
Boot and shoe cut stock	1880	172	1,210,300	2,885	785,482	5,939,249	7,581,635
Belting and hose, leather	1880	97	2,749,299	1,229	607,287	5,021,203	6,531,249
Boot and shoe uppers	1880	81	209,264	437	170,425	448,104	790,842
Leather, dressed skins	1880	202	6,266,237	5,395	2,441,372	11,068,265	15,399,311

[1] Includes leather, dressed skins.

TABLE 1.—PRINCIPAL LEATHER MANUFACTURES: COMPARATIVE SUMMARY, 1850 TO 1900—Continued.

	Year.	Number of establishments.	Capital.	WAGE-EARNERS		Cost of materials used.	Value of products.
				Average number.	Total wages.		
Total	1870	38,990	$128,812,105	199,826	$76,150,297	$235,341,371	$385,241,254
Leather, tanned, curried, and finished	1870	7,459	59,784,362	34,845	14,108,201	116,469,899	154,377,625
Saddlery and harness	1870	7,607	13,935,961	23,557	7,046,207	16,068,310	32,709,981
Leather goods, pocketbooks, trunks, and valises	1870	295	2,638,389	4,329	2,171,416	3,889,695	9,091,543
Boots and shoes	1870	28,428	48,994,366	135,889	51,972,712	93,582,528	181,644,090
Belting and hose, leather	1870	91	2,118,577	808	454,187	3,231,204	4,658,043
Leather, dressed skins	1870	110	1,340,450	898	397,574	2,099,735	2,859,972
Total	1860	21,556	70,718,431	165,086	44,308,880	102,084,492	187,552,528
Leather, tanned, curried, and finished	1860	5,175	38,908,170	26,145	8,144,278	49,534,318	75,318,475
Saddlery and harness	1860	3,621	6,478,184	12,285	4,150,865	6,606,415	14,169,037
Leather goods, pocketbooks, trunks, and valises	1860	214	1,244,000	3,160	901,741	1,990,573	4,163,956
Boots and shoes	1860	12,486	23,357,627	123,026	30,938,080	42,728,174	91,889,298
Boot and shoe cut stock	1860	1	25,000	15	8,184	31,400	149,740
Belting and hose, leather	1860	46	588,000	354	134,952	915,271	1,481,750
Leather, dressed skins	1860	13	117,450	101	31,230	278,341	380,272
Total	1850	21,679	40,232,503	145,988	31,877,342	55,873,881	109,734,643
Leather, tanned, curried, and finished	1850	6,664	22,582,795	25,379	6,492,130	26,038,748	42,932,528
Saddlery and harness	1850	8,515	3,969,379	12,958	3,154,008	4,427,006	9,935,474
Leather goods, pocketbooks, trunks, and valises	1850	165	522,610	2,142	543,840	1,056,835	2,213,363
Boots and shoes	1850	11,305	12,924,919	105,254	21,622,608	23,848,374	53,967,408
Belting and hose, leather	1850	8	40,800	39	15,208	111,785	160,500
Leather, dressed skins	1850	22	192,000	216	49,548	391,138	525,370

It appears from Table 1 that the total production of the leather manufactures named increased from $109,734,643 in 1850 to $615,720,395 in 1900, or about sixfold, while the population increased about three and one-quarter fold. With less than double the number of establishments the capital increased nearly ninefold, the number of wage-earners employed nearly doubled, and the wages paid increased more than threefold. The value of the product on a per capita basis of the total population was $4.73 in 1850; $5.96 in 1860; $10 ($8 gold basis) in 1870; $9.20 in 1880, when prices were high; $8.45 in 1890, and $8.07 in 1900, the decrease in the latter years being partly due to the lower cost of production. It may be stated also, in explanation, that the reports for leather production previous to 1890 embraced separate returns for leather, tanned, and for leather, curried. This, to a large extent, duplicated the value of the leather, tanned. In 1890 the leather, tanned and curried, was given in one item and hence the duplication not appearing, the value of the leather product for 1890 appeared to be less than for 1880, although it is well known that there was an increase of from 20 to 25 per cent.

It was not until the census of 1880 that the manufacture of boots and shoes, factory product, was reported separately from boots and shoes, custom work and repairing. Great improvements in factory methods have steadily reduced the cost of that product, so that, while people buy more shoes, the cost per pair is less. It may be noted also that, with the increase in the shoe-factory production, there has been a decrease in custom work and repairing. The latter, which was $30,870,127 in 1880, increased to $34,856,651 in 1890, and decreased to $26,550,678 in 1900.

The manufacture of boot and shoe cut stock might be considered almost as part of the factory manufacture of boots and shoes, but the increase in the value of this product from $7,531,635 in 1880 to $17,903,846 in 1890, and to $23,242,892 in 1900, proves that shoe manufacturers find it an advantage to buy the soles, heels, counters, etc., cut and assorted, rather than to do their own cutting from the sole-leather sides.

Table 2 is a comparative summary for boot and shoe cut stock, 1880 to 1900, with per cent of increase for each decade.

TABLE 2.—BOOT AND SHOE CUT STOCK: COMPARATIVE SUMMARY, 1880 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.			PER CENT OF INCREASE.	
	1900	1890	1880	1890 to 1900	1880 to 1890
Number of establishments	342	344	172	[1]0.6	100.0
Capital	$7,003,080	$5,401,834	$1,210,300	29.6	346.3
Salaried officials, clerks, etc.:					
Number	342	[2]511	(3)	[1]33.1	.....
Salaries	$302,889	[2]$432,240	(3)	[1]29.9	.....
Wage-earners, average number	6,155	4,992	2,885	23.3	73.0
Total wages	$2,280,691	$1,891,031	$735,482	18.0	157.1
Men, 16 years and over	3,784	3,152	1,235	20.1	155.2
Wages	$1,700,316	$1,462,389	(3)	16.3	.....
Women, 16 years and over	2,212	1,738	1,422	27.3	22.2
Wages	$504,993	$410,164	(3)	23.1	.....
Children, under 16 years	159	102	228	55.9	[1]55.3
Wages	$25,382	$18,478	(3)	37.4	.....
Miscellaneous expenses	$490,548	$411,472	(4)	19.2	.....
Cost of materials used	$17,800,282	$13,744,655	$5,939,249	29.5	131.4
Value of products	$23,242,892	$17,903,846	$7,531,635	29.8	137.7

[1] Decrease.
[2] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.
[3] Not reported separately.
[4] Not reported.

For an accurate basis of comparison of the boot and shoe factory returns of 1900 with previous census years, the figures for the increase in number of wage-earners employed, wages paid, and value of product for the cut-sole manufacture should be considered. A considerable

portion of cut-leather product is sold for custom work and repairing, but so much of the increase as comes from sales to the shoe factories will account for comparative reductions in the number of shoe-factory employees and the total wages paid, as well as for some of the increase in the cost of materials used.

The manufacture of saddlery and harness, leather goods, pocketbooks, trunks, and valises, as also leather belting and hose, all show large percentages of increase in the value of products. In these lines, unlike leather and boots and shoes, there has been an active competition from imports. The industries have made steady progress, and now have pretty good control of the home market, in addition to developing a considerable export trade.

Table 3 is a comparative summary for saddlery and harness, 1850 to 1900, with per cent of increase for each decade.

TABLE 3.—SADDLERY AND HARNESS: COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments	12,984	7,981	7,999	7,607	3,621	3,515	63.1	[1]0.9	5.2	110.1	3.0
Capital	$43,354,136	$35,346,620	$16,508,019	$13,935,961	$6,478,184	$3,969,379	22.7	114.1	18.5	115.1	63.2
Salaried officials, clerks, etc., number	1,976	[2]7,654	(3)	(3)	(3)	(3)	[1]74.2	.....	.....	.....	.....
Salaries	$1,587,651	[2]$5,121,927	(3)	(3)	(3)	(3)	[1]69.0	.....	.....	.....	.....
Wage-earners, average number	24,123	22,672	21,446	23,557	12,285	12,958	6.4	5.7	[1]9.0	91.8	[1]5.2
Total wages	$10,725,647	$10,908,918	$7,997,752	$7,046,207	$4,150,365	$3,154,008	[1]1.7	36.4	13.5	69.8	31.6
Men, 16 years and over	22,352	21,376	20,024	22,716	11,963	12,598	4.6	6.8	[1]11.8	89.9	[1]5.0
Wages	$10,356,924	$10,596,124	(3)	(3)	(3)	(3)	[1]2.2	.....	.....	.....	.....
Women, 16 years and over	1,147	962	561	375	322	360	19.2	71.5	49.6	16.5	[1]10.6
Wages	$280,670	$265,395	(3)	(3)	(3)	(3)	5.8	.....	.....	.....	.....
Children, under 16 years	624	334	861	466	(3)	(3)	86.8	[1]61.2	84.8	.....	.....
Wages	$88,053	$47,399	(3)	(3)	(3)	(3)	85.8	.....	.....	.....	.....
Miscellaneous expenses	$2,996,787	$2,666,690	(4)	(4)	(4)	(4)	12.4	.....	.....	.....	.....
Cost of materials used	$33,127,926	$24,674,225	$19,968,716	$16,068,310	$6,606,415	$4,427,006	34.3	23.6	24.3	143.2	49.2
Value of products, including custom work and repairing.	$62,630,902	$52,970,801	$38,081,643	$32,709,981	$14,169,037	$9,935,474	18.2	39.1	16.4	130.9	42.6

[1] Decrease.
[2] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.
[3] Not reported separately.
[4] Not reported.

The statistics show that the value of products of this manufacture have increased more than sixfold during the half century.

Table 4 is a comparative summary for leather goods, pocketbooks, trunks, and valises, 1860 to 1900, with per cent of increase for each decade.

TABLE 4.—LEATHER GOODS, POCKETBOOKS, TRUNKS, AND VALISES: COMPARATIVE SUMMARY, 1860 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.					PER CENT OF INCREASE.			
	1900	1890	1880	1870	1860	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870
Number of establishments	772	613	378	295	214	25.9	62.2	28.1	37.9
Capital	$13,505,819	$11,148,694	$3,961,256	$2,688,889	$1,244,000	21.1	181.4	50.1	112.1
Salaried officials, clerks, etc., number	1,473	[1]1,234	(2)	(2)	(2)	19.4	.....	.....	.....
Salaries	$1,400,308	[1]$1,253,552	(2)	(2)	(2)	11.7	.....	.....	.....
Wage-earners, average number	14,990	10,074	6,998	4,329	3,160	48.8	44.0	61.6	37.0
Total wages	$5,679,767	$4,448,796	$2,737,726	$2,171,416	$901,741	27.7	62.5	26.1	140.8
Men, 16 years and over	10,738	8,122	5,574	3,302	2,298	32.2	45.7	68.8	43.7
Wages	$4,702,553	$3,973,310	(2)	(2)	(2)	18.4	.....	.....	.....
Women, 16 years and over	3,510	1,610	801	750	862	118.0	101.0	6.8	[3]13.0
Wages	$858,715	$421,617	(2)	(2)	(2)	103.7	.....	.....	.....
Children, under 16 years	742	342	628	277	(2)	117.0	[3]45.1	124.9	.....
Wages	$118,499	$53,869	(2)	(2)	(2)	120.0	.....	.....	.....
Miscellaneous expenses	$1,799,977	$970,224	(4)	(4)	(4)	85.5	.....	.....	.....
Cost of materials used	$13,485,761	$8,785,822	$5,951,039	$3,889,695	$1,990,573	53.5	47.6	53.0	95.4
Value of products, including custom work and repairing.	$26,905,814	$18,814,885	$11,068,749	$9,091,543	$4,163,956	43.0	70.0	21.7	118.3

[1] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.
[2] Not reported separately.
[3] Decrease.
[4] Not reported.

It will be observed that the increase in value of products during the forty years was more than sixfold.

Table 5 is a comparative summary for leather belting and hose, 1850 to 1900, with per cent of increase for each decade.

TABLE 5.—LEATHER BELTING AND HOSE: COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments	105	93	96	91	46	8	12.9	[1]3.1	5.5	97.8	475.0
Capital	$7,410,219	$4,973,420	$2,748,799	$2,118,577	$588,000	$40,800	49.0	80.9	29.7	260.3	1,341.2
Salaried officials, clerks, etc., number	443	[2]279	(3)	(3)	(3)	(3)	58.8	.....	.....	.....	.....
Salaries	$484,874	[2]$334,139	(3)	(3)	(3)	(3)	45.1	.....	.....	.....	.....
Wage-earners, average number	1,667	1,342	1,227	808	354	39	24.2	9.4	51.9	128.2	807.7
Total wages	$913,937	$780,615	$606,087	$454,187	$134,952	$15,208	17.1	28.8	33.4	236.6	787.4
Men, 16 years and over	1,605	1,286	1,188	784	329	36	24.8	13.0	45.2	138.3	813.9
Wages	$899,643	$768,156	(3)	(3)	(3)	(3)	17.1	.....	.....	.....	.....
Women, 16 years and over	28	36	39	8	25	3	[1]22.2	7.7	387.5	[1]68.0	733.3
Wages	$8,173	$9,743	(3)	(3)	(3)	(3)	[1]16.1	.....	.....	.....	.....
Children, under 16 years	34	20	50	16	(3)	(3)	70.0	[1]60.0	212.5	.....	.....
Wages	$6,121	$2,716	(3)	(3)	(3)	(3)	125.4	.....	.....	.....	.....
Miscellaneous expenses	$418,155	$268,278	(4)	(4)	(4)	(4)	55.9	.....	.....	.....	.....
Cost of materials used	$7,500,413	$6,132,704	$5,019,853	$3,231,204	$915,271	$111,785	22.3	22.2	55.4	253.0	718.8
Value of products	$10,623,177	$8,633,634	$6,525,737	$4,558,043	$1,481,750	$160,500	23.0	32.3	43.2	207.6	823.2

[1] Decrease.
[2] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table.
[3] Not reported separately.
[4] Not reported.

Since 1850 this manufacture has increased from $160,500 to $10,623,177, or over sixty-six fold.

Table 6 is a comparative summary for the manufacture of leather, tanned, curried, and finished, at the censuses of 1850 to 1900, inclusive, with the percentages of increase for each decade.

TABLE 6.—LEATHER, TANNED, CURRIED, AND FINISHED: COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.						PER CENT OF INCREASE.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments	1,306	1,787	5,628	7,569	5,188	6,686	[1]26.9	[1]68.2	[1]25.6	45.9	[1]22.4
Capital	$173,977,421	$98,088,698	$73,383,911	$61,124,812	$39,025,620	$22,774,795	77.4	33.7	20.1	56.6	71.3
Salaried officials, clerks, etc., number	2,442	[2]2,635	(3)	(3)	(3)	(3)	[1]7.3	.....	.....	.....	.....
Salaries	$3,158,842	[2]$2,735,890	(3)	(3)	(3)	(3)	15.5	.....	.....	.....	.....
Wage-earners, average number	52,109	42,392	40,282	35,243	26,246	25,595	22.9	5.2	14.3	34.3	2.5
Total wages	$22,591,091	$21,249,989	$16,503,828	$14,505,775	$8,175,508	$6,541,678	6.3	28.8	13.8	77.4	25.0
Men, 16 years and over	50,402	41,733	39,081	34,423	25,858	25,129	20.8	6.8	13.5	33.1	2.9
Wages	$22,140,234	$21,094,335	(3)	(3)	(3)	(3)	5.0	.....	.....	.....	.....
Women, 16 years and over	1,173	264	475	353	388	466	344.3	[1]44.4	34.6	[1]9.0	[1]16.7
Wages	$389,167	$82,699	(3)	(3)	(3)	(3)	310.1	.....	.....	.....	.....
Children, under 16 years	534	395	726	467	(3)	(3)	35.2	[1]45.6	55.5	.....	.....
Wages	$111,690	$72,955	(3)	(3)	(3)	(3)	53.1	.....	.....	.....	.....
Miscellaneous expenses	$7,023,416	$5,397,672	(4)	(4)	(4)	(4)	30.1	.....	.....	.....	.....
Cost of materials used	$155,000,004	$122,946,721	$156,384,117	$118,569,634	$49,812,659	$26,429,881	26.1	[1]21.4	31.9	138.0	88.5
Value of products, including custom work	$204,038,127	$172,136,092	$200,264,944	$157,237,597	$75,698,747	$43,457,898	18.5	[1]14.0	27.4	107.7	74.2

[1] Decrease.
[2] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 17.)
[3] Not reported separately.
[4] Not reported.

Table 6 shows a notable decrease in the number of establishments from 1870 to 1900, but the capital has largely increased from decade to decade during the entire half century, the percentage of gain for the decade from 1890 to 1900 being the greatest, 77.4 per cent. The decrease in the number of establishments is most marked from 1880 to 1890, when there was a loss of 3,841 or 68.2 per cent. The census of 1900 shows a further falling off of 26.9 per cent. That there were fewer establishments in 1880 than ten years previous is due, doubtless, in a measure, to the more general introduction of labor-saving machinery. The inventive genius which had been applied to the working out of the problem of producing leather with less hand work was then just beginning to find appreciation. Large quantities of machinery adapted to the various processes of manufacture were installed, superseding much hand work and resulting in the absorption of many of the smaller concerns for which the competition became too sharp.

It is a curious feature of the business that, while in nearly every other industry advantage has been taken of labor-saving devices as they have been perfected, leather manufacturers were inclined, until about 1880, to discourage any attempt to supersede manual labor with machinery. They preferred, also, to adhere to the formulas and tanning processes which had been handed down for generations from father to son, rather than to take advantage of the scientific knowledge which the chemists had to offer them in the way of improved and more economical methods. As a result of these prejudices, the evolution of the business, until recently, was

very slow. During the past twenty years, however, the most radical changes have taken place, so that this industry has been completely revolutionized, and the up-to-date leather manufactory is now equipped with numerous appliances for manipulating the hide during the various stages through which it passes from the lime vat to the leather-stretching and measuring machines. Many patented processes and compounds for tanning and tawing, as well as for depilating hides and skins, are also in use, so that it may be said with truth that the present-day leather manufacturer is no less enterprising in the use of what modern invention has to offer him than the leaders in any other line of productive industry.

The introduction of machinery, however, accounts for only a part of the apparent discrepancy in the figures as given decade by decade. In 1870 and 1880 there were, without doubt, many duplications, as under the system then employed tanning and currying were considered as separate industries. As a consequence, when these branches of the leather business were carried on by the same firm, a distinction was made, and the tanning and the currying branches were each credited as supporting separate establishments. Thus in 1880 there were 2,319 establishments classified under "Leather, curried," and 3,105 under "Leather, tanned." In 1870 the total included 4,237 establishments under "Leather, tanned," and 3,083 under "Leather, curried." In 1900, as at the census of 1890, currying and tanning were treated as one industry.

Still another cause for the decrease in the number of establishments, applicable to the past ten years, is found in the combination of the majority of the sole-leather tanneries and a considerable number of the tanneries producing upper leather. In accordance with the policy of the management of these combinations, many of the plants which were in operation when they were acquired by them have been shut down and dismantled. As a result, in part, of these consolidations there has been a decrease in the number of salaried officials, clerks, etc., the total for 1900 being 2,442, as compared with 2,635 in 1890, a falling off of 7.3 per cent. The salaries paid, however, show an increase of 15.5 per cent. The average number of wage-earners has increased since the last decade from 42,392 to 52,109, or 22.9 per cent. The largest relative increase was in the average number of women, an increase of 909, or 344.3 per cent. This is the more marked, because every preceding decade but one, since 1850, showed a decrease in this class of wage-earners, the number employed in 1850—466—having decreased to 264 in 1890. The causes assigned for these changed conditions are discussed at length in connection with Table 11. Children under 16 years of age show an increase of 35.2 per cent from 1890 to 1900, compared with a decrease of 45.6 during the decade from 1880 to 1890.

The total wages show a steady increase for each decade of the half century. The increase in 1900 over 1890 is 6.3 per cent—the increase in wages of men being 5 per cent; of women, 310.1 per cent; and of children, 53.1 per cent. As wages for the different classes of wage-earners were not reported separately previous to 1890, no comparison is possible except for the past decade.

Miscellaneous expenses, which also were not reported separately previous to 1890, show an increase of 30.1 per cent during the decade 1890 to 1900. The cost of materials used increased 26.1 per cent over 1890. There was a decrease of 21.4 per cent from 1880 to 1890. In 1880 the increase over 1870 was 31.9 per cent, following the extraordinary advance in cost at the census of 1870 of 138 per cent.

The value of products, including custom work, reported for 1900 was $204,038,127 as against $172,136,092 in 1890, an increase of 18.5 per cent. The decade just preceding showed a decrease of 14 per cent, that ending in 1880 an increase of 27.4 per cent, and that ending with 1870 an increase of 107.7 per cent.

Table 7 is a summary of all establishments, 1900, including establishments with a product of less than $500.

There were 249 establishments having a product of less than $500 each, the total value of products being $54,795, or an average of $220 for each establishment.

TABLE 7.—LEATHER, TANNED, CURRIED, AND FINISHED: SUMMARY FOR ALL ESTABLISHMENTS, 1900.

CLASSES.	Number of establishments.	Capital.	Proprietors and firm members.	WAGE-EARNERS.		Miscellaneous expenses.	COST OF MATERIALS USED.				Value of products, including custom work.
				Average number.	Total wages.		Total.	Purchased in raw state.	Purchased in partially manufactured form.	Fuel, freight, etc.	
Total	1,555	$174,078,125	1,740	52,123	$22,593,004	$7,025,633	$155,035,378	$134,533,099	$17,653,537	$2,848,742	$204,092,922
Establishments with a product of less than $500	249	100,704	267	14	1,913	2,217	35,374	30,446	4,467	461	54,795
All other establishments	1,306	173,977,421	1,473	52,109	22,591,091	7,023,416	155,000,004	134,502,653	17,649,070	2,848,281	204,038,127

A large proportion of these so-called tanneries are located in the South, and the owners or proprietors are usually engaged in some other business, the tanning being done largely for local accommodation. It is doubtful whether many of these establishments are entitled to be classified as tanneries in the general acceptation of the term, but as they were reported at former censuses under this classification, it was considered best to include them at the census of 1900.

Table 8 is a comparative summary showing the totals for the manufacture of leather, tanned, curried, and finished, by states, as reported at the censuses of 1890 and 1900, with kinds, quantities, and values of products.

TABLE 8.—LEATHER, TANNED, CURRIED, AND FINISHED:

		Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.			
							Total.		Men, 16 years and over.	
					Number.	Salaries.	Average number.	Wages.	Average number.	Wages.
1	United States	1900	1,306	$173,977,421	2,442	$3,158,842	52,109	$22,591,091	50,402	$22,140,234
		1890	1,787	98,088,698	[1] 2,635	[1] 2,735,890	42,392	21,249,989	41,783	21,094,335
2	Alabama	1900	18	464,005	8	7,200	165	71,440	165	71,440
		1890	21	38,045	10	3,317	41	7,997	39	7,797
3	Arkansas	1900	3	2,190	.....	.....	3	750	3	750
		1890	5	13,525	1	250	8	2,564	8	2,564
4	California	1900	45	4,820,205	75	106,458	1,454	870,973	1,437	864,719
		1890	62	3,119,298	94	119,912	1,099	706,419	1,095	705,019
5	Connecticut	1900	7	639,408	12	13,506	179	90,058	168	87,158
		1890	7	369,021	21	16,448	103	50,995	99	49,745
6	Delaware	1900	20	5,178,804	156	166,139	2,457	1,044,903	1,784	861,094
		1890	20	1,791,259	85	106,560	1,364	624,812	1,163	581,157
7	Georgia	1900	36	1,434,390	26	20,413	410	92,030	408	91,980
		1890	32	373,610	38	22,444	217	71,925	215	71,805
8	Illinois	1900	27	4,751,474	86	176,646	2,263	1,145,170	2,242	1,141,259
		1890	30	4,876,671	83	104,604	1,864	1,086,318	1,859	1,085,896
9	Indiana	1900	23	1,321,455	27	26,872	400	161,942	400	161,942
		1890	46	780,757	36	28,764	321	144,616	319	144,501
10	Kentucky	1900	23	4,681,389	53	61,063	810	321,658	810	321,658
		1890	31	2,519,339	53	61,097	582	289,931	579	288,969
11	Louisiana	1900	3	6,193	.....	.....	4	1,341	4	1,341
		1890	4	85,060	3	3,936	17	8,424	17	8,424
12	Maine	1900	31	1,376,106	36	26,798	587	229,268	584	228,761
		1890	51	2,231,702	59	48,950	852	362,841	841	359,529
13	Maryland	1900	22	1,088,725	18	17,429	455	156,182	442	152,716
		1890	32	594,478	43	33,109	313	115,439	306	113,399
14	Massachusetts	1900	119	15,317,940	355	405,648	7,010	3,379,698	6,955	3,358,807
		1890	197	11,646,893	368	465,068	7,777	4,240,911	7,748	4,232,258
15	Michigan	1900	27	5,214,042	72	95,507	1,427	559,142	1,425	558,498
		1890	20	1,200,982	41	35,418	337	163,176	336	162,964
16	Minnesota	1900	9	23,060	.....	.....	18	3,550	18	3,550
		1890	10	482,457	8	7,325	104	52,942	103	52,917
17	Mississippi	1900	4	2,460	.....	.....	1	240	1	240
		1890	4	14,220	3	1,289	10	2,757	10	2,757
18	Missouri	1900	9	922,083	20	35,360	185	98,578	184	98,422
		1890	17	691,353	18	30,600	310	163,687	310	163,687
19	New Hampshire	1900	12	1,900,277	51	54,275	552	219,292	521	209,728
		1890	18	1,303,992	41	36,479	668	301,077	654	297,907
20	New Jersey	1900	77	9,906,119	276	412,847	4,178	2,057,197	4,101	2,038,955
		1890	66	6,314,238	175	240,037	3,121	1,857,540	3,081	1,846,235
21	New York	1900	147	19,062,817	193	264,724	6,530	2,775,115	6,397	2,738,721
		1890	228	14,624,047	398	421,914	6,280	2,957,507	6,216	2,937,286
22	North Carolina	1900	75	1,299,798	28	29,259	366	105,132	366	105,132
		1890	55	116,364	25	10,213	107	24,188	104	23,978
23	Ohio	1900	58	5,822,580	74	80,680	1,384	617,409	1,384	617,409
		1890	113	4,380,015	122	119,410	1,447	708,332	1,441	707,009
24	Oregon	1900	16	173,144	1	900	53	27,532	52	27,332
		1890	13	128,750	15	11,816	30	18,196	30	18,196
25	Pennsylvania	1900	254	57,320,227	506	643,895	13,396	5,457,518	12,839	5,311,200
		1890	410	30,165,420	616	567,168	10,956	5,222,421	10,736	5,172,897
26	Rhode Island	1900	5	157,900	6	7,930	69	32,092	67	31,572
		1890	9	400,784	17	19,033	86	50,145	86	50,145
27	South Carolina	1900	5	5,595	.....	.....	10	2,000	10	2,000
		1890	4	12,093	1	117	12	3,116	12	3,116
28	Tennessee	1900	44	3,444,197	29	35,496	803	239,870	799	239,586
		1890	60	732,230	46	28,563	612	186,469	611	186,394
29	Texas	1900	11	24,763	2	1,300	29	9,216	25	8,638
		1890	7	92,450	5	2,296	32	20,480	32	20,480
30	Utah	1900	4	8,625	.....	.....	3	1,500	3	1,500
		1890	4	50,820	1	416	23	16,030	23	16,030
31	Vermont	1900	8	160,906	5	5,450	68	31,225	68	31,225
		1890	17	266,640	14	15,509	146	64,615	146	64,615
32	Virginia	1900	65	4,032,387	59	84,602	889	313,677	886	313,256
		1890	82	945,014	58	37,948	401	121,078	389	119,803
33	Washington	1900	3	17,600	.....	.....	3	2,125	3	2,125
		[2] 1890	.....	.....	.....	.....	.....	.....	.....	.....
34	West Virginia	1900	46	5,049,615	37	62,889	664	224,444	663	224,399
		1890	50	567,072	30	15,450	210	88,487	210	88,487
35	Wisconsin	1900	42	18,283,591	230	314,956	5,262	2,241,861	5,166	2,226,108
		1890	38	6,345,812	83	100,080	2,487	1,271,887	2,461	1,266,657
36	All other states	[3] 1900	8	63,351	1	600	22	6,963	22	6,963
		[4] 1890	24	864,292	24	20,350	455	242,667	454	242,217

[1] Includes proprietors and firm members with their salaries; number only reported in 1900, but not included in this table. (See Table 17).
Included in "all other states."

COMPARATIVE SUMMARY BY STATES, 1890 AND 1900.

AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES—continued.				Miscellaneous expenses.	Cost of materials used.	PRODUCTS.			
Women, 16 years and over.		Children, under 16 years.				Aggregate value.	Rough leather.		
Average number.	Wages.	Average number.	Wages.				Sides.	Value.	
1,173 264	$339,167 82,699	534 395	$111,690 72,955	$7,023,416 5,397,672	$155,000,004 122,946,721	$204,038,127 172,136,092	4,229,634 2,329,112	$6,864,345 5,436,878	1
				44,107 1,546	672,017 42,539	1,005,358 77,066	3,040 4,200	7,818 10,000	2
1	150	1	50						
				37 454	3,590 12,765	5,859 16,684			3
11 2	4,044 1,000	6 2	2,210 400	180,795 183,428	5,809,428 4,165,410	7,405,981 5,729,278	130,595 10,000	309,405 20,000	4
11 4	2,900 1,250			23,087 25,763	681,399 499,377	891,478 619,139	20,392	24,470	5
583 64	165,865 18,898	90 137	17,944 24,757	226,083 120,371	7,027,715 2,823,160	9,400,504 4,106,894	27,496	56,066	6
		2 2	50 120	24,724 12,721	928,129 259,585	1,187,697 433,853	71,502 1,000	161,091 1,400	7
		21 5	3,911 422	181,350 160,141	5,784,474 5,770,146	7,847,835 8,240,803	150,976 104,100	74,470 282,300	8
		2	115	61,747 33,074	1,187,397 911,834	1,589,802 1,241,306	31,000 16,066	15,250 42,912	9
2	780	1	182	112,659 109,684	2,881,896 2,573,299	3,757,016 3,487,570	14,014 40	67,071 200	10
				78 625	6,355 44,889	10,157 69,181			11
11	3,312	3	507	102,332 117,141	1,943,204 2,307,343	2,451,713 3,363,672	3,450 94,920	3,104 234,785	12
8 6	2,496 1,740	5 1	970 300	40,860 42,315	1,411,457 722,474	1,754,102 986,430	125,760	260,350	13
48 27	19,307 8,308	7 2	1,584 350	662,553 854,286	19,793,757 20,181,867	26,067,714 28,044,815	254,889 392,678	293,434 822,414	14
1	212	2	644	248,297 52,774	4,697,367 1,273,315	6,015,590 1,748,760	122,757	128,426	15
		1	25	483 9,458	9,803 518,099	19,336 700,217	700	1,600	16
				13 818	2,202 15,208	3,556 22,077	20	60	17
		1	156	27,846 25,344	557,131 1,111,577	816,720 1,511,990			18
31 14	9,564 8,170			145,903 93,238	2,053,367 2,303,363	2,664,942 2,988,209	2,071 30,000	1,168 90,000	19
39 20	9,900 6,416	38 20	8,342 4,889	507,753 331,070	9,532,507 7,207,747	13,747,155 11,069,467	329,751 108,520	453,053 354,680	20
122 41	33,510 14,980	11 23	2,884 5,241	558,470 806,391	17,424,300 16,354,540	23,205,991 23,454,853	679,928 605,096	1,130,248 1,301,919	21
		3	210	32,685 3,913	1,129,402 115,507	1,502,378 190,887	105,857 125	475,810 156	22
2 1	575 150	4	748	160,315 193,210	3,774,298 5,134,248	5,182,065 6,701,670	65,060 80,000	38,617 434,500	23
				4,551 3,510	190,184 110,522	249,728 164,193	2,586	1,456	24
287 39	84,078 15,578	270 181	62,240 33,946	2,432,724 1,650,023	42,403,503 35,641,274	55,615,009 49,931,716	666,080 166,700	1,318,801 319,900	25
2	520			5,832 15,433	207,317 332,315	292,939 447,295	200	1,000	26
				525 126	12,743 12,120	18,387 21,900	3,360	8,400	27
		4 1	284 75	91,197 31,785	2,184,311 755,767	2,802,117 1,266,556	211,749	557,948	28
1	50	3	528	1,158 1,477	52,207 57,473	76,508 90,890	3,000	450	29
				215 1,297	3,482 38,277	5,863 78,789			30
				10,694 15,377	300,162 416,747	365,099 592,093	102,200 22,400	160,300 42,210	31
3	650	3 9	421 1,125	252,548 48,156	3,695,817 805,487	4,716,920 1,224,800	128,378 950	489,642 1,975	32
				580	25,701	32,605			33
		1	45	144,458 28,465	2,541,197 680,298	3,210,753 896,120	156,034 25	447,171 75	34
29 26	6,783 5,230	67	8,970	735,767 381,486	16,040,304 8,732,182	20,074,373 11,161,850	816,809 691,772	377,726 1,475,872	35
1	450			1,890 42,822	31,881 1,016,032	44,877 1,460,119	500	1,320	36

[3] See note 3, Table 9.

[4] See note 4, Table 9.

TABLE 8.—LEATHER, TANNED, CURRIED, AND FINISHED:

		Year.	PRODUCTS—continued. Sole leather. Total. Sides.	Total. Value.	Oak. Sides.	Oak. Value.	Union. Sides.	Union. Value.	Hemlock. Sides.	Hemlock. Value.
1	United States	1900	15,472,072	$55,481,625	2,562,814	$13,359,836	3,096,162	$12,807,262	[1]9,813,096	[1]$29,314,527
		1890	12,605,377	38,411,720	1,645,803	6,702,410	2,898,630	10,497,942	8,060,944	21,211,368
2	Alabama	1900	218,790	974,000	218,550	973,250			240	750
		1890	3,894	7,693	3,644	6,693			250	1,000
3	Arkansas	1900								
		1890	40	55	40	55				
4	California	1900	556,063	2,532,988	556,063	2,532,988				
		1890	387,154	1,542,562	387,154	1,542,562				
5	Connecticut	1900								
		1890								
6	Delaware	1900								
		1890	150	230	150	230				
7	Georgia	1900	57,952	300,985	57,952	300,985				
		1890	22,902	42,427	22,902	42,427				
8	Illinois	1900	68,324	310,296					68,324	310,296
		1890	261,000	869,500	30,000	50,000			231,000	819,500
9	Indiana	1900								
		1890	13,600	35,520	13,600	35,520				
10	Kentucky	1900	442,975	2,314,779	442,975	2,314,779				
		1890	236,625	1,184,401	236,625	1,184,401				
11	Louisiana	1900								
		1890	50	288	50	288				
12	Maine	1900	685,659	1,451,679					685,659	1,451,679
		1890	695,854	1,371,728					695,854	1,371,728
13	Maryland	1900	48,310	221,476	23,900	134,576	24,410	86,900		
		1890	76,146	297,829	76,146	297,829				
14	Massachusetts	1900	69,980	267,500			60,000	245,000	9,980	22,500
		1890	397,838	1,005,065					397,838	1,005,065
15	Michigan	1900	914,954	3,090,684	25,000	75,000			889,954	3,015,684
		1890	177,802	463,038	36,082	112,500			141,720	350,538
16	Minnesota	1900	115	345					115	345
		1890	200	480	200	480				
17	Mississippi	1900	50	125	50	125				
		1890	480	860	480	860				
18	Missouri	1900	232	1,392	232	1,392				
		1890								
19	New Hampshire	1900								
		1890								
20	New Jersey	1900								
		1890	1,500	3,750	1,500	3,750				
21	New York	1900	1,446,242	4,655,818			401,879	1,430,899	1,044,363	3,224,919
		1890	2,516,874	6,809,762	242,500	835,620	233,592	676,286	2,040,782	5,297,856
22	North Carolina	1900	31,389	124,449	31,289	124,249			100	200
		1890	7,728	15,300	7,728	15,300				
23	Ohio	1900	134,962	1,016,048	134,962	1,016,048				
		1890	23,440	97,700	23,440	97,700				
24	Oregon	1900	806	3,030			6	30	800	3,000
		1890	160	670	120	480			40	190
25	Pennsylvania	1900	8,183,522	28,691,603	335,894	1,854,243	2,366,322	10,058,019	5,481,306	16,779,341
		1890	7,350,180	23,049,366	304,466	1,341,135	2,664,928	9,821,436	4,380,786	11,886,795
26	Rhode Island	1900								
		1890								
27	South Carolina	1900	50	125	50	125				
		1890	200	500	200	500				
28	Tennessee	1900	205,942	1,086,284	205,942	1,086,284				
		1890	132,671	536,005	132,661	535,985	10	20		
29	Texas	1900	1,022	3,752	490	1,583			532	2,169
		1890								
30	Utah	1900	600	1,975	200	375			400	1,600
		1890	6,200	30,800	6,200	30,800				
31	Vermont	1900								
		1890	20,100	50,250					20,100	50,250
32	Virginia	1900	409,166	2,189,099	333,366	1,836,629	75,800	352,470		
		1890	64,607	306,420	62,757	303,420	100	200	1,750	2,800
33	Washington	1900								
		[2]1890								
34	West Virginia	1900	363,954	1,742,354	195,874	1,107,080	167,745	633,944	335	1,330
		1890	56,358	261,875	56,358	261,875				
35	Wisconsin	1900	1,630,988	4,500,714					[1]1,630,988	[1]4,500,714
		1890	150,824	425,646					150,824	425,646
36	All other states	[3]1900	25	125	25	125				
		[4]1890	800	2,000	800	2,000				

[1] Includes 2,100 chrome sides, valued at $8,966.

[2] Included in "all other states."

[3] See note 3, Table 9.

[4] See note 4, Table 9.

COMPARATINE SUMMARY BY STATES, 1890 AND 1900—Continued.

PRODUCTS—continued.									
Calf and kip skins and upper leather.	Goatskins.	Sheepskins.		Belting leather.		Harness leather.		All other leather and all other products, including by-products, offal, etc., and amount received for tanning and currying for others.	
Value.	Value.	Number.	Value.	Sides.	Value.	Sides.	Value.		
$41,848,552 31,417,236	$35,672,981 29,847,141	20,290,985 18,265,555	$8,353,755 7,520,702	1,472,016 843,322	$7,092,778 3,972,986	3,444,616 3,228,794	$16,712,056 11,920,341	$32,012,035 43,609,288	1
3,496 20,845	864 1,339	425 701	225 616	 30	 50	2,650 7,210	9,030 13,520	9,925 23,003	2
950 2,020	60 22	150 150	45 370	....	....	2,000 2,300	4,500 4,830	304 9,387	3
345,597 732,574	6,040 40,108	1,135,250 1,511,435	318,900 413,184	 29,200	 142,700	379,323 186,538	1,976,755 818,179	1,916,296 2,019,971	4
8,340 6,155	 2,200	 291,182	 182,484	57,240 32,038	404,223 160,100	1,201 78	5,142 180	449,303 268,020	5
132,000 10,540	8,634,800 4,015,694	175,272 100,000	61,921 79,500	17,588	127,580	 150	 230	388,137 700	6
135,112 165,206	2,323 288	31,150 4,150	10,312 1,923	61,505	260,190	56,200 53,342	226,132 96,152	91,552 126,457	7
5,225,588 3,353,615	 1,388,250	1,263,323 1,460,000	540,193 687,500	6,400	33,080	34,303 172,480	170,000 578,538	1,494,208 1,081,100	8
43,520 109,038	 45	10,335 7,330	5,606 4,774	43,939	188,599	193,777 151,382	1,011,613 575,501	325,214 473,516	9
1,000 40,113	70 1,475	88,961 48,640	44,410 25,222	6,532 30,206	33,426 141,974	206,748 237,112	1,091,901 936,393	204,359 1,157,792	10
1,267 4,949	200 3,575	6,000 58,000	3,000 46,000	....	....	100 524	500 2,161	5,190 12,158	11
358,708 218,412	 8	1,940,870 2,427,416	472,520 686,860	104 10,250	424 35,055	230 1,050	950 3,890	164,328 812,934	12
424,172 162,781	23,750 23,738	330,890 238,435	137,400 194,493	36,188 13,874	162,406 53,477	16,634 20,690	91,039 64,397	433,509 189,715	13
11,292,310 5,552,119	6,012,205 6,616,902	8,590,563 5,295,676	3,636,839 2,290,819	226,443 53,758	945,723 223,051	4,600	14,800	3,604,903 11,534,445	14
818,038 99,442	....	617,423 250,640	234,336 50,305	 7,800	 58,100	212,386 65,400	989,832 248,910	754,274 828,965	15
1,615 4,302	10 1	1,124 600,825	773 120,620	 100	 250	655 8,600	2,995 34,271	11,998 540,293	16
2,800 14,790	181 48	 60	 94	 192	 200	100 2,240	450 4,850	 1,175	17
500 39,200	204 1,860	629 124,000	522 43,560	52,946 48,000	242,095 320,000	72,386 101,248	387,467 375,550	184,540 731,820	18
218,149 679,447	200,928 6,800	1,153,904 904,200	434 915 242,500	155,853 40,400	862,711 190,000	87,214 600	189,826 2,400	757,245 1,777,062	19
2,255,070 6,044,614	3,061,738 2,770,000	454,988 259,925	283,012 204,912	....	....	33,865 5,800	177,846 14,850	7,516,436 1,676,661	20
8,346,177 6,232,612	1,898,957 3,291,986	2,997,036 3,120,000	1,360,885 1,386,719	13,250 706	89,053 3,112	146,341 159,740	765,500 645,294	4,959,353 3,783,449	21
71,857 72,404	1,212 416	3,089 2,312	1,214 1,066	116,400 100	556,175 240	29,156 23,479	89,184 44,024	182,477 57,281	22
55,648 296,165	1,775 390	86,670 211,166	39,535 119,137	140,891 100	678,187 500	336,015 540,928	1,831,651 2,194,852	1,520,604 3,558,426	23
7,970 19,735	250 25	2,365 54,800	1,140 16,435	....	....	31,579 11,750	142,790 36,245	93,092 91,083	24
2,699,743 3,180,063	15,796,782 11,122,211	1,090,822 856,243	600,423 431,613	5,846 410,452	33,275 1,854,036	450,352 760,763	2,491,722 3,018,726	3,982,660 6,955,201	25
22,615 4,500	....	201,600 12,000	106,500 6,500	6,200 25,000	47,000 40,000	....	....	115,824 396,295	26
630 7,500	25	125	52	....	....	2,850 6,000	8,355 12,000	800 1,900	27
19,068 69,581	305 145	3,471 841	1,756 413	157,832 60,000	732,800 360,000	53,105 84,890	195,263 226,197	208,693 74,215	28
3,494 28,566	886 795	12,249 8,000	5,657 7,879	200	800	5,165 13,200	19,875 28,050	41,594 30,600	29
2,875 2,395	 7	 75,008	 45,012	....	....	230 120	1,000 575	13	30
186,978 379,461	....	700 1,100	900 700	....	....	575 8,620	3,311 21,800	13,610 97,672	31
15,451 115,738	24 73	16,235 21,086	10,790 5,793	263,107 78,584	1,224,821 375,671	26,350 47,806	94,386 123,140	692,707 295,990	32
24,900	.....	6,400	2,650	.....	.....	.....	.....	5,055	33
.....	.....	.....	.....	.....	.....	.....	.....	.....	
14,986 51,769	 94	2,106 2,805	980 1,973	95,052 2,470	431,710 14,230	95,720 75,562	520,322 268,025	53,230 298,079	34
9,104,678 2,766,971	25,117 154,376	46,610 300,488	23,904 212,664	8,500 112	38,500 240	961,966 470,992	4,194,372 1,510,911	1,809,362 4,615,170	35
3,250 929,014	4,275 404,270	20,250 17,441	12,440 9,062	....	....	840 8,200	3,547 20,700	21,240 93,753	36

The aggregate capital was $173,977,421 in 1900, compared with $98,088,698 in 1890, an increase of 77.4 per cent. The decrease in number of establishments was 481, or 26.9 per cent. Pennsylvania was the leading state in 1900, having 254 establishments, with a capital of $57,320,227, and products valued at $55,615,009, an increase of $5,683,293 from 1890. New York had 147 establishments, with a capital of $19,062,817, and products valued at $23,205,991, or practically the same as for 1890; while Massachusetts showed 119 establishments, with a capital of $15,317,940, and products valued at $26,067,714, a decrease of $1,977,701. Wisconsin showed 42 establishments, with a capital of $18,283,591, and products valued at $20,074,373.

The decrease in the number of establishments was widely distributed, only 9 states showing an increase. The increase in capital was marked by the thinning out of the smaller concerns, either by absorption or by discontinuance. While there were but 9 establishments in Missouri in 1900, compared with 17 in 1890, a decrease of 47.1 per cent, the capital increased 33.4 per cent. Although New York lost 81 establishments, or 35.5 per cent, the total capital of the state showed an increase of $4,438,770. The same condition prevailed in Ohio, where, with a falling off of 55 in number of establishments, the capital increased $1,442,565. The capital of Massachusetts tanneries was $15,317,940 in 1900, compared with $11,646,893 in 1890, notwithstanding that there were 78 fewer establishments. This condition existed in 16 out of the 34 states separately named in the table, and in 2 others a large increase in capital during the decade was accompanied by no change in the number of establishments. The most notable exception, among states of large production, is furnished by Maine, where the decrease of 39.2 per cent in number of establishments was accompanied by a decrease of $855,596, or 38.3 per cent, in capital. The largest proportional increase was made in Wisconsin, where capital was $18,283,591 in 1900, compared with $6,345,812 in 1890. This was due to the establishing of new tanneries, as well as the enlargement of old ones, as is shown by the increase in number from 38 in 1890 to 42 in 1900.

Of the $204,038,127 in value of products, $6,864,345 was in rough leather, comprising 4,229,634 sides. This was an increase over 1890 of 1,900,522 sides, and of $1,427,667 in value. The largest quantity of rough leather was produced by Wisconsin, which turned out 816,809 sides, valued at $377,726. Pennsylvania followed with 666,080 sides, valued at $1,318,801; while New York produced 679,928 sides, valued at $1,130,248.

The Pennsylvania tanneries produced by far the largest quantity of sole leather, the output being 8,183,522 sides, valued at $28,691,603, out of the 15,472,072 sides, valued at $55,481,625, reported for the United States. This was 52.9 per cent of the total number of sides, and 51.7 per cent of their value. Wisconsin was next with 1,630,988 sides, valued at $4,500,714, as against 150,824 sides, valued at $425,646 in 1890. This increase in quantity and value of products was the most notable of that of any of the states, showing in the ten years a tenfold gain in the number of sides tanned and in their value. Similar conditions prevailed in Michigan, where, with an increase of 7 in the total number of tanneries in the state, the output of sole leather increased from 177,802 sides in 1890 to 914,954 in 1900, and in value from $463,038 to $3,090,684. New York, which had been a large producer of sole leather, showed a falling off in the output for 1900 of 1,070,632 sides from a total of 2,516,874 in 1890, the value being $6,809,762 in 1890 and $4,655,818 in 1900. This large decrease in production, amounting to 42.5 per cent, is in part accounted for by the decrease of 35.5 per cent in the whole number of establishments in the state. The other states producing sole leather valued at over $1,000,000 are California, $2,532,988; Kentucky, $2,314,779; Virginia, $2,189,099; West Virginia, $1,742,354; Ohio, $1,016,048; Tennessee, $1,086-284; and Maine, $1,451,679. That so large a proportion of the sole leather manufactured was produced in tanneries located in the West and Middle West was due to the proximity of hemlock and oak forests, from which were drawn the bark with which, either singly or combined as in the union tannage, this grade of leather is tanned.

The increase in the production of calf and kip skins and upper leather in the United States, from 1890 to 1900, was $10,431,316, or 33.2 per cent, out of a total of $41,848,552 for the latter year; but there was a decrease of 443, or 25.3 per cent, in the number of establishments reporting this product.

Massachusetts led in these varieties of leather, producing, in 1900, $11,292,310, out of a total of $41,848,552 for the United States. In 1890 the state reported $5,552,119 as the value of this product, showing an increase of 103.4 per cent for 1900. Wisconsin ranked next, with a value of $9,104,678, compared with $2,766,-971 in 1890. New York produced $8,346,177, as against $6,232,612 ten years ago. Illinois produced $5,225,588, or $1,871,973 more than at the census of 1890. New Jersey showed a falling off in upper leather within the decade, the product for 1890 being $6,044,614, and for 1900, $2,255,070.

Goatskins were produced in 1900 to the value of $35,672,981 for the entire United States, as against $29,847,141 in 1890, an increase of 19.5 per cent. Pennsylvania took the lead with $15,796,782, followed by Delaware with $8,634,800, Massachusetts with $6,012,-205, New Jersey with $3,061,738, New York with $1,898,957, and Illinois with $1,388,250. The output of sheepskins showed a small increase only, the number being 20,290,985, valued at $8,353,755, in 1900, and 18,265,555, valued at $7,520,702, in 1890. Of these there were tanned in Massachusetts 8,590,563, valued

at $3,636,839; in New York 2,997,036, valued at $1,360,-885; and in Maine 1,940,870, valued at $472,520. Both New York and Maine showed a falling off in the number, the former of 3.9 per cent and the latter of 20 per cent.

The report on harness leather for 1900 presents the anomalous condition of an increase of 40.2 per cent in value of products, compared with 1890, while the increase in number of sides tanned was but 6.7 per cent. This difference may be accounted for in part by the higher cost of hides and, possibly, the better finish of the average harness leather, compared with ten years ago. But there is a difference in value in different states, as, for instance, the average value of the sides tanned for harness leather in Ohio was $5.45; in Missouri, $5.35; New Jersey, $5.25; and New York and Indiana, $5.23 and $5.22, respectively; while the average in North Carolina was only $3.06, and in Arkansas $2.25. These are, however, higher averages in each instance than those of 1890.

Wisconsin led in value, producing $4,194,372 out of the $16,712,056 for the United States. This is a gain of 177.6 per cent, with, however, an increase of only 104.2 per cent in number of sides. Pennsylvania followed Wisconsin, with $2,491,722, which is, however, a decrease of 17.5 per cent. California was next, having tanned 379,323 sides in 1900, valued at $1,976,755, a gain of 192,785 in number of sides and $1,158,576 in value. Ohio, though showing a decrease of 204,913 in number of sides and of $363,201 in value since 1890, produced in 1900, 336,015 sides, valued at $1,831,651. Kentucky manufactured a product valued at $1,091,901, as against $936,393 in 1890, while Indiana tanned 193,777 sides, valued at $1,011,613, also a gain over 1890. Every state included in the table, with the exceptions of Delaware, Rhode Island, and Washington, reported harness leather manufactured in 1900, but in many of them the quantity produced was insignificant, amounting, as in Louisiana, to only 100 sides, valued at $500.

The increase over 1890 in belting leather, as shown in the table, is 74.5 per cent in number of sides used, and 78.5 per cent in value. Pennsylvania, which, according to the census of 1890, manufactured 410,452 sides, valued at $1,854,036, made in 1900 only 5,846 sides, valued at $33,275; but Virginia, which tanned 78,534 sides for belting in 1890, valued at $375,671, turned out in 1900, 263,107 sides, valued at $1,224,821. Massachusetts showed an increase from 53,758 sides, valued at $223,051, to 226,443, valued at $945,723.

"All other leather," as shown by the table, includes leather for carriages, trunks, bags, pocketbooks, bookbinding, furniture, for the manufacture of gloves, and for many minor uses to which leather is adapted. This classification showed a decrease of $11,597,253.

Table 9 shows the rank of states according to capital, average number of wage-earners, total wages, and value of products, 1890 and 1900.

TABLE 9.—RANK OF STATES ACCORDING TO CAPITAL, AVERAGE NUMBER OF WAGE-EARNERS, TOTAL WAGES, AND VALUE OF PRODUCTS: 1890 AND 1900.

	Year.	CAPITAL.		WAGE-EARNERS.				VALUE OF PRODUCTS.	
				Average number.		Total wages.			
		Rank.	Amount.	Rank.	Number.	Rank.	Amount.	Rank.	Value.
United States	1900	.....	$173,977,421	.....	52,109	.....	$22,591,091	.....	$204,038,127
	1890	.....	98,088,698	.....	42,392	.....	21,249,989	.....	172,136,092
Alabama	1900	23	464,005	23	165	23	71,440	21	1,005,358
	1890	29	38,045	26	41	30	7,997	29	77,066
Arkansas	1900	34	2,190	31	3	33	750	33	5,859
	1890	32	13,525	33	8	33	2,564	33	16,684
California	1900	10	4,820,905	8	1,454	8	870,973	8	7,405,981
	1890	8	3,119,298	9	1,099	8	706,419	8	5,729,278
Connecticut	1900	22	639,408	22	179	22	90,058	22	891,478
	[1]1890	23	369,021	24	103	23	50,995	21	619,139
Delaware	1900	8	5,178,804	6	2,457	7	1,044,903	6	9,400,504
	[1]1890	11	1,791,259	8	1,364	9	624,812	9	4,106,894
Georgia	1900	16	1,434,390	18	410	21	92,030	20	1,187,697
	1890	22	373,610	19	217	20	71,925	23	433,858
Illinois	1900	11	4,751,474	7	2,263	6	1,145,170	7	7,847,835
	1890	6	4,876,671	6	1,864	6	1,086,318	6	8,240,803
Indiana	1900	18	1,321,455	19	400	17	161,942	18	1,589,802
	1890	15	780,757	16	321	16	144,616	16	1,241,306
Kentucky	1900	12	4,681,389	12	810	11	321,658	12	3,757,016
	[1]1890	9	2,519,339	12	582	12	289,931	10	3,487,570
Louisiana	1900	31	6,193	30	4	32	1,341	31	10,157
	1890	30	35,060	30	17	29	8,424	30	69,131

[1] Exclusive of establishments included in "all other states" in 1890, distributed as follows: Connecticut, 2, 1 leather, morocco, 1 leather, patent and enameled; Delaware, 1, leather, patent and enameled; Illinois, 1, leather, dressed skins; Kentucky, 1, leather, morocco; Maryland, 1, leather, morocco; Missouri, 1, leather, morocco; New York, 1, leather, patent and enameled; Ohio, 4, 2 leather, dressed skins; 1 leather, morocco, and 1 leather, patent and enameled; Pennsylvania, 1, leather, patent and enameled; Texas, 2, leather, dressed skins.

TABLE 9.—RANK OF STATES ACCORDING TO CAPITAL, AVERAGE NUMBER OF WAGE-EARNERS, TOTAL WAGES, AND VALUE OF PRODUCTS: 1890 AND 1900—Continued.

	Year.	CAPITAL.		WAGE-EARNERS.				VALUE OF PRODUCTS.	
				Average number.		Total wages.			
		Rank.	Amount.	Rank.	Number.	Rank.	Amount.	Rank.	Value.
Maine	1900	17	$1,376,106	15	587	14	$229,268	16	$2,451,713
	1890	10	2,231,702	10	852	10	362,841	11	3,363,672
Maryland	1900	20	1,088,725	17	455	18	156,182	17	1,754,102
	[1]1890	18	594,478	17	313	18	115,439	18	986,430
Massachusetts	1900	4	15,317,940	2	7,010	2	3,379,698	2	26,067,714
	1890	3	11,646,893	2	7,777	2	4,240,911	2	28,044,815
Michigan	1900	7	5,214,042	9	1,427	10	559,142	9	6,035,590
	1890	13	1,200,982	15	337	15	163,176	13	1,743,760
Minnesota	1900	28	23,060	28	18	28	3,550	29	19,336
	1890	20	482,457	23	104	22	52,942	20	700,217
Mississippi	1900	33	2,460	32	1	34	240	34	3,556
	1890	31	14,220	32	10	32	2,757	31	22,077
Missouri	1900	21	922,083	21	185	20	98,578	23	816,720
	[1]1890	17	691,353	18	310	14	163,687	14	1,511,990
New Hampshire	1900	15	1,900,277	16	552	16	219,292	15	2,664,942
	1890	12	1,303,992	11	668	11	301,077	12	2,983,209
New Jersey	1900	5	9,906,119	5	4,178	5	2,057,197	5	13,747,155
	1890	5	6,314,233	4	3,121	4	1,857,540	5	11,069,467
New York	1900	2	19,062,817	3	6,530	3	2,775,115	3	23,205,991
	[1]1890	2	14,624,047	3	6,280	3	2,957,507	3	23,454,853
North Carolina	1900	19	1,299,798	20	366	19	105,132	19	1,502,378
	1890	26	116,364	22	107	25	24,188	25	190,887
Ohio	1900	6	5,822,580	10	1,384	9	617,409	10	5,182,065
	[1]1890	7	4,380,015	7	1,447	7	708,382	7	6,701,670
Oregon	1900	24	173,144	26	58	26	27,532	26	249,728
	1890	25	128,750	28	30	27	18,196	26	164,193
Pennsylvania	1900	1	57,320,227	1	13,396	1	5,457,518	1	55,615,009
	[1]1890	1	30,165,420	1	10,956	1	5,222,421	1	49,931,716
Rhode Island	1900	26	157,900	24	69	24	32,092	25	292,939
	1890	21	400,784	25	86	24	50,145	24	447,295
South Carolina	1900	32	5,595	29	10	30	2,000	30	18,387
	1890	33	12,093	31	12	31	3,116	32	21,900
Tennessee	1900	14	3,444,197	11	803	13	239,870	14	2,802,117
	1890	16	732,230	12	612	13	186,469	15	1,266,656
Texas	1900	27	24,763	27	29	27	9,216	27	76,508
	1890	27	92,450	27	32	26	20,480	27	90,890
Utah	1900	30	8,625	31	3	31	1,500	32	5,863
	1890	28	50,820	29	23	28	16,030	28	78,789
Vermont	1900	25	160,906	25	68	25	31,225	24	365,099
	1890	24	266,640	21	146	21	64,615	22	592,093
Virginia	1900	13	4,032,387	13	889	12	313,677	11	4,716,920
	1890	14	945,014	14	401	17	121,078	17	1,224,800
Washington	1900	29	17,600	31	3	29	2,125	28	32,605
	[2]1890	.....	.....	.....	.....	.....	.....	.....	.....
West Virginia	1900	9	5,049,615	14	664	15	224,444	13	3,210,753
	1890	19	567,072	20	210	19	88,487	19	896,120
Wisconsin	1900	3	18,283,591	4	5,262	4	2,241,861	4	20,074,373
	1890	4	6,345,812	5	2,487	5	1,271,887	4	11,161,850
All other states	[3]1900	.....	63,351	.....	22	.....	6,963	.....	44,877
	[4]1890	.....	864,292	.....	455	.....	242,667	.....	1,460,119

[1] Exclusive of establishments included in "all other states" in 1890, distributed as follows: Connecticut, 2, 1 leather, morocco, 1 leather, patent and enameled; Delaware, 1, leather, patent and enameled; Illinois, 1, leather, dressed skins; Kentucky, 1, leather, morocco; Maryland, 1, leather, morocco; Missouri, 1, leather, morocco; New York, 1, leather, patent and enameled; Ohio, 4, 2 leather, dressed skins; 1 leather, morocco, and 1 leather, patent and enameled; Pennsylvania, 1 leather, patent and enameled; Texas, 2, leather, dressed skins.

[2] Included in "all other states."

[3] Includes states grouped in order that the operations of individual establishments may not be disclosed. These establishments for 1900 are distributed as follows: Arizona, 1; Iowa, 2; Kansas, 1; Nebraska, 2; South Dakota, 2.

[4] In 1890, leather, morocco; leather, patent and enameled; leather, tanned and curried; and leather, dressed skins, were treated as separate industries and each given a group of "all other states," embracing those in which there were less than 8 establishments. These groups are combined and the total given for establishments distributed as follows: Leather, morocco—Connecticut, 1; Kentucky, 1; Maryland, 1; Missouri, 1; Ohio, 1; leather, patent and enameled—Connecticut, 1; Delaware, 1; New York, 1; Ohio, 1; Pennsylvania, 1; leather, tanned and curried—Colorado, 1; Iowa, 2; Kansas, 2; Nebraska, 1; South Dakota, 1; Washington, 1; Wyoming, 1; leather, dressed skins—Illinois, 1; Ohio, 2; Texas, 2.

In 1900 Pennsylvania continued its lead of 1890 as to capital, wage-earners, and value of products. This was undoubtedly due largely to the fact that the products of Pennsylvania tanneries were largely sole leather, and that an abundant supply of excellent hemlock bark for tanning was close at hand. In capital, New York held second place, as in 1890, while Massachusetts and Wisconsin have changed places, Wisconsin ranking third and Massachusetts fourth. In wage-earners, wages, and value of products Massachusetts and New York ranked second and third, respectively, in 1900 as in 1890. Alabama, Delaware, Georgia, Michigan, North Carolina, Ohio, Tennessee, Virginia, West Virginia, and some of the other states have increased in production during the decade, while others have dropped down in rank. This decrease is accounted for in part by the closing of tanneries absorbed by the combinations, and in part by scarcity of a desirable quality of bark for tanning. The table shows that the tanning of leather was carried on in 38 states and 1 territory. Arizona, Iowa, Kansas, Nebraska, and South Dakota have fewer than 3 establishments and are included under the head of "all other states."

During the decade there was a general utilization of labor-saving devices for which patents had been issued from time to time. The first of these applying to a "process and apparatus for leaching tanbark" was granted in 1791, and up to 1883, 100 patents had been taken out for a similar purpose. The bark mill was first patented in 1794, and in the class of hides, skins, and leather over 1,400 patents had been issued prior to January 1, 1902. The tanner has now at his command mechanical appliances for carrying the work through the various stages from the beam house to the final measuring of the material, as in the case of upper leather, preparatory to its shipment to the customer. The bark mill, that most important adjunct to the tanner using oak, hemlock, or union tannages, has undergone much improvement of late years. The present saw grinders or cutters overcome defects which were common to bark mills of a few years ago, while the resultant material is so leached that the utmost of its tannin is extracted, which was not formerly the case. In the handling of the hides, the reel, the rocker handler, the skeleton drum, and other labor-saving devices have done their part toward simplifying the work and reducing the cost. The processes subsequent to the removal of the leather from the bath have also been rendered less laborious and less costly by the introduction of mechanical scrubbers, power rollers, scouring and stuffing wheels, stretchers, etc.

Table 10 gives in detail the average number of wage-earners, and the proportion of men, women, and children, by states, 1890 and 1900.

TABLE 10.—AVERAGE NUMBER OF WAGE-EARNERS, AND PROPORTION OF MEN, WOMEN, AND CHILDREN, BY STATES: 1890 AND 1900.

STATES.	Year.	AVERAGE NUMBER OF WAGE-EARNERS.				PER CENT OF TOTAL.		
		Total.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.	Men.	Women.	Children.
United States	1900	52,109	50,402	1,173	534	96.7	2.3	1.0
	1890	42,392	41,733	264	395	98.5	0.6	0.9
Alabama	1900	165	165	.....	.....	100.0	.....	.....
	1890	41	39	1	1	95.2	2.4	2.4
Arkansas	1900	3	3	.....	.....	100.0	.....	.....
	1890	8	8	.....	.....	100.0	.....	.....
California	1900	1,454	1,437	11	6	98.8	0.8	0.4
	1890	1,099	1,095	2	2	99.6	0.2	0.2
Connecticut	1900	179	168	11	.....	93.9	6.1	.....
	[1]1890	103	99	4	.....	96.1	3.9	.....
Delaware	1900	2,457	1,784	583	90	72.6	23.7	3.7
	[1]1890	1,364	1,163	64	137	85.3	4.7	10.0
Georgia	1900	410	408	.....	2	99.5	.....	0.5
	1890	217	215	.....	2	99.1	.....	0.9
Illinois	1900	2,263	2,242	.....	21	99.1	.....	0.9
	1890	1,864	1,859	.....	5	99.7	.....	0.3
Indiana	1900	400	400	.....	.....	100.0	.....	.....
	1890	321	319	.....	2	99.4	.....	0.6
Kentucky	1900	810	810	.....	.....	100.0	.....	.....
	[1]1890	582	579	2	1	99.5	0.3	0.2
Louisiana	1900	4	4	.....	.....	100.0	.....	.....
	1890	17	17	.....	.....	100.0	.....	.....
Maine	1900	587	584	.....	3	99.5	.....	0.5
	1890	852	841	11	.....	98.7	1.3	.....
Maryland	1900	455	442	8	5	97.1	1.8	1.1
	[1]1890	313	306	6	1	97.8	1.9	0.3

[1] See note 1, Table 9.

TABLE 10.—AVERAGE NUMBER OF WAGE-EARNERS, AND PROPORTION OF MEN, WOMEN, AND CHILDREN, BY STATES: 1890 AND 1900—Continued.

STATES.	Year.	AVERAGE NUMBER OF WAGE-EARNERS.				PER CENT OF TOTAL.		
		Total.	Men, 16 years and over.	Women, 16 years and over.	Children, under 16 years.	Men.	Women.	Children.
Massachusetts	1900	7,010	6,955	48	7	99.2	0.7	0.10
	1890	7,777	7,748	27	2	99.6	0.4	(2)
Michigan	1900	1,427	1,425	.....	2	99.9	.....	0.1
	1890	337	336	1	.....	99.7	0.3	.....
Minnesota	1900	18	18	.....	.....	100.0	.....	.....
	1890	104	103	.....	1	99.0	.....	1.0
Mississippi	1900	1	1	.....	.....	100.0	.....	.....
	1890	10	10	.....	.....	100.0	.....	.....
Missouri	1900	185	184	.....	1	99.5	.....	0.5
	[1]1890	310	310	.....	.....	100.0	.....	.....
New Hampshire	1900	552	521	31	.....	94.4	5.6	.....
	1890	668	654	14	.....	97.9	2.1	.....
New Jersey	1900	4,178	4,101	39	38	98.2	0.9	0.9
	1890	3,121	3,081	20	20	98.8	0.6	0.6
New York	1900	6,530	6,397	122	11	97.9	1.9	0.2
	[1]1890	6,280	6,216	41	23	99.0	0.6	0.4
North Carolina	1900	366	366	.....	.....	100.0	.....	.....
	1890	107	104	.....	3	97.2	.....	2.8
Ohio	1900	1,384	1,384	.....	.....	100.0	.....	.....
	[1]1890	1,447	1,441	2	4	99.6	0.1	0.3
Oregon	1900	53	52	1	.....	98.0	2.0	.....
	1890	30	30	.....	.....	100.0	.....	.....
Pennsylvania	1900	13,396	12,839	287	270	95.9	2.1	2.0
	[1]1890	10,956	10,736	39	181	98.0	0.4	1.6
Rhode Island	1900	69	67	2	.....	97.1	2.9	.....
	1890	86	86	.....	.....	100.0	.....	.....
South Carolina	1900	10	10	.....	.....	100.0	.....	.....
	1890	12	12	.....	.....	100.0	.....	.....
Tennessee	1900	803	799	.....	4	99.5	.....	0.5
	1890	612	611	.....	1	99.8	.....	0.2
Texas	1900	29	25	1	3	86.2	3.5	10.3
	[1]1890	32	32	.....	.....	100.0	.....	.....
Utah	1900	3	3	.....	.....	100.0	.....	.....
	1890	23	23	.....	.....	100.0	.....	.....
Vermont	1900	68	68	.....	.....	100.0	.....	.....
	1890	146	146	.....	.....	100.0	.....	.....
Virginia	1900	889	886	.....	3	99.7	.....	0.3
	1890	401	389	3	9	97.0	0.8	2.2
Washington	1900	3	3	.....	.....	100.0	.....	.....
	[3]1890	.....	.....	.....	.....	.....	.....	.....
West Virginia	1900	664	663	.....	1	99.8	.....	0.2
	1890	210	210	.....	.....	100.0	.....	.....
Wisconsin	1900	5,262	5,166	29	67	98.2	0.5	1.3
	1890	2,487	2,461	26	.....	99.0	1.0	.....
All other states[4]	1900	22	22	.....	.....	100.0	.....	.....
	1890	455	454	1	.....	100.0	(2)	.....

[1] See note 1, Table 9. [2] Less than one-tenth of 1 per cent. [3] Included in "all other states." [4] See notes 3 and 4, Table 9.

It follows from the character of the work involved in leather manufacture that there have been few opportunities for any wage-earners except able-bodied men. In 1890 the proportion of men employed to total wage-earners was 98.5 per cent, of women six-tenths of 1 per cent, and of children nine-tenths of 1 per cent. But the census of 1900 showed an increase in the number of women and children entirely out of proportion to the increase in number of men. The average number of men increased only 20.8 per cent, but of women, 344.3 per cent, and of children, 35.2 per cent. The percentage of men to the total was reduced to 96.7. The labor performed by women and children is almost entirely on goatskins. The former are employed in trimming skins, in seasoning and glazing and in attending measuring machines; while the children are made useful in such light work as tacking the skins on stretching boards, etc.

The proof that goat, kid, and morocco manufacture is the one part of the leather industry calling for the employment of women is found in the fact that of the 1,173 employed in the United States, 870 were working in Pennsylvania and Delaware, where the output of goatskins was valued at $24,431,582 out of a total of

$35,672,981 for the United States. The proportion of children employed in tanneries was also larger in Pennsylvania and Delaware than in the other states, 360 of the 534 under 16 years of age reported for the whole country finding employment there.

There were only 21 states in 1900 where either women or children were employed in tanneries as wage-earners, instead of 23 as in 1890; but the fact that 909 more women wage-earners were working in the leather tanneries in 1900 than in 1890 indicates that they are not leaving this field of industrial activity to be developed solely by men.

Table 11 is a summary of miscellaneous expenses, 1900, with the percentage each class is of the total.

TABLE 11.—MISCELLANEOUS EXPENSES, AND PER CENT EACH CLASS IS OF THE TOTAL: 1900.

	Amount.	Per cent of total.
Total	$7,023,416	100.0
Rent of works	270,310	3.8
Taxes, not including internal revenue	593,990	8.5
Rent of offices, insurance, interest, etc.	6,105,720	86.9
Contract work	53,396	0.8

Table 12 gives the number of establishments reporting the different classes of materials and varieties of products, with quantity and value. The statistics given for custom work are also included in the other totals.

TABLE 12.—MATERIALS AND PRODUCTS: CLASSIFIED BY NUMBER OF ESTABLISHMENTS, 1900.

	Number of establishments.	Unit of measure.	Quantities.	Cost of materials.
Materials: Total				$155,000,004
Hides and skins:				
Hides, all kinds	886	Number	15,838,862	77,784,760
Calf and kip skins	372	Number	8,944,454	10,792,485
Goatskins	188	Number	48,046,897	24,950,223
Sheepskins	360	Number	24,507,642	8,457,995
All other skins	127	Number	2,371,488	1,560,506
Tanning materials:				
Hemlock bark	401	Cords	1,170,131	7,347,242
Oak bark	607	Cords	445,934	3,174,995
Gambier	241	Bales	128,425	890,066
Hemlock-bark extract	112	Barrels	12,812	150,914
Oak-bark extract	146	Barrels	54,231	550,065
Quebracho	105	Barrels or bales.	20,360	292,133
Sumac	194	Tons	8,531	434,447
Chemicals	421			2,257,751
All other materials used for tanning.	565			1,919,834
Currying materials:				
Rough leather, purchased rough.	95	Sides	1,086,592	3,534,097
Rough grains, purchased rough	17	Sides	165,938	467,125
Rough splits, purchased rough.	35	Sides	1,721,187	1,320,589
All other rough leather, purchased rough.	25	Sides	1,435,732	1,341,584
Oil, stearin, degras, tallow, and all other materials used in currying.	1,000			3,790,672
Fuel	1,000			1,130,608
Rent of power and heat	44			30,064
Mill supplies	1,001			318,547
All other materials	392			815,693
Freight	642			1,687,609

TABLE 12.—MATERIALS AND PRODUCTS: CLASSIFIED BY NUMBER OF ESTABLISHMENTS, 1900—Continued.

	Number of establishments.	Unit of measure.	Quantities.	Value of products, including custom work.
Products: Total				*$204,038,127*
Rough leather, sold in the rough	187	Sides	1,242,173	3,900,284
Rough grains, sold in the rough	16	Sides	322,147	806,422
Rough splits, sold in the rough	83	Sides	2,510,347	1,801,452
All other rough leather, sold in the rough.	44	Sides	*154,967*	*358,187*
Sole leather:				
Oak	127	Sides	2,562,814	13,359,836
Union	39	Sides	3,096,162	12,807,202
Hemlock	99	Sides	9,810,996	29,305,561
Chrome, sole leather	2	Sides	*2,100*	*8,966*
Upper leather (other than calf or kip skins):				
Grain, satin, kangaroo, etc., (side leather).	233	Sides	8,141,093	17,478,802
Finished splits	99	Number	8,790,382	6,740,502
Patent and enameled shoe leather.	22	Sides	236,943	1,092,534
Horsehide	53	Sides	446,756	843,118
Calf and kip skins, tanned and finished:				
Flesh finished	250	Number	1,151,413	2,491,711
Grain finished	118	Number	7,112,859	12,127,439
Patent and enameled	8	Number	591,711	1,074,446
Goatskins, tanned and finished, black.	156	Number	38,176,816	29,050,886
Goatskins, tanned and finished, colored.	42	Number	8,867,116	6,622,095
Sheepskins, tanned and finished.	308	Number	20,290,985	8,358,755
Belting leather	62	Sides	1,472,016	7,092,778
Harness leather	462	Sides	3,444,616	16,712,056
Carriage leather	40	Hides	518,805	4,829,388
Trunk, bag, and pocketbook leather.	74			2,611,326
Bookbinders' leather	33			1,688,413
Leather for manufacture of gloves.	67			3,084,837
Furniture leather	26	Hides	100,936	918,999
All other leather	354			9,043,008
All other products, including by-products, offal, etc.	456			5,514,395
Amount charged for tanning and currying for others.	313			4,321,669

	Number of establishments.	Estimated value in condition received.	Estimated value after being tanned or curried.
Custom work: Total		$14,469,194	$19,249,391
Hides tanned	170	3,232,043	4,538,715
Skins tanned	160	9,133,128	12,343,166
Sides curried	32	1,082,921	1,184,083
Splits curried	7	342,958	442,852
Skins curried	21	678,144	790,575

In estimating the cost of tanning, it is well to bear in mind the different conditions under which the manufacture is conducted in the various states. Some tanners, for instance, are apt to give more time to certain departments than to others, thus increasing or diminishing, as the case may be, the cost of carrying the material through all the processes. Moreover, the cost of bark is governed to some extent by the location of the tannery. Twenty-five years ago it was considered that a ton of 2,240 pounds of average hemlock bark should tan 200 pounds of sole leather, or 300 to 400 pounds of upper leather, all the conditions being favorable. With dry hides, under similar conditions, the gain would be about 60 per cent. Under the present system this quantity of bark will tan about 300 pounds of sole leather or about 400 pounds of upper leather.

The average amount paid for fuel, $1,130 per year, was very small as compared with the outlay of other establishments using the same amount of steam, or operating machinery calling for approximating amounts of power. This is accounted for by the use of spent bark for fuel in many tanneries. Years ago it was used in the furnaces just as it came from the leaches, but now the moisture is eliminated, so that it reaches the fire box as dry as ordinary fuel.

The early tanners were conservative in adopting new processes. Various tannages and substitutes for oak and hemlock bark, which furnished all the tannin of former years, have come into wide use. Standard tannages are now made from hemlock and oak barks, from their extracts, from gambier, sumac, and quebracho, and from chemicals. Mechanical devices have shortened the time required for getting good results, but the tanner is constantly on the alert to secure something that will diminish the number of weeks he is compelled to wait while his hides are assimilating the liquors in which they are placed. Some such shortening process as that employed in the manufacture of kid or morocco is confidently anticipated by manufacturers of sole leather, calf, upper, etc. In the case of kid, hyposulphite of sodium added to the chromium compounds makes the tannage more permanent, while the desired results are obtained in a shorter time. To this discovery is due the sudden growth of a most important branch of leather manufacturing.

Notwithstanding the numberless inventions that have to do with the chemical side of tanning, hemlock and oak bark still furnish the great bulk of the material upon which the manufacturers of leather rely for their tannin. This is accounted for by the practically unlimited supply and the satisfactory results obtained through their use. Inventive genius has exhausted almost every expedient for getting the last particle of tanning material from the bark, so that, whereas not long ago a large percentage of tannin was lost to the manufacturer, he is now able to utilize practically all that the bark is capable of yielding.

Leather, as shown in Table 13, is made from a variety of hides and skins obtained both from the domestic animals and from those in other countries. Hides, in the commonly accepted meaning of the term, are obtained from large animals, such as oxen, cows, and horses; kips from small or yearling cattle; and skins from calves, sheep, goats, deer, pigs, etc. From heavy hides are made sole, harness, and belting leathers; from calfskins, upper leather for boots and shoes, bookbinding, etc. Shoe linings, some of the cheaper grades of women's shoes, bellows, cushions, and various other articles are made from sheepskins, while gloves and many of the better class of women's shoes are made from goat and kid skins. Glazed kid has superseded the morocco of former days. Hogskins are used largely by the saddle makers and for the manufacture of traveling bags.

Up to 1815 the domestic supply of hides and skins was sufficient to meet the demands of the tanners, but from that date there has been an increase in the number brought from other countries. According to the Statistical Abstract of the United States Treasury Department, the imports of hides and skins for 1900 were 163,865,165 pounds, valued at $19,408,217; in 1899[1] they were 130,396,020 pounds, valued at $13,621,946; and in 1898[1] they were 126,243,595 pounds, valued at $13,624,989. The quantity thus obtained, together with that supplied by cattle and small animals of the United States, represented in 1900 an output by the various tanneries valued at $204,038,127. The largest product was goatskins, black and colored, which showed an aggregate of 47,043,932, valued at $35,672,981. Sole leather follows with 15,472,072 sides, valued at $55,481,625. There were 3,444,616 sides of harness leather, valued at $16,712,056, and 1,472,016 sides of belting leather, valued at $7,092,778. Of the upper leathers, "grain, satin, kangaroo, etc. (side leather)," shows by far the largest quantity, the figures for this class being 8,141,093 sides, valued at $17,478,802. Grain leather made up the largest part of this last total. This latter is, in brief, leather that has been made from the hides of neat cattle, split so thin by the splitting machine as to be suitable for the same uses as are goat, calf, and various other skins which it is made to imitate.

The number of finished splits was 8,790,382, valued at $6,740,502, while the total value of all upper leather was $26,154,956.

Table 13 shows, by states, the number of establishments producing different kinds of leather in 1900.

The superior quality of the product of the tanneries of the United States is recognized in the large demand for American leather abroad, the exports of the principal kinds for 1900 being valued at $21,797,157.

[1] These figures are for hides of cattle only.

TABLE 13.--NUMBER OF ESTABLISHMENTS PRODUCING DIFFERENT CLASSES OF LEATHER: BY STATES, 1900.

STATES.	Total.	Sole.	Rough.	Upper.	Goat, kid, and morocco.	Patent and enameled.	FINISHED LEATHER.				All other.
							Sheepskin.	Belting.	Harness and carriage.	Trunk, glove, bookbinding, and furniture.	
United States	1,306	166	133	137	130	12	55	30	330	77	236
Alabama	18	3	4	3					4		4
Arizona	1			1							
Arkansas	3			2					1		
California	45	8	3	3	2				17	5	7
Connecticut	7							3	1	1	2
Delaware	20		1		14	1	1	1			2
Georgia	36	1	12	5	2				13		3
Illinois	27	2		4	6		2	1	2	4	6
Indiana	23		1					1	17		4
Iowa	2						1			1	
Kansas	1										1
Kentucky	23	9	1				1		9		3
Louisiana	3			1					1		1
Maine	31	8	1	1	1		7		1		12
Maryland	22	2	1		3		1	1	11	1	2
Massachusetts	119	1	2	21	31	1	13	4	2	4	40
Michigan	27	9	2	4			1		5		6
Minnesota	9	1	1						3	1	3
Mississippi	4			3					1		
Missouri	9							2	4		3
Nebraska	2										2
New Hampshire	12			3	2		3	3			1
New Jersey	77		4	4	10	9	3		14	16	17
New York	147	19	17	16	8		7	2	5	32	42
North Carolina	75	1	5	24	5			4	25	1	10
Ohio	58	2	1	1	2	1	2	1	41		7
Oregon	16	1	1						4	2	8
Pennsylvania	254	72	45	10	31		8	1	63	5	19
Rhode Island	5						3				2
South Carolina	5		1	1					3		
South Dakota	2								2		
Tennessee	44	2	4	6	1			1	25		5
Texas	11	2		1					4		4
Utah	4	2		1					1		
Vermont	8		6	1					1		
Virginia	65	7	13	7	2		1	4	20		11
Washington	3			1	1					1	
West Virginia	46	6	5	10	1			1	22		1
Wisconsin	42	8	2	4	8		1		8	3	8

Table 14 shows these exports from 1891 to 1900, inclusive.

TABLE 14.—EXPORTS OF THE PRINCIPAL KINDS OF LEATHER, 1891 TO 1900, INCLUSIVE.[1]

Year.	Total.	Sole.	Kid (glazed).	Patent or enameled.	Splits, buffs, grain, and all other upper.	All other leather.
1900	$21,797,157	$6,433,303	$1,909,914	$101,708	$11,913,256	$1,438,976
1899	19,725,473	6,280,904	694,265	82,908	11,576,822	1,090,574
1898	17,796,404	6,641,553	249,990	93,847	9,949,593	858,421
1897	16,431,255	6,510,404	(2)	313,151	8,793,902	813,798
1896	17,764,985	7,474,021	(2)	369,452	8,903,863	1,017,649
1895	13,640,553	6,919,372	(2)	285,662	5,753,278	682,241
1894	12,778,945	6,481,257	(2)	249,127	5,221,205	827,356
1893	10,695,284	5,192,068	(2)	245,288	4,440,524	817,409
1892	10,518,363	5,783,555	(2)	249,239	3,880,475	605,094
1891	12,023,445	6,168,362	(2)	364,770	5,161,211	329,102

[1] Statistical Abstract of the United States Treasury Department, 1900.
[2] Not separately enumerated.

While it has been the policy of the Government from the first to protect leather and its manufactures, by a tariff hides have been admitted free the greater part of the time. The first tariff applied to hides was in 1842, when a duty of 5 per cent was placed on them. This was reduced to 4 per cent in 1857, and raised again in March, 1861. In December, 1861, it was made 10 per cent, at which figure it remained until 1873. In the tariff bill enacted that year hides and skins were made free, remaining so until the enactment of the Dingley bill in 1897, when a duty of 15 per cent was imposed, which is now in force.

Table 15 shows the date of organization of the five industrial combinations in the manufacture of leather, tanned, curried, and finished, with number of plants controlled, capitalization, and dividends, 1900.

TABLE 15.—INDUSTRIAL COMBINATIONS IN THE MANUFACTURE OF LEATHER, TANNED, CURRIED, AND FINISHED: NUMBER OF PLANTS CONTROLLED, CAPITAL, AND DIVIDENDS, 1900.

NAME OF COMBINATION.	Location of central office.	Date of organization.	Number of plants controlled.	CAPITALIZATION. Amount authorized by charter. Bonds.	Stock. Total.	Stock. Preferred.	Stock. Common.
Total			[1] 108	$20,000,000	$199,000,000	$81,500,000	$117,500,000
American Hide and Leather Co	92 Cliff street, New York city	Aug. 29, 1899	30	10,000,000	35,000,000	17,500,000	17,500,000
Elk Tanning Co	Ridgway, Pa	Apr. 17, 1893	23		12,500,000		12,500,000
Penn Tanning Co	Sheffield, Pa	Apr. 13, 1893	14		13,500,000		13,500,000
Union Tanning Co	Williamsport, Pa	Apr. 17, 1893	18		10,000,000		10,000,000
United States Leather Co	26 Ferry street, New York city	Feb. 25, 1893	23	10,000,000	128,000,000	64,000,000	64,000,000

NAME OF COMBINATION.	Location of central office.	Date of organization.	Number of plants controlled.	CAPITALIZATION. Amount issued. Bonds.	Stock. Total.	Stock. Preferred.	Stock. Common.
Total			[1] 108	$13,805,000	$184,015,200	$75,282,300	$108,732,900
American Hide and Leather Co	92 Cliff street, New York city	Aug. 29, 1899	30	8,525,000	24,500,000	13,000,000	11,500,000
Elk Tanning Co	Ridgway, Pa	Apr. 17, 1893	23		12,319,900		12,319,900
Penn Tanning Co	Sheffield, Pa	Apr. 13, 1893	14		13,380,900		13,380,900
Union Tanning Co	Williamsport, Pa	Apr. 17, 1893	18		8,649,800		8,649,800
United States Leather Co	26 Ferry street, New York city	Feb. 25, 1893	23	5,280,000	125,164,600	62,282,300	62,882,300

NAME OF COMBINATION.	Location of central office.	Date of organization.	Number of plants controlled.	DIVIDENDS PAID DURING CENSUS YEAR. Rate. On preferred.	Rate. On common.	Total.	On preferred stock.	On common stock.
Total			[1] 108					
American Hide and Leather Co	92 Cliff street, New York city	Aug. 29, 1899	30	None	None			
Elk Tanning Co	Ridgway, Pa	Apr. 17, 1893	23		$1.50 per share	$184,799		$184,799
Penn Tanning Co	Sheffield, Pa	Apr. 13, 1893	14		None			
Union Tanning Co	Williamsport, Pa	Apr. 17, 1893	18		$1.50 per share	129,747		129,747
United States Leather Co	26 Ferry street, New York city	Feb. 25, 1893	23	6 per cent.	None	3,736,376	$3,736,376	

[1] Includes 9 idle establishments.

Table 16 is a summary of the manufacturing statistics for these combinations, 1900.

TABLE 16.—SUMMARY OF 5 INDUSTRIAL COMBINATIONS ENGAGED IN THE MANUFACTURE OF LEATHER, TANNED, CURRIED, AND FINISHED: 1900.

Number of establishments[1]	99
Capital	$62,355,416
Salaried officials, clerks, etc., number	334
Salaries	$655,776
Wage-earners, average number	9,736
Wages	$4,000,861
Miscellaneous expenses	$1,542,840
Cost of materials used	$35,352,475
Value of products	$45,484,592

[1] Distributed as follows: Georgia, 1; Illinois, 4; Kentucky, 1; Maine, 1; Maryland, 1; Massachusetts, 9; Michigan, 1; New York, 17; Pennsylvania, 53; Tennessee, 2; West Virginia, 4; Wisconsin, 5.

Table 17 is a detailed summary, by states, for leather, tanned, curried, and finished, 1900.

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900.

	United States.	Alabama.	Arkansas.	California.	Connecticut.	Delaware.	Georgia.	Illinois.	Indiana.
Number of establishments	1,306	18	3	45	7	20	36	27	23
Character of organization:									
Individual	637	16	3	17	2	6	27	9	14
Firm and limited partnership	360	1	.....	15	3	9	5	6	6
Incorporated company	309	1	.....	13	2	5	4	12	3
Capital:									
Total	$173,977,421	$464,005	$2,190	$4,820,205	$639,408	$5,178,804	$1,434,390	$4,751,474	$1,321,455
Land	$14,179,485	$7,955	$80	$303,350	$65,500	$166,669	$56,270	$208,918	$54,013
Buildings	$20,785,412	$38,935	$425	$577,115	$97,209	$501,796	$210,520	$374,062	$152,950
Machinery, tools, and implements	$15,022,239	$149,575	$1,060	$427,860	$59,342	$572,248	$265,820	$451,605	$98,122
Cash and sundries	$123,990,285	$267,540	$625	$3,511,880	$417,357	$3,938,091	$901,780	$3,716,889	$1,016,370
Proprietors and firm members	1,473	19	3	48	10	30	38	24	27
Salaried officials, clerks, etc.:									
Total number	2,442	8	.....	75	12	156	26	86	27
Salaries	$3,158,842	$7,200	.....	$106,458	$13,506	$166,139	$20,413	$176,646	$26,872
Officers of corporations—									
Number	354	.....	.....	27	4	18	2	9	7
Salaries	$957,128	.....	.....	$58,375	$4,820	$51,580	$3,170	$53,100	$6,150
General superintendents, managers, clerks, etc.—									
Total number	2,088	8	.....	48	8	138	24	77	20
Salaries	$2,201,714	$7,200	.....	$48,088	$8,686	$114,559	$17,243	$123,546	$20,722
Men—									
Number	1,942	8	.....	46	8	129	24	73	18
Salaries	$2,136,723	$7,200	.....	$47,183	$8,686	$110,646	$17,243	$122,614	$19,660
Women—									
Number	146	.....	.....	2	.....	9	.....	4	2
Salaries	$64,991	.....	.....	$900	.....	$3,913	.....	$932	$1,062
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	62,578	182	4	1,646	200	3,204	523	2,478	422
Least number employed at any one time during the year	44,365	178	4	1,311	156	1,926	346	2,088	360
Average number	52,109	165	3	1,454	179	2,457	410	2,263	400
Wages	$22,591,091	$71,440	$750	$870,978	$90,058	$1,044,903	$92,030	$1,145,170	$161,942
Men, 16 years and over—									
Average number	50,402	165	3	1,437	168	1,784	408	2,242	400
Wages	$22,140,284	$71,440	$750	$864,719	$87,158	$861,094	$91,980	$1,141,259	$161,942
Women, 16 years and over—									
Average number	1,173	.....	.....	11	11	583	.....	.....	.....
Wages	$339,167	.....	.....	$4,044	$2,900	$165,865	.....	.....	.....
Children, under 16 years—									
Average number	534	.....	.....	6	.....	90	2	21	.....
Wages	$111,690	.....	.....	$2,210	.....	$17,944	$50	$3,911	.....
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	48,882	162	3	1,419	179	1,662	393	2,228	412
February	49,374	161	3	1,415	176	1,514	396	2,228	406
March	50,303	161	3	1,432	175	1,990	408	2,260	412
April	50,174	161	3	1,413	177	1,997	416	2,263	404
May	50,631	178	4	1,427	174	1,936	457	2,225	389
June	49,467	178	4	1,383	170	1,917	422	2,167	381
July	49,701	161	3	1,417	174	1,646	430	2,231	395
August	50,593	161	3	1,460	154	1,708	386	2,197	414
September	51,672	162	3	1,485	158	1,950	398	2,271	388
October	51,501	165	3	1,486	156	1,700	386	2,245	407
November	51,360	164	3	1,452	159	1,636	391	2,294	410
December	51,166	164	3	1,452	162	1,749	408	2,291	382
Women, 16 years and over—									
January	1,191	.....	.....	12	11	563	.....	.....	.....
February	1,059	.....	.....	12	11	443	.....	.....	.....
March	1,284	.....	.....	12	11	696	.....	.....	.....
April	1,260	.....	.....	12	11	695	.....	.....	.....
May	1,174	.....	.....	12	11	621	.....	.....	.....
June	1,172	.....	.....	10	11	615	.....	.....	.....
July	1,061	.....	.....	10	11	508	.....	.....	.....
August	1,161	.....	.....	10	11	576	.....	.....	.....
September	1,242	.....	.....	10	11	631	.....	.....	.....
October	1,145	.....	.....	11	11	550	.....	.....	.....
November	1,137	.....	.....	10	11	535	.....	.....	.....
December	1,195	.....	.....	11	11	562	.....	.....	.....
Children, under 16 years—									
January	520	.....	.....	6	.....	78	1	16	.....
February	515	.....	.....	6	.....	82	1	15	.....
March	531	.....	.....	6	.....	114	3	16	.....
April	526	.....	.....	6	.....	113	5	16	.....
May	510	.....	.....	7	.....	104	2	20	.....
June	515	.....	.....	6	.....	100	2	23	.....
July	539	.....	.....	6	.....	73	2	24	.....
August	569	.....	.....	6	.....	86	2	25	.....
September	576	.....	.....	6	.....	107	1	25	.....
October	536	.....	.....	6	.....	74	1	26	.....
November	527	.....	.....	6	.....	66	1	26	.....
December	544	.....	.....	6	.....	82	1	22	.....
Miscellaneous expenses:									
Total	$7,023,416	$44,107	$37	$180,795	$23,087	$226,083	$24,724	$181,350	$61,747
Rent of works	$270,310	.....	$10	$5,678	$1,000	$13,549	$1,620	$21,090	$2,166
Taxes, not including internal revenue	$593,990	$1,865	$13	$17,492	$2,837	$14,132	$3,989	$23,377	$5,460
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$6,105,720	$42,167	$14	$157,630	$19,250	$198,402	$19,115	$136,883	$54,121
Contract work	$53,396	$75	.....	.....	.....	.....	.....	.....	.....
Materials used:									
Total cost	$155,000,004	$672,017	$3,590	$5,809,428	$681,399	$7,027,715	$928,129	$5,784,474	$1,187,397
Hides and skins—									
Hides (all kinds), number	15,838,862	115,015	1,175	585,186	52,073	14,842	143,757	748,978	174,910
Cost	$77,784,760	$562,732	$2,575	$3,207,562	$396,000	$102,044	$692,686	$2,294,141	$860,755
Calf and kip skins, number	8,944,454	963	150	122,167	.....	.....	35,062	1,478,882	16,507
Cost	$10,792,485	$932	$60	$138,507	.....	.....	$38,186	$2,073,564	$26,303
Goatskins, number	48,046,897	1,033	100	27,052	.....	9,363,769	2,600	66	.....
Cost	$24,950,223	$464	$25	$12,000	.....	$6,010,737	$1,380	$10	.....
Sheepskins, number	24,507,642	425	150	1,381,579	297,132	175,272	33,662	1,263,323	11,145
Cost	$8,457,995	$92	$25	$890,014	$120,145	$47,315	$15,193	$556,964	$9,356
All other skins, number	2,371,488	1,865	300	196,319	.....	.....	463	33,700	31,711
Cost	$1,560,506	$575	$150	$147,280	.....	.....	$568	$11,775	$10,677

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	United States.	Alabama.	Arkansas.	California.	Connecticut.	Delaware.	Georgia.	Illinois.	Indiana.
Materials used—Continued.									
Total cost—Continued.									
Tanning materials—									
Hemlock bark, cords	1,170,131	46			495	1,316	85	18,312	760
Cost	$7,347,242	$178			$3,810	$18,300	$415	$141,176	$5,701
Oak bark, cords	445,934	18,561	70	36,123	133	300	23,217		6,874
Cost	$3,174,995	$62,628	$330	$582,421	$1,041	$3,500	$87,116		$55,439
Gambier, bales	128,425		4	3,704	205	165	10	22,846	237
Cost	$890,066		$35	$35,776	$1,445	$1,192	$40	$172,615	$1,825
Hemlock bark extract, barrels	12,812			173	820		170	179	606
Cost	$150,914			$2,600	$3,480		$2,294	$2,122	$7,646
Oak bark extract, barrels	54,231	5	5	1,264	2,696	40	664	19	4,501
Cost	$550,065	$20	$10	$18,654	$29,429	$304	$6,639	$289	$33,542
Quebracho, barrels or bales	20,360			300	494	5	950	468	540
Cost	$292,133			$4,500	$5,466	$74	$16,800	$8,763	$8,299
Sumac, tons	8,531		1	146	111	20	11	307	27
Cost	$434,447		$35	$11,662	$4,770	$1,250	$464	$14,152	$1,531
Chemicals	$2,257,751	$5	$25	$59,238	$1,791	$243,703	$6,265	$47,137	$356
All other materials used in tanning	$1,919,834	$21,034	$25	$19,542	$200	$204,351	$2,341	$94,666	$8,320
Currying materials—									
Purchased rough, sides	4,409,449	200		100,513	20,542	15,400	1,000	1,203	24,675
Cost	$6,663,395	$400		$434,214	$73,562	$91,232	$600	$7,253	$86,859
Rough leather, sides	1,086,592	200		99,993	5,948	1,612		1,203	24,675
Cost	$3,534,097	$400		$432,654	$16,869	$6,293		$7,253	$86,859
Rough grains, sides	165,938				100				
Cost	$467,125				$315				
Rough splits, sides	1,721,187			520	1,000		1,000		
Cost	$1,320,589			$1,560	$1,800		$600		
All other rough leather, sides	1,435,732				13,494	13,788			
Cost	$1,341,584				$54,578	$84,939			
Oil, stearin, degras, tallow, and all other materials used in currying	$3,790,672	$508	$175	$127,508	$14,174	$104,996	$16,025	$191,794	$52,683
Fuel	$1,130,608	$13,058	$100	$33,376	$6,674	$38,747	$3,261	$73,736	$10,149
Rent of power and heat	$30,064			$2,180					
Mill supplies	$318,547	$9,036	$20	$17,092	$1,527	$26,864	$3,562	$11,093	$1,652
All other materials	$815,693	$290		$21,030	$2,800	$78,033	$4,760	$66,142	$1,085
Freight	$1,687,609	$65		$44,272	$10,085	$55,073	$29,634	$17,082	$5,169
Products:									
Total value	$204,038,127	$1,005,358	$5,859	$7,405,981	$891,478	$9,400,504	$1,187,697	$7,847,835	$1,589,802
Sold in the rough, sides	4,229,634	3,040		130,595	20,392	27,496	71,502	150,976	31,009
Value	$6,864,345	$7,818		$309,405	$24,470	$56,066	$161,091	$74,470	$15,250
Rough leather, sides	1,242,173	2,800		59,205		6,000	64,684		
Value	$3,900,284	$7,683		$242,100		$21,000	$148,065		
Rough grains, sides	322,147				8,000				
Value	$806,422				$20,600				
Rough splits, sides	2,510,347			59,640	12,392	21,496	5,116	150,976	21,009
Value	$1,801,452			$11,005	$3,870	$35,066	$8,232	$74,470	$12,250
All other rough leather, sides	154,967	240		11,750			1,702		10,000
Value	$356,187	$135		$56,300			$4,794		$3,000
Sole leather, sides	15,472,072	218,790		556,063			57,952	68,324	
Value	$55,481,625	$974,000		$2,532,988			$300,985	$310,296	
Oak, sides	2,562,814	218,550		556,063			57,952		
Value	$13,359,836	$973,250		$2,532,988			$300,985		
Union, sides	3,096,162								
Value	$12,807,262								
Hemlock, sides	9,810,996	240						68,324	
Value	$29,305,561	$750						$310,296	
Chrome, sides	2,100								
Value	$8,966								
Upper leather, other than calf or kip skins	$26,154,956	$1,960	$830	$150,473	$8,340	$132,000	$67,235	$2,191,221	$655
Grain, satin, kangaroo, etc., side leather, sides	8,141,093	850	350	60,603			25,925	932,186	144
Value	$17,478,802	$1,650	$800	$139,572			$37,735	$1,318,546	$425
Finished splits, number	8,790,382	200	150	7,520	1,000		37,432	974,992	144
Value	$6,740,502	$310	$30	$10,901	$2,340		$29,500	$487,675	$130
Patent and enameled shoe leather, sides	236,943				800	21,496			
Value	$1,092,534				$6,000	$132,000			
Horsehide, sides	446,756							200,000	36
Value	$843,118							$385,000	$100
Calf and kip skins, tanned and finished, number	8,855,983	863	150	122,152			35,262	1,455,154	16,507
Value	$15,693,596	$1,536	$120	$195,124			$67,877	$3,034,367	$42,865
Flesh finished, number	1,151,413	663	150	85,000			7,487	302,579	13,782
Value	$2,491,711	$1,296	$120	$141,529			$12,302	$876,688	$34,790
Grain finished, number	7,112,859	200		37,152			27,775	1,152,575	2,725
Value	$12,127,439	$240		$53,595			$55,575	$2,157,679	$8,075
Patent and enameled, number	591,711								
Value	$1,074,446								
Goatskins, tanned and finished, number	47,043,932	1,013	100	6,400		9,363,769	2,590		
Value	$35,672,981	$864	$60	$6,040		$8,634,800	$2,323		
Black, number	38,176,816	750	100			7,803,193	2,115		
Value	$29,050,886	$711	$60			$7,104,736	$1,878		
Colored, number	8,867,116	263		6,400		1,560,576	475		
Value	$6,622,095	$153		$6,040		$1,530,064	$445		
Finished leather	$45,291,552	$9,255	$4,545	$2,833,762	$558,935	$189,501	$496,634	$949,858	$1,239,728
Sheepskins, tanned and finished, number	20,290,985	425	150	1,135,250		175,272	31,150	1,263,323	10,335
Value	$8,353,765	$225	$45	$318,900		$61,921	$10,312	$540,193	$5,606
Belting leather, sides	1,472,016				57,240	17,588	61,505	6,400	43,939
Value	$7,092,778				$404,223	$127,580	$260,190	$33,080	$188,599
Harness leather, sides	3,444,616	2,650	2,000	379,323	1,201		56,200	34,303	193,777
Value	$16,712,056	$9,030	$4,500	$1,976,755	$5,142		$226,132	$170,000	$1,011,613
Carriage leather, hides	518,805			175	10,000			250	
Value	$4,829,388			$1,200	$69,000			$625	
Trunk, bag, and pocketbook leather	$2,611,326			$11,400	$40,285			$20,510	$33,586
Bookbinders' leather	$1,688,413				$40,285				
Leather for manufacture of gloves	$3,084,837			$525,507				$185,450	$324
Furniture leather, hides	100,936								
Value	$918,999								
All other leather	$9,043,008	$8,275	$250	$531,690	$289,391	$5,609	$26,975	$769,264	$253,056
All other products, including by-products, offal, etc	$5,514,395	$1,535	$24	$843,710	$9,965	$201,840	$24,220	$489,859	$36,098
Amount charged for tanning or currying for others	$4,321,669	$115	$30	$2,789	$377	$180,688	$40,357	$28,500	$2,150

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	United States.	Alabama.	Arkansas.	California.	Connecticut.	Delaware.	Georgia.	Illinois.	Indiana.
Custom work, stock tanned or finished for others:									
Estimated value in condition received	$14,469,194	$162	$40	$9,075	$3,600	$429,424	$150,001	$87,625	$2,820
Estimated value after being tanned or curried	$19,249,391	$309	$75	$13,012	$4,180	$638,112	$191,717	$125,275	$5,220
Tanned—									
Hides, number	713,350	47	10	189			19,330	250	5,075
Estimated value in condition received	$3,232,043	$63	$40	$600			$149,566	$375	$1,700
Estimated value after being tanned or curried	$4,538,715	$111	$75	$1,187			$191,057	$625	$3,400
Skins, number	20,843,315	155		250	20	935,969	250	178,600	2,800
Estimated value in condition received	$9,133,128	$83		$250	$15	$429,424	$435	$87,250	$1,120
Estimated value after being tanned or curried	$12,343,166	$166		$500	$40	$638,112	$660	$124,650	$1,820
Curried—									
Sides, number	918,549	12		1,878					
Estimated value in condition received	$1,082,921	$16		$8,100					
Estimated value after being tanned or curried	$1,134,088	$32		$11,125					
Splits, number	331,506								
Estimated value in condition received	$342,958								
Estimated value after being tanned or curried	$442,852								
Skins, number	1,322,544			25					
Estimated value in condition received	$678,144			$125	$3,585				
Estimated value after being tanned or curried	$790,575			$200	$4,140				
Comparison of products:									
Number of establishments reporting for both years	1,178	16	3	40	7	18	32	19	23
Value for census year	$183,660,694	$1,000,898	$5,859	$7,335,521	$891,478	$9,165,294	$1,146,841	$4,644,518	$1,589,802
Value for preceding business year	$165,421,989	$920,505	$5,050	$6,790,030	$775,733	$8,128,422	$700,850	$3,906,591	$1,348,328
Power:									
Number of establishments reporting	991	3	1	44	7	20	20	24	17
Total horsepower	91,917	662	12	2,392	215	3,755	673	3,305	648
Owned—									
Engines—									
Steam, number	1,507	8	1	53	5	27	19	49	20
Horsepower	84,229	656	12	2,125	120	3,640	638	3,305	620
Gas and gasoline, number	25				1		1		1
Horsepower	866				15		4		8
Water wheels, number	109	1			3		4		
Horsepower	2,231	6			80		31		
Electric motors, number	206			11		5			2
Horsepower	3,057			240		115			20
Other power, number	1								
Horsepower	3								
Rented—									
Electric, horsepower	863			22					
Other kind, horsepower	668			5					
Furnished to other establishments, horsepower	298			5		30	10	92	
Establishments classified by number of persons employed not including proprietors or firm members:									
Total number of establishments	1,306	18	3	45	7	20	36	27	23
No employees	186	8	1	2			7	2	5
Under 5	313	8	2	6	1	1	15	1	8
5 to 20	231	1		14	1	1	8	5	4
21 to 50	235			13	4	5	4	6	5
51 to 100	164			5	1	5		5	
101 to 250	131	1		5		5	2	6	1
251 to 500	33					2		1	
501 to 1,000	10							1	
Over 1,000	3					1			

	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.
Number of establishments	23	3	31	22	119	27	9	4	9
Character of organization:									
Individual	7	3	21	12	55	7	9	3	2
Firm and limited partnership	5		4	6	43	5		1	1
Incorporated company	11		6	4	21	15			6
Capital:									
Total	$4,681,389	$6,193	$1,376,106	$1,088,725	$15,317,940	$5,214,042	$23,060	$2,460	$922,083
Land	$249,842	$1,960	$28,438	$60,980	$360,099	$204,447	$1,765	$140	$97,635
Buildings	$597,407	$858	$156,457	$172,720	$1,339,948	$638,179	$12,000	$570	$118,736
Machinery, tools, and implements	$439,040	$925	$85,246	$148,295	$1,745,968	$471,193	$4,090	$405	$73,743
Cash and sundries	$3,395,100	$2,450	$1,105,965	$706,730	$11,871,925	$3,900,223	$5,205	$1,345	$631,969
Proprietors and firm members	17	3	30	28	160	19	9	6	4
Salaried officials, clerks, etc.:									
Total number	53		36	18	355	72			20
Salaries	$61,063		$26,798	$17,429	$405,648	$95,507			$35,860
Officers of corporations—									
Number	19		4	1	27	17			11
Salaries	$31,310		$4,400	$600	$82,764	$39,883			$24,040
General superintendents, managers, clerks, etc.—									
Total number	34		32	17	328	55			9
Salaries	$29,753		$22,398	$16,829	$322,884	$55,624			$11,320
Men—									
Number	32		30	17	289	52			9
Salaries	$29,153		$21,482	$16,829	$304,341	$54,362			$11,320
Women—									
Number	2		2		39	3			
Salaries	$600		$916		$18,543	$1,262			

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.
Wage-earners, including pieceworkers, and total wages—									
Greatest number employed at any one time during the year	993	4	794	513	8,604	1,747	19	3	199
Least number employed at any one time during the year	707	4	502	393	5,846	1,233	18	1	175
Average number	810	4	587	455	7,010	1,427	18	1	185
Wages	$321,658	$1,341	$229,268	$156,182	$3,379,698	$559,142	$3,550	$240	$98,578
Men, 16 years and over—									
Average number	810	4	584	442	6,955	1,425	18	1	184
Wages	$321,658	$1,341	$228,761	$152,716	$3,358,807	$558,498	$3,550	$240	$98,422
Women, 16 years and over—									
Average number				8	48				
Wages				$2,496	$19,307				
Children, under 16 years—									
Average number			3	5	7	2			1
Wages			$507	$970	$1,584	$644			$156
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	771	4	687	405	6,743	1,243	19	3	176
February	775	4	655	406	6,845	1,246	19	3	175
March	808	4	614	445	6,804	1,396	18	1	175
April	818	4	597	433	6,821	1,394	18	1	173
May	889	4	604	451	6,731	1,358	19	1	178
June	821	4	556	469	6,448	1,511	19	1	188
July	846	4	484	450	6,481	1,458	18	1	184
August	859	4	530	447	6,697	1,596	18	1	186
September	822	4	568	449	7,190	1,531	18	1	193
October	773	4	569	454	7,488	1,501	17	1	193
November	772	4	569	446	7,574	1,452	18	1	195
December	770	4	581	443	7,638	1,409	18	1	194
Women, 16 years and over—									
January				8	41				
February				8	40				
March				8	39				
April				8	40				
May				8	47				
June				8	47				
July				8	45				
August				8	47				
September				8	52				
October				8	59				
November				8	61				
December				8	64				
Children, under 16 years—									
January			2	4	7	3			1
February			2	4	7	3			1
March			2	4	7	3			1
April			3	4	7	3			1
May			3	5	7	3			1
June			3	6	7	3			1
July			3	6	7	1			1
August			3	6	7	2			1
September			3	6	7	2			1
October			2	6	7	2			1
November			2	5	7	2			1
December			2	5	7	2			1
Miscellaneous expenses:									
Total	$112,659	$78	$102,332	$40,860	$662,553	$248,297	$483	$13	$27,846
Rent of works	$1,950		$571	$1,531	$73,299	$800	$10		$800
Taxes, not including internal revenue	$18,455	$44	$10,958	$4,059	$88,961	$30,881	$191	$6	$2,209
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$92,254	$34	$90,803	$35,270	$500,293	$216,616	$282	$7	$24,837
Contract work									
Materials used:									
Total cost	$2,881,896	$6,355	$1,943,204	$1,411,457	$19,793,757	$4,697,367	$9,803	$2,202	$557,131
Hides and skins—									
Hides (all kinds), number	377,676	150	404,988	138,495	1,029,535	751,935	890	650	66,865
Cost	$2,284,131	$500	$1,214,636	$786,892	$4,703,949	$3,582,896	$2,925	$1,662	$435,883
Calf and kip skins, number	100	700	4,012	132,738	2,229,559	350	300	100	711
Cost	$100	$420	$5,410	$145,931	$2,705,877	$275	$228	$150	$1,135
Goatskins, number	100	300		41,000	9,725,120	400	20	200	170
Cost	$40	$60		$16,500	$4,708,971	$200	$5	$50	$101
Sheepskins, number	88,961	12,000	1,616,870	330,890	7,529,451	617,447	1,124		629
Cost	$50,655	$4,800	$342,620	$247,786	$2,290,309	$328,216	$396		$301
All other skins, number	2,500	100	20		47,946	2,310	1,050		8,678
Cost	$1,200	$20	$6		$41,963	$1,140	$1,033		$3,623
Tanning materials—									
Hemlock bark, cords	1,084		40,622	3,116	61,971	89,399	32		774
Cost	$9,440		$229,347	$21,888	$498,184	$483,720	$164		$7,397
Oak bark, cords	29,802	20	4,000	12,087	1,070	20	75	75	2,936
Cost	$244,028	$80	$28,000	$80,603	$8,817	$100	$525	$255	$28,797
Gambier, bales	70		1,078		15,469	1,610	65		76
Cost	$526		$7,370		$106,299	$11,050	$426		$487
Hemlock bark extract, barrels	252		197	1	3,688	56	6		69
Cost	$2,746		$2,654	$13	$45,683	$677	$97		$910
Oak bark extract, barrels	13,024	12	5	309	13,467	252	32		800
Cost	$136,590	$135	$85	$3,291	$124,510	$2,524	$550		$9,757
Quebracho, barrels or bales	216		10	25	509	399	2		
Cost	$4,311		$141	$400	$7,884	$6,608	$25		
Sumac, tons	99	3	125	111	3,613	75			1
Cost	$3,402	$120	$7,675	$6,385	$190,579	$4,341			$57
Chemicals	$3,191	$50	$5,615	$15,560	$307,045	$30,128	$150		$2,420
All other materials used in tanning	$23,681		$11,400	$2,547	$300,328	$34,101	$362		$5,991

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.
Materials used—Continued.									
Total cost—Continued.									
Currying materials—									
Purchased rough, sides	500		4,238	12,112	2,882,836		150		7,200
Cost	$2,500		$7,860	$44,325	$2,492,061		$600		$27,800
Rough leather, sides	500		1,580	11,439	338,991		150		7,200
Cost	$2,500		$5,431	$43,836	$1,051,403		$600		$27,800
Rough grains, sides					12,578				
Cost					$31,704				
Rough splits, sides				673	1,550,723				
Cost				$489	$1,056,670				
All other rough leather, sides			2,658		980,544				
Cost			$2,429		$352,284				
Oil, stearin, degras, tallow, and all other materials used in currying	$51,608	$87	$22,092	$16,509	$785,785	$93,694	$1,310	$85	$18,534
Fuel	$16,804		$12,962	$8,809	$219,397	$24,804	$712		$6,434
Rent of power and heat					$9,819	$1,350			
Mill supplies	$4,128		$5,068	$1,598	$27,620	$8,367	$55		$2,794
All other materials	$19,607	$50	$1,567	$1,370	$80,502	$11,553	$75		$710
Freight	$23,199	$33	$38,696	$11,050	$188,175	$71,623	$165		$4,000
Products:									
Total value	$3,757,016	$10,157	$2,451,713	$1,754,102	$26,067,714	$6,015,590	$19,336	$3,556	$816,720
Sold in the rough, sides	14,014		450	125,760	254,889	122,757	700		
Value	$67,071		104	$260,350	$293,434	$123,426	$1,600		
Rough leather, sides	14,014		150	1,500	24,119	19,632			
Value	$67,071		$525	$4,450	$41,151	$66,419			
Rough grains, sides				62,000	59,242				
Value				$170,500	$82,938				
Rough splits, sides			1,200	62,260	171,528	103,125			
Value			$689	$85,400	$169,345	$62,007			
All other rough leather, sides			2,100				700		
Value			$1,890				$1,600		
Sole leather, sides	442,975		685,659	48,310	69,980	914,954	115	50	232
Value	$2,314,779		$1,451,679	$221,476	$267,500	$3,090,684	$345	$125	$1,392
Oak, sides	442,975			23,900		25,000		50	232
Value	$2,314,779			$184,576		$75,000		$125	$1,392
Union, sides				24,410	60,000				
Value				$86,900	$245,000				
Hemlock, sides			685,659		9,980	889,954	115		
Value			$1,451,679		$22,500	$3,015,684	$345		
Chrome, sides									
Value									
Upper leather, other than calf or kip skins	$1,000	$500	$349,312	$214,232	$7,275,086	$817,888	$1,205	$2,550	
Grain, satin, kangaroo, etc., side leather, sides		200	119,276	37,005	1,859,287	281,559	450	1,147	
Value		$500	$269,187	$109,011	$4,361,481	$754,888	$1,000	$2,394	
Finished splits, number	1,000		148,568	119,166	3,581,012	100,000	350	547	
Value	$1,000		$79,825	$105,221	$2,852,551	$63,000	$175	$150	
Patent and enameled shoe leather, sides					18,650				
Value					$61,054				
Horsehide, sides			100				10	3	
Value			$300				$30	$6	
Calf and kip skins, tanned and finished, number		700	5,127	132,738	2,248,254	150	300	100	371
Value		$767	$9,396	$209,940	$4,017,224	$150	$410	$250	$500
Flesh finished, number		300	200	132,738	6,335		80		171
Value		$437	$400	$209,940	$7,395		$60		$200
Grain finished, number		400	4,927		2,241,919	150	200	100	
Value		$330	$8,996		$4,009,829	$150	$325	$250	
Patent and enameled, number							20		200
Value							$25		$300
Goatskins, tanned and finished, number	100	300		41,000	8,956,118		20	200	170
Value	$70	$200		$23,750	$6,012,205		$10	$181	$204
Black, number	100	300		41,000	5,001,784			75	4
Value	$70	$200		$23,750	$3,427,021			$81	$4
Colored, number					3,954,334		20	125	166
Value					$2,585,184		$10	$100	$200
Finished leather	$1,169,737	$3,500	$474,700	$601,287	$5,170,537	$1,331,931	$5,268	$450	$631,044
Sheepskins, tanned and finished, number	88,961	6,000	1,940,870	330,890	8,590,563	617,423	1,124		629
Value	$44,410	$3,000	$472,520	$137,400	$3,686,839	$234,336	$773		$522
Belting leather, sides	6,532		104	36,188	226,443				52,946
Value	$33,426		$424	$162,406	$945,723				$242,095
Harness leather, sides	206,748	100	230	16,634	4,600	212,386	655	100	72,386
Value	$1,091,901	$500	$950	$91,039	$14,800	$989,832	$2,995	$450	$387,467
Carriage leather, hides									160
Value									$960
Trunk, bag, and pocketbook leather			$806	$210,442	$316,646	$107,763			
Bookbinders' leather					$194,456				
Leather for manufacture of gloves					$13,350		$1,500		
Furniture leather, hides					6,960				
Value					$48,723				
All other leather	$139,905	$40	$21,816	$20,350	$957,817	$222,196	$55		$165,070
All other products, including by-products, offal, etc	$64,454	$5,100	$19,656	$188,506	$992,728	$291,102	$110		$6,670
Amount charged for tanning or currying for others		$50	$122,050	$14,211	$1,081,183	$133,213	$10,333		$11,840
Custom work, stock tanned or finished for others:									
Estimated value in condition received		$60	$575,507	$19,251	$3,817,194	$185,691	$21,128		$62,600
Estimated value after being tanned or curried		$120	$730,935	$33,477	$4,757,149	$340,450	$33,650		$75,340
Tanned—									
Hides, number			4,706	12,810	84,500	61,822	4,143		5,400
Estimated value in condition received			$24,240	$19,251	$318,500	$185,466	$19,525		$35,600
Estimated value after being tanned or curried			$33,760	$33,477	$407,500	$340,000	$30,750		$43,340
Skins, number		100	2,162,200		6,388,588	125	2,130		
Estimated value in condition received		$60	$452,217		$2,344,675	$225	$1,603		
Estimated value after being tanned or curried		$120	$583,700		$3,088,590	$450	$2,900		

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.
Custom work, stock tanned or finished for others—Continued.									
Estimated value after being tanned or curried—Continued.									
Curried—									
Sides, number			381,217		512,965				9,120
Estimated value in condition received			$99,050		$902,894				$27,000
Estimated value after being tanned or curried			$113,475		$917,066				$32,000
Splits, number					182,160				
Estimated value in condition received					$126,000				
Estimated value after being tanned or curried					$175,000				
Skins, number					299,147				
Estimated value in condition received					$125,125				
Estimated value after being tanned or curried					$168,993				
Comparison of products:									
Number of establishments reporting for both years	22	3	29	21	101	23	8	4	9
Value for census year	$3,743,516	$10,157	$2,364,810	$1,495,121	$19,468,833	$5,190,613	$18,501	$3,556	$816,720
Value for preceding business year	$3,660,166	$3,304	$2,112,754	$1,429,441	$18,137,227	$4,776,251	$17,500	$3,400	$798,310
Power:									
Number of establishments reporting	22		27	15	116	23	2		8
Total horsepower	1,836		1,712	1,008	11,553	3,344	35		388
Owned—									
Engines—									
Steam, number	38		32	24	138	45	2		11
Horsepower	1,823		1,419	1,008	10,935	3,269	35		388
Gas and gasoline, number					1				
Horsepower					2				
Water wheels, number	1		15		5				
Horsepower	10		290		126				
Electric motors, number			1		1	1			
Horsepower			3		10	10			
Other power, number	1								
Horsepower	3								
Rented—									
Electric, horsepower					161				
Other kind, horsepower					319	65			
Furnished to other establishments, horsepower					12				
Establishments classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	23	3	31	22	119	27	9	4	9
No employees		2	3	3	1	1	2	3	
Under 5	3	1	7	9	7	3	6	1	3
5 to 20	4		7	4	32	3	1		2
21 to 50	11		8	2	36	7			2
51 to 100	3		4	2	21	8			2
101 to 250	2		2	2	11	3			
251 to 500					9	2			
501 to 1,000					2				
Over 1,000									

	New Hampshire.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.
Number of establishments	12	77	147	75	58	16	254	5	5
Character of organization:									
Individual	2	23	64	55	25	7	110	2	5
Firm and limited partnership	5	23	57	17	21	8	63	2	
Incorporated company	5	31	26	3	12	1	81	1	
Capital:									
Total	$1,900,277	$9,906,119	$19,062,817	$1,299,798	$5,822,580	$173,144	$57,320,227	$157,900	$5,695
Land	$95,695	$1,064,690	$633,849	$36,863	$207,860	$11,170	$8,816,195	$21,700	$515
Buildings	$224,824	$1,241,677	$2,251,812	$180,040	$690,006	$27,470	$7,730,782	$13,000	$1,875
Machinery, tools, and implements	$179,833	$772,302	$2,204,388	$60,755	$279,804	$17,204	$3,782,119	$19,900	$875
Cash and sundries	$1,399,925	$6,827,450	$13,972,818	$1,022,140	$4,644,910	$117,300	$36,991,131	$103,300	$2,300
Proprietors and firm members	14	72	199	94	76	23	260	6	5
Salaried officials, clerks, etc.:									
Total number	51	276	193	28	74	1	506	6	
Salaries	$54,275	$412,847	$264,724	$29,259	$80,680	$900	$643,895	$7,930	
Officers of corporations—									
Number	2	57	19	4	18		59	1	
Salaries	$3,200	$175,137	$72,688	$10,450	$35,000		$125,536	$2,500	
General superintendents, managers, clerks, etc.—									
Total number	49	219	174	24	56	1	447	5	
Salaries	$51,075	$237,710	$192,036	$18,809	$45,680	$900	$518,359	$5,430	
Men—									
Number	37	208	162	24	49	1	429	5	
Salaries	$45,867	$230,005	$187,473	$18,809	$43,462	$900	$510,118	$5,430	
Women—									
Number	12	16	12		7		18		
Salaries	$5,208	$7,705	$4,563		$2,218		$8,241		
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	710	5,009	7,706	550	1,513	55	15,966	73	10
Least number employed at any one time during the year	465	3,330	5,596	309	1,256	53	11,311	62	10
Average number	552	4,178	6,530	366	1,384	53	13,396	69	10
Wages	$219,292	$2,057,197	$2,775,115	$105,132	$617,409	$27,532	$5,457,518	$32,092	$2,000
Men, 16 years and over—									
Average number	521	4,101	6,397	366	1,384	52	12,839	67	10
Wages	$209,728	$2,038,955	$2,738,721	$105,132	$617,409	$27,382	$5,311,200	$31,572	$2,000
Women, 16 years and over—									
Average number	31	39	122			1	287	2	
Wages	$9,564	$9,900	$33,510			$150	$84,078	$520	
Children, under 16 years—									
Average number		38	11				270		
Wages		$8,342	$2,884				$62,240		

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	New Hampshire.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	442	4,090	6,655	335	1,350	51	12,141	69	10
February	444	4,150	6,769	344	1,389	51	12,307	70	10
March	485	4,389	6,674	342	1,424	51	12,348	71	10
April	519	4,392	6,580	346	1,425	51	12,369	68	10
May	540	4,425	6,411	408	1,431	52	12,109	66	10
June	492	3,940	6,066	435	1,395	53	12,299	63	10
July	497	3,668	5,939	438	1,356	53	13,117	61	10
August	534	3,836	6,146	384	1,353	53	13,650	61	10
September	578	4,024	6,319	365	1,346	52	13,632	67	10
October	576	4,057	6,345	333	1,369	52	13,582	69	10
November	575	4,137	6,399	332	1,375	52	13,389	70	10
December	571	4,100	6,457	330	1,401	52	13,123	69	10
Women, 16 years and over—									
January	22	28	157	.....	.....	1	317	2	.....
February	26	29	157	.....	.....	1	300	2	.....
March	27	31	146	.....	.....	1	281	2	.....
April	28	30	144	.....	.....	1	261	2	.....
May	25	34	139	.....	.....	1	245	2	.....
June	25	43	143	.....	.....	1	236	2	.....
July	30	43	82	.....	.....	1	291	2	.....
August	30	62	93	.....	.....	1	291	2	.....
September	35	59	96	.....	.....	2	306	2	.....
October	36	37	98	.....	.....	2	301	2	.....
November	40	34	100	.....	.....	2	304	2	.....
December	46	34	109	.....	.....	2	316	2	.....
Children, under 16 years—									
January	.....	37	11	.....	.....	.....	284	.....	.....
February	.....	37	11	.....	.....	.....	274	.....	.....
March	.....	36	11	.....	.....	.....	246	.....	.....
April	.....	37	10	.....	.....	.....	239	.....	.....
May	.....	39	10	.....	.....	.....	236	.....	.....
June	.....	38	10	.....	.....	.....	230	.....	.....
July	.....	36	10	.....	.....	.....	289	.....	.....
August	.....	35	12	.....	.....	.....	301	.....	.....
September	.....	39	12	.....	.....	.....	285	.....	.....
October	.....	38	12	.....	.....	.....	283	.....	.....
November	.....	38	13	.....	.....	.....	284	.....	.....
December	.....	42	13	.....	.....	.....	283	.....	.....
Miscellaneous expenses:									
Total	$145,008	$507,753	$558,470	$32,685	$160,315	$4,551	$2,432,724	$5,832	$525
Rent of works	$1,400	$31,817	$39,090	$640	$3,090	.....	$47,955	$1,268	.....
Taxes, not including internal revenue	$6,445	$36,667	$50,148	$3,829	$15,488	$812	$136,805	$444	$100
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$133,523	$428,137	$468,232	$28,216	$109,706	$3,739	$2,244,026	$2,590	$425
Contract work	$3,635	$11,132	$1,000	.....	$32,031	.....	$3,938	$1,530	.....
Materials used:									
Total cost	$2,053,367	$9,532,507	$17,424,300	$1,129,402	$3,774,298	$190,184	$42,403,503	$207,317	$12,743
Hides and skins—									
Hides (all kinds), number	73,362	395,317	2,000,132	160,484	415,762	30,665	4,848,759	25,754	3,350
Cost	$250,170	$3,632,765	$8,969,164	$939,353	$2,932,022	$139,535	$22,955,326	$103,016	$9,788
Calf and kip skins, number	11,456	553,900	1,048,722	10,755	27,421	4,099	388,205	2,600	220
Cost	$15,268	$463,600	$1,126,963	$10,658	$29,242	$4,445	$394,981	$4,160	$170
Goatskins, number	258,108	4,979,691	1,751,478	2,146	1,500	252	21,854,197	.....	50
Cost	$162,009	$2,206,983	$1,242,788	$721	$950	$116	$10,566,749	.....	$12
Sheepskins, number	1,123,904	976,060	6,665,810	3,089	86,670	2,365	1,949,730	201,600	125
Cost	$510,500	$399,443	$1,945,142	$629	$54,726	$600	$492,520	$68,000	$16
All other skins, number	.....	717,597	1,050,302	2,046	3,736	2,100	108,544	.....	.....
Cost	.....	$365,801	$579,088	$2,294	$1,770	$1,500	$50,661	.....	.....
Tanning materials—									
Hemlock bark, cords	3,703	4,016	178,797	1,808	5,497	936	565,062	26	.....
Cost	$25,391	$39,619	$1,190,447	$8,524	$38,785	$7,451	$3,460,489	$260	.....
Oak bark, cords	.....	15,150	4,077	20,467	28,798	1,247	64,392	.....	305
Cost	.....	$170,830	$32,951	$107,242	$227,954	$20,435	$437,323	.....	$1,695
Gambier, bales	712	15,692	19,098	11	2,162	60	2,794	.....	10
Cost	$4,621	$111,063	$123,568	$43	$20,693	$504	$16,985	.....	$40
Hemlock bark extract, barrels	40	1,024	2,076	1	2,855	.....	304	.....	.....
Cost	$480	$12,302	$25,349	$13	$29,479	.....	$3,368	.....	.....
Oak bark extract, barrels	.....	2,902	526	270	7,112	85	5,615	.....	9
Cost	.....	$38,457	$5,470	$3,294	$70,727	$1,413	$56,728	.....	$135
Quebracho, barrels or bales	.....	5,065	615	60	4,814	.....	3,775	.....	.....
Cost	.....	$70,375	$9,437	$300	$70,899	.....	$50,777	.....	.....
Sumac, tons	.....	1,121	2,153	1	143	2	206	.....	.....
Cost	.....	$54,940	$103,626	$65	$6,018	$90	$10,008	.....	.....
Chemicals	$6,393	$136,413	$330,846	$583	$1,823	$297	$919,582	$5,180	$15
All other materials used in tanning	$9,489	$124,728	$275,420	$1,171	$11,167	$375	$658,336	$3,080	$240
Currying materials—									
Purchased rough, sides	254,359	537,824	119,400	921	4,224	.....	382,087	7,200	.....
Cost	$856,995	$1,139,113	$418,080	$1,630	$19,431	.....	$891,999	$12,500	.....
Rough leather, sides	68,194	205,048	111,300	421	4,224	.....	184,654	7,200	.....
Cost	$297,197	$425,133	$393,580	$730	$19,431	.....	$662,587	$12,500	.....
Rough grains, sides	.....	136,770	8,100	500	.....	.....	7,890	.....	.....
Cost	.....	$384,392	$24,500	$900	.....	.....	$25,314	.....	.....
Rough splits, sides	.....	140,891	.....	.....	.....	.....	5,580	.....	.....
Cost	.....	$241,395	.....	.....	.....	.....	$4,735	.....	.....
All other rough leather, sides	186,165	55,120	.....	.....	.....	.....	183,963	.....	.....
Cost	$559,798	$88,193	.....	.....	.....	.....	$199,363	.....	.....
Oil, stearin, degras, tallow, and all other materials used in currying	$59,106	$275,138	$525,828	$10,791	$194,556	$8,550	$510,107	$7,955	$375
Fuel	$8,829	$104,706	$167,180	$2,531	$28,539	$2,051	$211,810	$1,610	$27
Rent of power and heat	$1,945	$3,260	$2,178	.....	.....	.....	$9,125	$150	.....
Mill supplies	$16,554	$22,584	$45,178	$1,523	$8,736	$413	$73,215	$432	$20
All other materials	$115,982	$97,078	$77,481	$754	$3,565	$185	$137,734	.....	$70
Freight	$9,635	$63,309	$228,121	$37,203	$23,216	$2,224	$500,680	$974	$140

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	New Hampshire.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.
Products:									
Total value	$2,664,942	$13,747,155	$23,205,991	$1,502,378	$5,182,065	$249,728	$55,615,009	$292,939	$18,387
Sold in the rough, sides	2,071	329,751	679,928	105,857	65,060	2,586	666,080	200	3,360
Value	$1,168	$453,053	$1,130,248	$475,810	$38,617	$1,456	$1,318,801	$1,000	$8,400
Rough leather, sides	150		172,022	105,607	400	300	283,233	200	3,360
Value	$208		$523,331	$475,748	$1,200	$800	$888,984	$1,000	$8,400
Rough grains, sides		44,219	58,792		150		83,744		
Value		$127,773	$180,119		$400		$195,092		
Rough splits, sides	1,921	285,532	419,554	200	64,510	2,286	294,186		
Value	$960	$325,280	$399,297	$12	$37,017	$656	$229,780		
All other rough leather, sides			34,560	50			4,917		
Value			$27,501	$50			$4,945		
Sole leather, sides			1,446,242	31,389	134,962	806	8,183,522		50
Value			$4,655,818	$124,449	$1,016,048	$3,030	$28,691,603		$125
Oak, sides				31,289	134,962		335,894		50
Value				$124,249	$1,016,048		$1,854,243		$125
Union, sides			401,879			6	2,366,322		
Value			$1,430,899			$30	$10,058,019		
Hemlock, sides			1,044,363	100		800	5,481,306		
Value			$3,224,919	$200		$3,000	$16,779,341		
Chrome, sides									
Value									
Upper leather, other than calf or kip skins	$173,325	$1,255,835	$6,903,855	$53,114	$11,423	$373	$2,057,788		$340
Grain, satin, kangaroo, etc., side leather, sides	60,921	578,000	2,130,820	27,842	1,100	25	632,789		165
Value	$127,066	$241,000	$5,177,509	$49,745	$2,875	$100	$1,400,727		$340
Finished splits, number	59,000	44,000	2,025,943	9,000			635,969		
Value	$46,259	$170,000	$1,677,080	$3,360			$626,134		
Patent and enameled shoe leather, sides		181,082	10,815		1,600		2,500		
Value		$830,540	$49,190		$8,500		$5,250		
Horsehide, sides		6,299	32	5	16	146	12,536		
Value		$14,295	$76	$9	$48	$273	$25,677		
Calf and kip skins, tanned and finished, number	21,406	539,350	990,213	11,579	27,421	4,099	419,593	9,800	220
Value	$44,824	$999,235	$1,442,322	$18,743	$44,225	$7,597	$641,956	$22,615	$290
Flesh finished, number	150		47,090	8,559	27,421	3,670	90,012		120
Value	$400		$159,034	$13,752	$44,225	$6,630	$201,779		$190
Grain finished, number	21,256	10,750	917,765	3,020		529	297,218	9,800	100
Value	$44,424	$28,235	$1,231,899	$4,991		$1,067	$397,860	$22,615	$100
Patent and enameled, number		528,600	25,358				32,363		
Value		$971,000	$51,389				$42,316		
Goatskins, tanned and finished, number	258,108	4,969,191	1,801,518	2,046	1,500	252	21,602,961		50
Value	$200,928	$3,061,738	$1,898,957	$1,212	$1,775	$250	$15,796,782		$25
Black, number	258,108	3,416,489	1,798,518	1,740	1,500	12	19,828,129		20
Value	$200,928	$2,190,402	$1,896,457	$976	$1,775	$10	$14,182,422		$10
Colored, number		1,552,702	3,000	306		240	1,774,832		30
Value		$871,336	$2,500	$236		$240	$1,614,360		$15
Finished leather	$1,487,452	$6,479,700	$4,897,881	$649,773	$3,594,249	$146,630	$4,214,641	$153,500	$3,407
Sheepskins, tanned and finished, number	1,153,904	454,988	2,997,036	3,089	86,670	2,365	1,090,822	201,600	125
Value	$434,915	$283,012	$1,360,885	$1,214	$39,535	$1,140	$600,423	$106,500	$52
Belting leather, sides	155,853		13,250	116,400	140,891		5,846	6,200	
Value	$862,711		$89,053	$556,175	$678,187		$33,275	$47,000	
Harness leather, sides	37,214	33,865	146,341	29,156	336,015	31,579	450,352		2,850
Value	$139,826	$177,846	$705,500	$89,184	$1,881,651	$142,790	$2,491,722		$8,355
Carriage leather, hides		382,562	3,506	160	85,661		36,300		
Value		$3,565,538	$14,523	$400	$727,373		$449,676		
Trunk, bag, and pocketbook leather		$906,733	$379,586	$2,800			$475,939		
Bookbinders' leather		$975,089	$385,292		$88,603				
Leather for manufacture of gloves		$2,040	$1,860,388		$300	$2,700	$134,026		
Furniture leather, hides		59,311	5,555		23,410		5,700		
Value		$569,442	$42,654		$228,600		$29,580		
All other leather	$312,324	$1,114,865	$954,622	$156,328	$375,906	$89,742	$1,135,504	$90,824	$700
All other products, including by-products, offal, etc	$413,775	$234,035	$278,638	$19,338	$96,762	$175	$592,954	$5,000	$100
Amount charged for tanning or currying for others	$31,146	$148,694	$1,043,650	$3,611	$3,060	$475	$1,164,981	$20,000	
Custom work, stock tanned or finished for others:									
Estimated value in condition received	$84,752	$698,698	$3,670,166	$6,802	$8,175	$993	$3,737,779	$44,000	
Estimated value after being tanned or curried	$117,298	$883,662	$4,860,238	$11,574	$11,775	$1,518	$5,211,320	$66,000	
Tanned—									
Hides, number	1,432	20,025	17,424	2,949	75	133	343,647	$11,096	
Estimated value in condition received	$5,052	$181,205	$53,290	$6,400	$275	$407	$1,361,476	$44,000	
Estimated value after being tanned or curried	$6,448	$224,638	$73,130	$10,897	$400	$690	$1,971,863	$66,000	
Skins, number	164,000	481,323	6,953,686	476	20,700	293	3,527,468		
Estimated value in condition received	$72,500	$273,535	$3,075,652	$249	$7,900	$171	$2,357,267		
Estimated value after being tanned or curried	$101,850	$352,172	$4,181,988	$467	$11,375	$308	$3,215,907		
Curried—									
Sides, number	1,600	5,900		75		200	5,512		
Estimated value in condition received	$7,200	$19,000		$100		$400	$19,036		
Estimated value after being tanned or curried	$9,000	$27,000		$135		$500	$23,550		
Splits, number		149,346							
Estimated value in condition received		$216,958							
Estimated value after being tanned or curried		$267,852							
Skins, number		8,000	1,015,249	67		25			
Estimated value in condition received		$8,000	$541,224	$58		$15			
Estimated value after being tanned or curried		$12,000	$605,115	$75		$20			
Comparison of products:									
Number of establishments reporting for both years	11	70	133	65	55	15	234	5	5
Value for census year	$2,659,005	$13,621,933	$19,781,901	$1,103,987	$5,101,603	$248,328	$53,962,548	$292,939	$18,387
Value for preceding business year	$2,441,604	$13,048,389	$18,618,055	$989,350	$4,865,808	$235,262	$47,563,376	$292,200	$18,600

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	New Hampshire.	New Jersey.	New York.	North Carolina.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.
Power:									
Number of establishments reporting	10	71	142	26	44	10	215	3	1
Total horsepower	774	4,712	13,613	989	2,440	206	24,454	152	18
Owned—									
Engines—									
Steam, number	9	80	214	28	57	9	422	2	1
Horsepower	536	4,487	11,553	917	2,302	189	22,428	145	18
Gas and gasoline, number	.....	1	5	1	1	.....	12	.....	.....
Horsepower	.....	4	290	5	20	.....	513	.....	.....
Water wheels, number	3	.....	42	6	.....	2	13	.....	.....
Horsepower	81	.....	1,258	67	.....	17	118	.....	.....
Electric motors, number	1	24	57	.....	7	.....	34	.....	.....
Horsepower	12	181	451	.....	118	.....	704	.....	.....
Other power, number	.....	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rented—									
Electric, horsepower	145	.....	6	.....	.....	.....	522	7	.....
Other kind, horsepower	.....	40	55	.....	.....	.....	169	.....	.....
Furnished to other establishments, horsepower	.....	22	10	5	.....	.....	.....	.....	.....
Establishments classified by number of persons employed, not including proprietors and firm members:									
Total number of establishments	12	77	147	75	58	16	254	5	5
No employees	.....	1	5	28	9	6	28	.....	2
Under 5	3	7	20	34	14	7	54	2	3
5 to 20	2	16	37	9	18	2	41	.....	.....
21 to 50	2	22	38	1	11	1	37	3	.....
51 to 100	2	12	24	1	5	.....	45	.....	.....
101 to 250	3	15	19	2	.....	.....	41	.....	.....
251 to 500	.....	4	3	.....	.....	.....	4	.....	.....
501 to 1,000	.....	.....	1	.....	1	.....	3	.....	.....
Over 1,000	.....	.....	.....	.....	.....	.....	1	.....	.....

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[1]
Number of establishments	44	11	4	8	65	3	46	42	8
Character of organization:									
Individual	29	8	1	4	44	1	30	10	4
Firm and limited partnership	11	2	.....	2	12	2	8	14	3
Incorporated company	4	1	3	2	9	.....	8	18	1
Capital:									
Total	$3,444,197	$24,763	$8,625	$160,906	$4,032,387	$17,600	$5,049,615	$18,283,591	$63,351
Land	$94,530	$240	$425	$4,900	$86,547	$1,000	$110,395	$1,113,870	$10,950
Buildings	$400,620	$2,826	$2,900	$13,500	$478,999	$2,500	$554,202	$1,962,329	$16,103
Machinery, tools, and implements	$470,725	$3,016	$2,100	$7,250	$219,561	$1,600	$458,012	$1,538,570	$9,738
Cash and sundries	$2,478,322	$18,681	$3,200	$135,256	$3,247,280	$12,500	$3,927,006	$13,668,822	$26,500
Proprietors and firm members	55	12	1	10	70	6	38	43	14
Salaried officials, clerks, etc:									
Total number	29	2	.....	5	59	.....	37	230	1
Salaries	$35,496	$1,300	.....	$5,450	$84,602	.....	$62,889	$314,956	$600
Officers of corporations—									
Number	2	.....	.....	.....	12	.....	8	26	.....
Salaries	$11,000	.....	.....	.....	$38,200	.....	$34,375	$88,850	.....
General superintendents, managers, clerks, etc.—									
Total number	27	2	.....	5	47	.....	29	204	1
Salaries	$24,496	$1,300	.....	$5,450	$46,402	.....	$28,514	$226,106	$600
Men—									
Number	27	2	.....	5	43	.....	28	191	1
Salaries	$24,496	$1,300	.....	$5,450	$44,692	.....	$28,139	$219,263	$600
Women—									
Number	.....	.....	.....	.....	4	.....	1	13	.....
Salaries	.....	.....	.....	.....	$1,710	.....	$375	$6,843	.....
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	1,053	32	3	128	984	4	819	6,395	33
Least number employed at any one time during the year	659	29	3	26	839	4	579	4,575	11
Average number	803	29	3	68	889	3	664	5,262	22
Wages	$239,870	$9,216	$1,500	$31,225	$313,677	$2,125	$224,444	$2,241,861	$6,963
Men, 16 years and over—									
Average number	799	25	3	68	886	3	663	5,166	22
Wages	$239,586	$8,638	$1,500	$31,225	$313,256	$2,125	$224,399	$2,226,108	$6,963
Women, 16 years and over—									
Average number	.....	1	.....	.....	.....	.....	.....	29	.....
Wages	.....	$50	.....	.....	.....	.....	.....	$6,783	.....
Children, under 16 years—									
Average number	4	3	.....	.....	3	.....	1	67	.....
Wages	$284	$528	.....	.....	$421	.....	$45	$8,970	.....
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	789	23	2	42	865	3	604	4,882	20
February	882	26	3	42	862	4	610	4,965	19
March	819	27	3	35	874	4	657	4,959	25
April	775	27	3	27	881	4	675	4,905	24
May	1,000	24	3	30	872	5	688	5,508	24
June	832	24	3	48	889	4	662	5,588	25
July	859	24	3	78	889	3	656	5,644	23
August	718	25	3	87	909	3	683	5,287	26
September	694	25	3	89	915	3	732	5,201	26
October	743	26	3	104	919	3	665	5,076	26
November	729	25	3	110	919	3	653	5,023	16
December	751	22	3	123	839	3	677	4,951	15

[1] Includes establishments distributed as follows: Arizona, 1; Iowa, 2; Kansas, 1; Nebraska, 2; South Dakota, 2.

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[1]
Average number of wage-earners, including piecework ers, employed during each month—Continued.									
Women, 16 years and over—									
January		1						28	
February		1						29	
March		1						29	
April		1						27	
May		1						28	
June		1						30	
July		1						29	
August		1						29	
September		1						29	
October		1						29	
November		1						29	
December		1						29	
Children, under 16 years—									
January	4	3			3			60	
February	4	3			3			62	
March	4	3			3			72	
April	4	3			4			71	
May	3	3			4			63	
June	3	3			3		4	67	
July	4	3			3		4	67	
August	3	3			3		2	72	
September	4	3			3			72	
October	4	3			3			68	
November	3	3			3			67	
December	3	3			3			69	
Miscellaneous expenses:									
Total	$91,197	$1,158	$215	$10,694	$252,548	$580	$144,458	$735,767	$1,899
Rent of works	$1,060	$469	$1	$1,000	$7,010	$130	$415	$10,690	$206
Taxes, not including internal revenue	$12,969	$108	$64	$887	$9,430	$170	$15,259	$79,147	$289
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$77,168	$581	$150	$8,807	$236,103	$280	$128,784	$645,930	$1,345
Contract work					5				$50
Materials used:									
Total cost	$2,184,311	$52,207	$3,482	$300,162	$3,695,817	$25,701	$2,541,197	$16,040,304	$31,881
Hides and skins—									
Hides (all kinds), number	319,802	10,911	1,005	45,132	430,608	4,375	358,643	2,106,986	695
Cost	$1,878,419	$29,567	$2,040	$216,400	$3,092,237	$13,100	$2,092,451	$9,394,950	$2,533
Calf and kip skins, number	6,919	3,500	210	31,450	2,594	4,720	2,196	2,819,911	3,275
Cost	$3,426	$7,524	$210	$31,725	$2,691	$3,540	$2,331	$3,545,663	$3,380
Goatskins, number	382	975			123			30,390	5,675
Cost	$165	$538			$43			$15,336	$3,270
Sheepskins, number	3,471	12,249		700	16,135	6,400	2,177	66,847	30,250
Cost	$1,398	$3,339		$575	$5,182	$3,080	$648	$57,430	$10,570
All other skins, number	434	120		115	792	500	608	150,382	7,250
Cost	$245	$125		$215	$881	$200	$136	$333,830	$3,750
Tanning materials—									
Hemlock bark, cords	846	10		4,990	15	400	8,445	177,628	
Cost	$3,397	$140		$30,000	$45	$2,400	$49,794	$1,070,780	
Oak bark, cords	37,050	380	3		73,646		69,286	770	
Cost	$209,583	$1,410	$15		$468,333		$305,534	$8,010	
Gambier, bales		251	4	163		4		41,726	197
Cost		$2,280	$48	$1,198		$25		$268,567	$1,345
Hemlock bark extract, barrels	28	62		97			21	51	36
Cost	$373	$1,051		$1,200			$260	$510	$608
Oak bark extract, barrels	30	75			10		394	5	103
Cost	$390	$1,356			$89		$4,990	$60	$627
Que bracho, barrels or bales					421			1,692	
Cost					$5,396			$21,678	
Sumac, tons		2			6			247	
Cost		$90			$233			$12,904	
Chemicals	$1,779	$593	$10	$30	$2,002	$600	$3,868	$124,653	$305
All other materials used in tanning	$4,244	$391	$750	$1,012	$10,390		$9,314	$84,911	$927
Currying materials—									
Purchased rough, sides				225				32,640	
Cost				$1,012				$53,369	
Rough leather, sides				225				11,840	
Cost				$1,012				$40,029	
Rough grains, sides									
Cost									
Rough splits, sides								20,800	
Cost								$13,340	
All other rough leather, sides									
Cost									
Oil, stearine, degras, tallow, and all other materials used in currying	$8,347	$2,417	$327	$10,188	$11,166	$1,760	$15,676	$699,333	$1,485
Fuel	$4,344	$243	$65	$2,791	$7,513	$221	$5,441	$112,393	$1,291
Rent of power and heat	$50				$12				
Mill supplies	$3,097	$25	$17	$279	$4,611	$20	$3,523	$17,619	$225
All other materials	$6,812	$243		$1,600	$12,062	$110	$4,568	$67,755	$120
Freight	$53,242	$875		$1,937	$72,931	$645	$42,663	$150,553	$940
Products:									
Total value	$2,802,117	$76,508	$5,863	$365,099	$4,716,920	$32,605	$3,210,753	$20,074,373	$44,877
Sold in the rough, sides	211,749	3,000		102,200	128,378		156,034	816,809	
Value	$557,948	$450		$160,300	$489,642		$447,171	$377,726	
Rough leather, sides	211,749			29,200	78,882		155,582	9,384	
Value	$557,948			$93,800	$274,036		$445,821	$30,544	
Rough grains, sides				5,500				5,500	
Value				$16,500				$12,500	
Rough splits, sides		3,000		5,500	23,000			801,925	
Value		$450		$3,000	$7,984			$334,682	
All other rough leather, sides				62,000	26,496		452		
Value				$47,000	$207,622		$1,350		
Sole leather, sides	205,942	1,022	600		409,166		363,954	1,630,988	25
Value	$1,086,284	$3,752	$1,975		$2,189,099		$1,742,354	$4,500,714	$125
Oak, sides	205,942	490	200		333,366		195,874		25
Value	$1,086,284	$1,583	$375		$1,836,629		$1,107,080		$125
Union, sides					75,800		167,745		
Value					$352,470		$633,944		
Hemlock, sides		532	400				335	1,628,888	
Value		$2,169	$1,600				$1,330	$4,491,748	
Chrome, sides								2,100	
Value								$8,966	

[1] Includes establishments distributed as follows: Arizona, 1; Iowa, 2; Kansas, 1; Nebraska, 2; South Dakota, 2.

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[1]
Products—Continued.									
Total value—Continued.									
Upper leather, other than calf or kip skins	$7,315	$2,764	$2,475	$186,378	$11,017	$21,000	$10,209	$4,242,258	$1,000
Grain, satin, kangaroo, etc., side leather, sides	3,655	2,400	1,160	55,101	5,812	8,400	5,048	1,308,648	225
Value	$7,265	$2,500	$2,025	$128,551	$10,527	$16,800	$10,206	$3,303,777	$600
Finished splits, number			1,000	55,101	250	8,400		979,638	
Value			$400	$57,787	$113	$4,200		$522,361	
Patent and enameled shoe leather, sides									
Value									
Horsehide, sides	20	184	20	20	177		1	227,026	125
Value	$50	$264	$50	$40	$377		$3	$416,120	$400
Calf and kip skins, tanned and finished, number	6,494	400	210	400	2,594	3,120	2,556	2,797,925	775
Value	$11,758	$730	$400	$600	$4,434	$3,900	$4,777	$4,862,420	$2,250
Flesh finished, number	5,169	150	60	400	2,569	720	2,056	413,657	225
Value	$9,703	$240	$150	$600	$4,354	$900	$3,977	$760,170	$550
Grain finished, number	1,325	250	150		25	2,400	500	2,379,098	550
Value	$2,050	$490	$250		$80	$3,000	$800	$4,092,834	$1,700
Patent and enameled, number								5,170	
Value								$9,416	
Goatskins, tanned and finished, number	382	975			23			30,471	4,675
Value	$305	$886			$24			$25,117	$4,275
Black, number	362	400			11			21,931	175
Value	$291	$330			$12			$18,637	$125
Colored, number	20	575			12			8,540	4,500
Value	$14	$556			$12			$6,480	$4,150
Finished leather	$929,849	$26,332	$1,000	$4,291	$1,336,835	$4,150	$953,012	$4,702,191	$30,987
Sheepskins, tanned and finished, number	3,471	12,249		700	16,235	6,400	2,106	46,610	20,250
Value	$1,756	$5,657		$900	$10,790	$2,650	$980	$23,904	$12,440
Belting leather, sides	157,832	200			263,107		95,052	8,500	
Value	$732,800	$800			$1,224,821		$431,710	$38,500	
Harness leather, sides	53,105	5,165	230	575	26,350		95,720	961,966	840
Value	$195,263	$19,875	$1,000	$3,311	$94,386		$520,322	$4,194,372	$3,547
Carriage leather, hides								31	
Value								$93	
Trunk, bag, and pocketbook leather	$30				$2,150			$102,650	
Bookbinders' leather					$4,688				
Leather for manufacture of gloves				$80		$1,500		$342,672	$15,000
Furniture leather, hides									
Value									
All other leather	$145,459	$10,214		$300	$399,846	$1,500	$454	$809,651	$3,010
All other products, including by-products, offal, etc	$48,444	$1,050	$13	$9,170	$52,428	$2,030	$51,556	$533,176	$174
Amount charged for tanning or currying for others	$14,760	$330		$4,060	$233,595	$25	$1,220	$21,120	$3,056
Custom work, stock tanned or finished for others:									
Estimated value in condition received	$37,660	$670		$17,618	$740,492	$50	$2,060	$49,705	$5,396
Estimated value after being tanned or curried	$52,462	$1,080		$21,695	$974,524	$75	$3,549	$74,165	$9,440
Tanned—									
Hides, number	8,810	515		40	99,609	20	959	7,202	1,132
Estimated value in condition received	$33,596	$670		$43	$740,234	$50	$1,715	$44,183	$4,521
Estimated value after being tanned or curried	$47,415	$1,080		$70	$973,984	$75	$2,958	$65,765	$8,025
Skins, number	2,025			15,180	237		295	5,570	875
Estimated value in condition received	$4,025			$17,575	$200		$345	$5,522	$830
Estimated value after being tanned or curried	$5,040			$21,625	$375		$596	$8,400	$1,355
Curried—									
Sides, number					40				30
Estimated value in condition received					$80				$45
Estimated value after being tanned or curried					$140				$60
Splits, number									
Estimated value in condition received									
Estimated value after being tanned or curried									
Skins, number	6				25				
Estimated value in condition received	$5				$12				
Estimated value after being tanned or curried	$7				$25				
Comparison of products:									
Number of establishments reporting for both years	41	9	2	6	61	1	44	35	8
Value for census year	$2,802,117	$60,164	$2,738	$102,336	$4,610,846	$26,400	$2,869,892	$17,518,595	$44,877
Value for preceding business year	$1,995,615	$48,469	$3,100	$114,210	$4,326,000	$30,000	$2,363,399	$14,915,420	$39,240
Power:									
Number of establishments reporting	18	1	2	7	27	2	20	38	5
Total horsepower	864	12	30	263	2,244	13	1,713	7,819	63
Owned—									
Engines—									
Steam, number	28	1	2	5	45	1	39	87	5
Horsepower	835	12	30	200	2,142	10	1,713	6,656	63
Gas and gasoline, number	1								
Horsepower	5								
Water wheels, number	3			4	5	1		1	
Horsepower	21			63	40	3		20	
Electric motors, number					6			56	
Horsepower					50			1,143	
Other power, number									
Horsepower									
Rented—									
Electric, horsepower									
Other kind, horsepower	3				12				

[1] Includes establishments distributed as follows: Arizona, 1; Iowa, 2; Kansas, 1; Nebraska, 2; South Dakota, 2.

TABLE 17.—LEATHER, TANNED, CURRIED, AND FINISHED, BY STATES: 1900—Continued.

	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	All other states.[1]
Power—Continued.									
Furnished to other establishments, horsepower	.....	.....	.....	.....	100	.....	.....	12	.....
Establishments classified by number of persons employed not including proprietors and firm members:									
Total number of establishments	44	11	4	8	65	3	46	42	8
No employees	19	2	1	1	14	1	23	5	1
Under 5	16	8	3	4	33	2	11	5	5
5 to 20	3	1	.....	1	4	.....	2	6	2
21 to 50	2	.....	.....	1	5	.....	3	6	.....
51 to 100	1	.....	.....	1	7	.....	5	5	.....
101 to 250	2	.....	.....	.....	2	.....	2	5	.....
251 to 500	.....	.....	.....	.....	.....	.....	.....	8	.....
501 to 1,000	1	.....	.....	.....	.....	.....	.....	1	.....
Over 1,000	.....	.....	.....	.....	.....	.....	.....	1	.....

[1] Includes establishments distributed as follows: Arizona, 1; Iowa, 1; Kansas, 1; Nebraska, 2; South Dakota, 2.

HISTORICAL AND DESCRIPTIVE.

In dealing with leather (the basis of all the various manufactures which are given in detail in this report), one of the most important materials in industrial economy is considered. As to its antiquity, there are no records so old or legends so lost in the mists of prehistoric times that they are not antedated by some process for preserving hides, analogous to our system of tanning.

With the advance of civilization new and varied uses were found for the product, until Doctor Campbell was led to say, in his Political Survey of Great Britain:

> If we look abroad on the instruments of husbandry, or the implements used in most mechanical trades, or the structure of a multitude of engines and machines; or if we contemplate at home the necessary parts of our clothing, breeches, shoes, boots, gloves, the furniture of our houses, the books on our shelves, the harness on our horses, and even the substance of our carriages, what do we see but instances of human industry exerted upon leather? What an aptitude has this single material in a variety of circumstances for the relief of our necessities, and supplying conveniences in every state and stage of life. Without it to what difficulties should we be exposed.

But the list of uses that have been found for leather has increased many fold since the good Doctor's time, while the methods in vogue for its manufacture show a remarkable advance over his day. In fact, to no industry, perhaps, have advanced scientific methods been more intelligently applied, and no business has shown greater progress during the past hundred years. Within that period machinery has been invented for the various stages of manufacture, so that the industry has been completely revolutionized as far as the mechanical part of the work is concerned. Chemistry has also contributed to lighten the labors of the tanner and enable him to produce a much greater variety of tannage than was possible before. In fact, the facilities for producing leather more expeditiously have kept up with the increased demand, while tanneries have become numerous in every section.

Genesis of American Leather Manufacture.—The tanning of hides and skins was undertaken in a commercial way at a very early date in the history of the American colonies. The tanner's trade was well represented among the early settlers of Massachusetts, 41 of the "Pioneers," as those who came over between 1620 and 1650 are called, being tanners by occupation. The majority of these, it is safe to say, established themselves in this business some time or other in the colony; so that eventually, as the records state, every village had at least one tannery. This, in fact, was necessary, as skins accumulated so rapidly that a law was passed in 1640 to the effect that "every hide and skin should be dried before it corrupts, and sent where they may be tanned and dressed." A forfeiture of 5 shillings for each hide and 12 pence for each skin was attached to this law.

While it is impossible to state with certainty when the first tannery was established in this country, the date is generally conceded to be about 1630, with the honors equally divided between Plymouth Colony in New England and the colony of Virginia. In the former, Experience Mitchell and Francis Ingalls, both of whom came to Plymouth in 1623,[1] established tanneries at Bridgewater and Lynn, respectively, about the year first named.

The site chosen by Mitchell for establishing his tanning business was named by him Joppa, in memory, doubtless, of the place mentioned in the Acts of the Apostles as the residence of Simon, the tanner, with whom the Apostle Peter is said to have lodged. The memory of Mitchell has been kept greener than that of Ingalls by a descendant, Seth Bryant, who reopened his ancestor's vats after a lapse of nearly two hundred years and carried on tanning in them for some time thereafter.[2]

Tanning is also said to have been set up in Massachusetts Plantation at an early date by John Glover, who had tanneries at Dorchester, probably not long after the Mitchell and the Ingalls ventures.[3]

[1] Seth Bryant in The Shoe and Leather Trade of the Last One Hundred Years, page 35.
[2] Ibid.
[3] Edward H. Dewson in The Tanning Industry of the South Shore of Massachusetts, page 5.

Changed Conditions in Massachusetts.—Roxbury, now a part of Boston, was noted as early as 1647[1] as a tanning center, the product of its vats going into all the surrounding country. Tanneries multiplied also along the south shore of Massachusetts, being used mainly for tanning ox, cow, and horse hides, calfskins, and sheep pelts. Oak bark was used chiefly, though some small-growth hemlock was utilized. The south-shore tanneries were successful until the shipbuilding industry depleted the forests of oak in their neighborhood, so that the supply of bark became so small as to necessitate their abandonment. The tanners in the northern part of the state were more fortunate in their nearness to the Maine, Canadian, and New York hemlock forests, which, when the railways were opened, gave them adequate supplies of bark. Joppa, Abington, and Weymouth, once notable for their tanneries, were, through force of circumstances, supplanted by Woburn, Winchester, Peabody, Newburyport, and other towns more favorably situated as regards the supply of tanning material. Meanwhile the industry was being developed in other sections than New England with the result that Massachusetts, which was among the first to engage in the tanning industry,[2] and where, not many years ago, one-third of all the leather was manufactured, is now rated as fourth in the list of states, reckoned by capital invested. The state has been in large measure superseded by the West and Middle West. Boot and shoe manufacture has taken the place once held by leather in this section, just as it followed the decline of the tanneries at Joppa, Abington, Weymouth, and the other important points along the south shore.

Later-day Tanners.—A stringent law was passed in 1646[3] in Massachusetts, forbidding the exportation of raw hides or unwrought leather, under a heavy penalty, which was made applicable both to the merchant and to the master of the vessel. As a result of this prohibition, leather became very plentiful in the colony; more so, it is said, than was the case in England, taking into consideration the difference in population. Of the large number of manufacturers who followed the "Pioneers," some utilized the old tanneries, while others struck out into new fields, where a plentiful supply of tanning material seemed to be better assured. The first incorporated company to engage in the business was, doubtless, the Hampshire Leather Manufacturing Company of Massachusetts. This concern, which had acquired several tanneries operated by Col. William Edwards and others, was established in Boston in 1809, with a capital of $100,000. The stock was owned principally by Boston interests, and the productive capacity of the various plants was 16,000 hides a year. The following year American tanners shipped 350,000 pounds of leather abroad.[4]

Though a census of this industry was taken in 1810, the published figures concerning leather can be considered as only an approximation to the truth. The total value of leather manufactures that year was probably not far from $20,000,000. The census returns make it over $2,000,000 less. In 1850 the industry had grown so that the output amounted to $42,932,528.

The Rude Appliances of Colonial Days.—Mr. Seth Bryant, the descendant of the pioneer settler, Experience Mitchell, has left an interesting account of the rude and simple methods employed by these early tanners. The recent uncovering of several vats by workmen excavating for the foundation of a business block near the Boston post-office, in the neighborhood known in early days as Tanners' Lane, has furnished new evidence of the crude appliances that were in vogue in the old Bay State up to the beginning of the last century. Mr. Bryant thus describes the tanneries with which he was familiar:[5]

> A few oblong boxes called vats, dimensions usually 4 by 7 feet, by 5 feet in depth, made of plank, were sunk in the ground. A shed was erected, often open toward the south. Beneath its shelter the preparation of the hide for the bark was made. This consisted of soaking and rinsing, removal of particles of flesh, and treatment with lime for the removal of the hair.
>
> A bed of heavy timber, two or three feet in width, was laid, forming a circle twenty or more feet in diameter. A spindle in the center supported a wooden shaft that extended horizontally beyond the outer edge of the bed. It passed through the center of a round millstone, set on edge, that stood on the circular bed before mentioned. The stone weighed one thousand or more pounds. To the end of the shaft that projected beyond the stone, a horse was attached. As he walked slowly around, the stone was made to travel on its bed, crushing the pieces of bark that were placed in its path. Often the tanner's son walked behind the horse, rake in hand, drawing from or upon the bed the crushed pieces, to be again and again crushed by the stone on its weary round. One cord a day was thus macerated. The pieces were drawn forward again and again onto the path, and when sufficiently crushed, the fine particles were shoveled into a heap. A sprinkling of bark was thrown upon the bottom of the vat; one side was carefully laid upon it, another sprinkling was thrown upon that, and so on, in alternate layers of half-sides, or sides, and tan bark, until the vat was nearly filled. Water was then run in.
>
> Generally three times or more, at intervals of one, two or three weeks, the hides were taken up, the spent tan removed, and fresh bark applied. The last time it was suffered to remain indefinitely. The vats were covered with planks and six to twelve inches of spent tan thrown upon them. If this operation were performed in the fall of the year, the contents of the vat remained undisturbed until the following spring, when they were taken out thoroughly tanned.
>
> In those days the hides, whether intended for sole or upper leather, received the same general treatment in the initial processes. The heavier and thicker hides were selected for sole leather

[1] Edward H. Dewson in The Tanning Industry of the South Shore of Massachusetts, page 6.

[2] R. H. Foederer in One Hundred Years of American Commerce, page 495.

[3] Edward H. Dewson in The Tanning Industry of the South Shore of Massachusetts, page 1.

[4] R. H. Foederer in One Hundred Years of American Commerce, page 495.

[5] Edward H. Dewson in The Tanning Industry of the South Shore of Massachusetts, page 2.

and harness, and given longer time in the bark. If intended for sole leather, they were rolled, in order to give them smoothness and solidity. In its crudity the rolling apparatus was a fitting match for the bark-crushing machine. Briefly described, it was a wheelbarrow with a very broad wheel, which was loaded with stones or weights. The leather was placed on a smooth platform, and the barrow trundled back and forth upon it.

Other devices as crude as those described were employed in the handling of the leather subsequent to its leaving the vats, until, one by one, they were superseded by the machines invented from time to time to take their places. The early tanners made harness and shoe leather. The making of harness, and possibly of shoes, appears to have been practiced in a small way in connection with tanning, for in 1633 the General Court forbade tanners to carry on the shoemakers' trade, and vice versa, in order to prevent deceit in tanning leather.

Skins for Manufacturing Purposes.—Each species of skin has its own peculiarities. In some there are long fibers, either interlaced like lattice work, or running in parallel rows, or the fibers may be very short; and upon these formations depend the strength, flexibility, and toughness of the leather. Sheepskin has larger fibers than any other material used in the manufacture of shoes, but as they occur in parallel lines, especially under the legs and at the flanks, this kind of skin does not furnish a particularly strong leather; it is quite flexible, however, and excels all other material for trimmings. It may be finished to resemble closely many other varieties of leather, and often requires expert knowledge to distinguish the difference. It is almost universally in demand for fancy work, pocketbooks, traveling bags, and similar articles manufactured from leather, as it will absorb any color and may be given the most delicate shades. For shoe leather it does not give satisfaction, and only the cheaper grades of shoes are made from it.

Goatskin is the next higher grade of stock. It resembles sheepskin in many particulars, but outranks it in quality. The fibers are shorter and are generally crisscrossed or interwoven. This formation gives the grain of the leather a far greater degree of strength and qualifies it for use even for vamps in men's wear. Having a finer and firmer tissue, its durability is much greater than that of sheepskin. In the shoe trade it was formerly used only for tops and quarters in men's wear, and for slippers and low cuts for women and children, but under various styles of tannage and finish it has now usurped, to a large extent, the place in the finer class of men's wear once held almost exclusively by calfskin. This is due largely to modern improvements in tanning and finishing.

Goatskins of Commerce.—Two classes of animals furnish the goatskins of commerce—the wild and the domestic. The latter are found in all parts of the world, especially in mountainous regions, and the wilder the country the better they appear to thrive. Goatskins are brought from British East Indies, France, Brazil, Mexico, Africa, China, South America, and various other countries. A notable increase in the imports of these skins has taken place of late, the figures for 1900 being 81,998,818 pounds, or 75 per cent in excess of those of 1896. An increase of 22 per cent is noted in the price per pound in 1900 as compared with 1896.

The different species are mostly called by the names of the districts in which they were produced—as, for example, "Tampico," "Curaçao," etc. Once a year the goat sheds its hair, and its skin is in best condition when the new crop of hair reaches full growth. Climatic conditions affect the quality. Cold weather tends to make the fiber coarse.

Uses of Calfskin.—Calfskin is considered the best material for men's and boys' wear. When it is finished on the grain it furnishes cuts for all parts of the shoe, but when finished on the flesh side, it is used only for vamps, quarters, and tips. For this purpose it is unequaled. It is as firm and solid as any other stock in use, and may be crimped to any desired form without becoming inflexible and without wrinkling. With the exception of the flanks, which are inclined to looseness, all parts of this stock have a tough surface capable of withstanding a great amount of wear.

Other Skins that are Utilized.—Until within a comparatively few years, sheepskins, goatskins, and calfskins furnished the only kinds of leather used in the manufacture of the finer grades of footwear. They no longer hold this distinction, however, since recent discoveries and improvements in the art of tanning have made it possible to introduce a number of other species of skins. Among these may be mentioned kangaroo skins, porpoise hides, seal skins, the hides of alligators, and horsehides. This last class of leather is known on the market as "cordovan," because it was first successfully tanned in Cordova, Spain. It was afterwards introduced into Germany by a tanner who was particularly successful in his treatment of the highly prized article. Certain parts of South America, where wild horses are captured in large numbers by the natives of Guaicho, supply the world with hides for leather of this kind. Only a part of the hide of the horse, taken over the rump, is used for leather. It is an oval piece about 3 feet long and only half as wide, and possesses remarkable strength, nearly twice that of calfskin. The fiber of which its epidermis is composed is so tightly interlaced that it makes the leather more nearly waterproof than that of any other land animal. Cordovan leather is finished in imitation of several other kinds of stock, and is even produced in colors. Tan and russet are made of horsehide.

The use of kangaroo skin in the shoe trade is of comparatively recent date. Like the horsehide, it has a strong, flexible texture, which makes it almost impervious to water. The grain is fully twice as thick as that

of any other skin of its size and weight, while the thickness of the whole skin varies greatly, according to the size of the animal.

Another material that is comparatively new in the leather market is the hide of the alligator. In the case of Central and South American reptiles, which furnish so much material for leather, only the skin taken from the under side can be used. That which covers the back is composed of hard brittle scales. New Orleans was the first place to attempt the tanning of this stock, half a century ago, but the experiments were finally given up as impracticable, leaving Massachusetts tanners to place the industry on a paying basis. Experiments were started in the old Bay State some twenty years after the process had been abandoned in New Orleans.

Beginning of Rapid Tanning.—Nearly a century ago the necessity was apparent for reducing the time consumed—then from twelve to fifteen months—in tanning hides, and efforts were made to accomplish this end, as is shown by the following citation from the Leather Manufacturer for the month of August, 1898:

"As early as 1825 tanners were giving their attention to systems or methods which should quicken the tanning process. Some of the enterprising ones were looking about them and endeavoring to shorten the tedious old-time processes. John Burridge, of England, was one of those tanners who studied the business of producing leather, and the trade of the early years of this century were much indebted to him for the results of his careful study. In 1825 he wrote the London Journal of Arts, of which writing the following is an extract:

"I have discovered the means of ascertaining the relative degrees of strength in oak-bark liquors. I have also discovered that the simple and regular application of oak-bark liquors, etc., to hides will effectually tan sole leather in three or four months (according to the thickness), providing you can commence at 3 degrees and gradually increase the strength of the liquor thrice a week up to 15 or 20 degrees, taking care not to apply strong liquors till the leather is nearly tanned. There can be no theory prescribed as to the exact time when the hides may be forced with advantage; practice only can master in this nice point. The simple instrument I use is a hydrometer, which I have surnamed a barkometer; without which I should be more in the dark than brewers without saccharometers or thermometers.

"I have also found means, by the constant use of pumps, to extract all the virtue from oak bark in ten days, which generally lies in common tanyards two or three months. My hydrometer proves that I throw away no tanning. The execution of this process, with daily care, produces additional weight in leather over the standard. Tanners generally require twelve months to tan hides that may by my system be done in three months with perfect ease. My process will also produce one-fifth more leather from similar hides and in one-quarter of the usual time. Is this not a plain proof that hides lie rotting, rather than tanning, after four months? Many tanners immerse crop hides in bark from two to three months, during which stage I tan the stoutest hides in the kingdom without more than the usual quantity of bark, because it is generally acknowledged that four or five pounds of oak bark (according to its quality) will tan one pound of leather."

It would seem by the above that Mr. Burridge was one of the pioneers in introducing the barkometer, and it would seem also according to the above letter that the name of "barkometer" for the hydrometer in testing tan liquors might have originated with Mr. Burridge. Seguin, a Frenchman, half a century earlier brought out new ideas in the art of tanning, which were improvements upon the methods in vogue in his time. Since the days of Seguin and Burridge many improvements and many failures have been recorded in the direction of quicker tanning. But "quick tanning" has come to be a recognized fact in practice."

Tanning of Sole Leather.—A paper read in February, 1898, by J. H. Yocum, before the New York section of the American Chemical Society, gives a very clear idea of the general methods pursued in the tanning of sole leather.

The general application of chemistry to industrial enterprises, which has been going on during the past few years, has not failed to influence the leather industry. The trade has been rejuvenated, and the methods of only a few years past are obsolete. The manufacture of leather embraces a number of subtrades, in which practice differs widely. About the only thing they have in common is the raw hide for a beginning, and this varies from the delicate lambskin for ladies' gloves to the heavy oxhide for men's shoe soles. The sole-leather tanners can no more make glove leather than a blacksmith can make watches. It may be inferred from this that progress in one of these subtrades is not necessarily followed by progress in the others, and in any consideration of the subject each branch must be taken up separately.

The system pursued at present in the tannage of sole leather is the result of an evolutionary process, depending upon the selective ability of the tanners themselves. No scientific discoveries have helped them, and the basic principles of their art have never received attention. This state of things is due to several causes. In the first place, in an art which has attained a high degree of perfection through the endeavors of generations of practical workers, we are apt to accept the results thus achieved without questioning the principles involved; and, in the second place, the raw materials—hide and tannin—being organic bodies of unknown or of very complex nature, there is no foundation for theories of their mutual interactions till more knowledge of them is obtained.

The methods that have resulted from the evolutionary process serve admirably for the purpose, and by means of them the cost of production is kept so low that it is not an inviting field for the prospecting scientist. In preparing the hide for tannage it is first brought to a natural state by soaking in water; that is, the salt is removed and the hides soaked and milled until they are soft and pliable, and free from blood. The water in which this is done is kept below 70° F., if possible, and should be soft. When the hide has resumed its natural state, the process of loosening the hair is begun. Green hides are limed, and dry hides are sweated, for this purpose. The process of loosening the hair by means of lime consists in subjecting the hide to the action of a

milk of lime, from three to six days, at a nominal temperature. The caustic lime dissolves the hair sheath, thus permitting the hair to be easily removed. Sulphide of soda, as an assistant to the lime, has come into use lately, but on account of its cost has not obtained a very wide use. When used, its action is to form caustic soda and sulphide of calcium. The latter acts as a solvent for the hair itself, and facilitates its removal. Sulphide of arsenic acts in an analogous manner.

Sweating of Dry Hides.—Dry hides are sweated by being hung in a closed room, the temperature of which is kept at 70°. Incipient decomposition sets in and attacks the hair sheath, liquefying it, and thereby loosening the hair. This operation is a very delicate one and requires the closest attention, for if the decomposition goes too far it injures the hide itself. Sometimes the hides are put into a milk of lime after coming out of the sweats, to stop the reaction before injury is done. The beam work follows, removing the hair and superfluous flesh, and working out the lime and dirt. This mechanical process is accomplished both by hand and by machines, the former being the general method.

Bates and drenches are no longer used in making sole leather, except in special cases, and the beam house and preparatory work has been so simplified and cheapened that there is little room for improvements. These necessary preliminaries require from fifteen to twenty days. There are three general varieties of sole leather made in this country—oak, hemlock, and a combination of both, known as union. Hemlock is produced from both dry and green hides, while the other two are generally made from green hides.

Oak, Hemlock, and Union Leathers.—Oak bark gives a deposit of elligi-tannic acid on the leather, called "bloom," and oak leather is known as "scoured" or "unscoured," depending upon whether this bloom is removed or not. Belting butts are sold with the bloom on. Hemlock is of two varieties, acid and non-acid, the distinction being that in the first, sulphuric acid is used to swell the hides, thus producing a firmer leather. Acid is of two kinds, limed acid (made from green hides) and sweat acid (made from dry hides).

Variations in the process of tannage occur in each kind, but in a general way oak, union, and non-acid hemlock are put through the same processes, being treated first with weak solutions of tannin, gradually increasing the strength and finishing out of quite concentrated ones, the time required to tan varying from one hundred and twenty to two hundred days. Acid hemlock is first colored in a dilute solution of tannin and then put into a sulphuric bath of 10 to 30 per cent, remaining there from twenty-four to forty-eight hours. The acid swells the hide to an abnormal thickness. It is then put into quite strong tannin solutions and finished, as the other varieties are, in about one hundred and sixty days. These tanning solutions are made in the leach house and are known as liquors, the specific gravity of the most concentrated being 1,060, containing from 5 to 6½ per cent tannin.

All varieties when taken out of the vats are washed or scoured, oiled and dried, then dampened and rolled under considerable pressure, redried, and are ready for sale. Some manufacturers have adopted chemical bleaches, such as sugar of lead, oxalic acid, ammonia, sal soda, etc., but, except where great care is exercised, the results are not satisfactory. Peroxide of soda has been tried, but it is not a commercial success. Glucose, barium chloride, and salt are used sometimes as weight-giving materials, but adulterations of this kind are not common. This general view of sole-leather manufacture is necessary, in order to understand why present methods so exactly meet requirements and why improvements have been confined to minor details and necessarily must remain so.

Cost Relation between Hide and Finished Product.—Sole leather is always sold by weight, and the cost of the hide is from 50 to 70 per cent of the cost of the finished product. The object of the tanner is to make as many pounds of leather from a given weight of hide as possible. From 60 to 80 pounds of leather is obtained from 100 pounds of green hides, or 150 to 185 pounds from 100 pounds of dry hides.

The process of vegetable tannage is no doubt a chemical one to a certain extent, but after the purely chemical reaction between the hide and tannin has taken place the product is capable of a further absorption of tannin. The point at which chemical action ends and physical absorption begins has not been determined. It is safe to say that leather may contain 20 per cent tannin or 50 per cent tannin, and in both instances be thoroughly cured and perfectly tanned. There is, however, a minimum limit at which the hide treated with tannin is leather, and this limit is satisfaction of the purely chemical affinity of the hide for tannin.

The one object of the tanner is to swell the hide and satisfy its chemical affinity for tannin in weak liquors. If at first strong liquors are used, an almost impervious tanned layer forms on each side of the hide, retarding penetration of the tan liquor and preventing the swelling action of the acids present, so necessary for obtaining the maximum weight of leather therefrom. This swelling or plumping is due to the vegetable acids naturally formed by the fermentation of the sugars in the tanning liquors. In acid hemlock the plumping is done first in sulphuric acid, and hence strong liquors are used from the start. After the chemical affinity of the hide is satisfied and the hide plumped, so far as the natural acids will effect this, the secondary operation of weight-making commences, the concentration of liquors is increased, and as much tannin is put in solution in the leather as the plumpness and selective action of the hide will take.

Element of Time in Tanning.—The element of time seems to be essential for the proper absorption of tannin as a dye in sufficient quantities to give the maximum weight. Tannin is the only material that has this property to any considerable extent, and tannins from different sources vary so that some tannin can not be used to obtain weight. The whole process is an economical one. The tannin does not change materially and is almost completely recovered from the solutions. Labor costs are low; the only disadvantage is the loss of time and the consequent loss of interest. Processes have been brought forward to obviate this, but as yet none have been successful. The Durio process, which consists in agitating the hides in a wheel in concentrated liquors, was widely heralded. The cost in proportion to yield has made it impracticable in the United States, though several foreign factories are using it with some success.

Glossing Sole Leather.—Sole leather is finished by glossing with brass rolls. The leather is partially dried in a dark, dry room. The machine for rolling the leather consists of rolls of brass about six inches in diameter and about six inches in length. These work into roller beds or concaves, which are also of brass and planed to a true radius of the vibrator or pendulum of each machine. Pressure of rolls is imparted by means of the lever connected with the pendulum of each machine, and is regulated by the foot of the operator, who holds a side of sole leather in his hands, which is shifted from time to time as the polishing process proceeds. After the first rolling it is again placed in the dark, dry room and subsequently rolled a second time, and in some cases even a third time. The principle upon which the sole-leather rollers work was discovered in 1836, and, while improvements on machines have since beenmade, the general principle has not been changed.

Chrome Tannage.—Within a few years a good deal of attention has been given to what is termed chrome tannage, and vast sums of money have been expended toward developing the process. It is unquestionably the tanning agency of the present day for upper leather. The process in itself is not so new as the first patent, which was taken out in the United States by Christian Hinzigerling in 1880, would seem to indicate, since experiments are said to have been made as early as 1853. During the last five years the leather industry has been very rapidly adopting the chrome process.

There are two processes of chrome tannage commercially recognized—the one and two bath methods, so called. The former is in principle a neutral solution of chromic oxide, or the basic acids of chrome or chromium. It is more simple in application than the two-bath process, which latter consists of bichromate of potash, chromic or muriatic acid, followed by a reduction bath of hyposulphite of sodium or sulphureted hydrogen, or some modified combinations with hyposulphites.

Chrome-tanned leathers do not possess the coloring properties of bark-tanned leathers. Chromium dyes were not found suitable in practice, and it was at first necessary to mordant the leather with tannin. Different processes are now employed.

At first only sheep and goat skins were tanned by the so-called chrome process. To-day the process is used on calf, kid, and cowhide leathers. Some attempt has been made to apply the tannage to sole leather, but as yet without commercial success. Leather tanned by the chrome process is exceedingly soft and pliable, of close texture, and may even be placed in boiling water without destroying its usefulness. The chrome process of making leather is very rapid as compared with the old-time bark tannages. After the preliminary operations of preparing the skins of hides, the time required for converting them into leather is but a question of a few hours.

Patent and Enameled Leathers.—The making of patent and enameled leathers for shoe purposes is a comparatively new industry in the United States. In the past, excellence in this production has rested with Germany and France, and they have held the trade unquestioned for nearly a century. Until a recent date, every attempt to produce patent and enameled leathers for shoes in the United States has proved a failure. Fortunes are said to have been lost in the effort to produce goods having any apparent advantage, in respect of quality or cost, over the foreign article.

In the preparation of enameled leather, a foundation coat of lampblack mixed with linseed oil has been laid on the flesh side of the skin since the infancy of the industry in Europe. This "ground," or "filler," as it is called, is applied in the following manner: The first as well as the other coats are put on in a warm, but not hot, condition, for if it were put on hot it would burn the leather. This is spread on the skin as evenly as possible. After this process the skins are hung up to dry in a temperature ranging to 110°, and are thoroughly dried in three or four days. Then the surface is smoothed, either by machine or hand, ground pumice stone being spread on the skin, which has been moistened with a sponge. This is continued until the first coat is smoothed down, nothing but the virtual root of it remaining, and the process is repeated with four, five, or six coats, all being ground down until the surface is in perfect condition. The skins are then blackened with a fluid black mixed with turpentine, etc., and hung up to dry again. After the skins have been allowed to settle, being laid in a pile for about a month's time, or longer if possible, the leather is tacked on a frame and is given a brush coat of varnish. A baking follows in an oven subjected to heat (not so great as to weaken the fiber), and after about three days, the heat having been raised gradually, the leather is taken out on a sunny day and placed in the sun for ten hours in order to harden the

varnish. The sun and the air oxidize the varnish, after which the stock is finished. This process is still used in Europe, and also to a large extent in the United States with bark-tanned leather.

All chrome patent leather is varnished on the grain or hair side. Chrome-tanned leather is very stretchy and flexible, just the reverse from the bark-tanned. The bark or vegetable tannage makes more solid leather. The bark-tanned leather must be thoroughly washed in a so-called "tumbling wheel," so as to remove all the surplus tannage from the grain and to remove also the fibrous construction, in order to give the leather flexibility. The vegetable tannage, however, is virtually a process of petrifaction, and unless this tannage is expelled as much as possible the skin will become harder, and it is then suitable for sole leather; while leather freed from the surplus tannage will become flexible to some extent, though much less so than chrome-tanned leather, and better suited for an easy-wearing shoe. There is danger, however, in applying the japan to chrome-tanned leather, for if proper judgment is not used in making the leather, it will become too flexible, and more stretchy than the linseed-oil varnish used in its preparation.

As the manufacturers of the United States have been eminently successful in making this leather, and have excelled the manufacturers of all other countries, it is obvious that the mode of procedure differs from that undertaken elsewhere. The old-style stock was made by covering the flesh side with a heavy coating of material which was very brittle, lampblack being a large component part of the same, while in the chrome process the grain side of the stock is used for the enamel, and other methods follow which are guarded very carefully by those engaged in the business.

Success depends upon making the application on the surface of the grain, first, absolutely adhesive, so that the varnish will not peel, and second, as thin as possible, in order to give it the same proportion of flexibility as the grain and fiber possess. Success in this direction by manufacturers in the United States is the reason why chrome patent leather has been successfully introduced.

There is, however, a doubt whether leather prepared by the chrome process can properly be called "patent leather," in the general acceptation of the term, because the proper definition of patent leather, for a hundred years or more, has been a leather without flexibility and with a very high luster, higher in every respect than the leather made under the chrome process. Be this as it may, it is generally believed that leather prepared by the new process will largely supersede leather prepared under the old, particularly for the making of shoes, as the public has already, to a large extent, recognized that much more comfort can be secured in wearing shoes made from leather made by this process, and there is not that liability of "cracking" which exists in the inflexible article; but the older method may be continued in the making of leather for harnesses, saddlery, and carriages.

Tanning of Goat and Sheep Skins.—It can be stated fairly that all regions of the world except North America are exporters of goat and sheep skins, and even Mexico furnishes skins in quantities to the markets of the United States. The principal shipping points from which skins are received by the American importers are London, England; Marseille, France; Naples, Italy; Salonica, Greece; Constantinople, Turkey; Hamburg, Germany; Riga, Russia; Aden, Arabia; Calcutta and Madras, India; Shanghai, China; Rosario, Argentine Republic; Pernambuco and Ceara, Brazil; and Payta, Peru. This list refers to skins taken from the animals and properly cured, so as to insure them from decomposition during their passage and until such time as the purchaser may see fit to begin their manufacture. These are admitted free of duty. There are also large quantities of both sheep and goat skins imported from Calcutta and Madras which have first been subjected to a native tannage. These are known commercially as "India tans" and are subjected to a duty of 10 per cent, as they are partially manufactured. It is only necessary to subject them to the finishing process, so called, when they are ready for the market.

When the kinds of skins first mentioned are received by the manufacturer they are placed in water and allowed to soak for three days, after which they are subjected to different softening processes, in order to restore them as nearly as possible to the condition they were in when first taken from the animal. They are then submerged in a lime-water solution, gradually strengthened from time to time, and left from ten to seventeen days, according to the nature of the skin or the temperature of the season, more time being required in winter than in summer. The object is to swell the hair cells, so that the hair can be easily removed. After this the skins are cleansed of all fleshy particles, thoroughly washed, bated, and worked to remove all foreign substances, and thus made ready for the next step, that of tanning.

Previous to the last quarter of the last century there had been no decided change for a great number of years in the method of tanning goatskins, but about that time various new methods were introduced, with varying success, until 1888 or 1889, when a number of manufacturers began tanning leather under a patent which had previously been issued to Augustus Schultz for tanning and tawing hides and skins. The process consisted of taking skins which had been prepared for tanning, as previously described, and subjecting them to a bath of bichromate of potash. When thoroughly saturated they were placed in a bath of hyposulphate of soda, which deoxidized the bichromate of potash and coated the fiber with a metallic salt, thereby preserving the gelatin of

the skin, instead of drying it up, as was the result with astringents, such as sumac and gambier, formerly used. This is the process now adopted by all manufacturers. When tanned the skin is of a bluish-green shade and can be colored as desired.

The process in detail is as follows: First, the skins are saturated with a solution of logwood liquor, after which they are submerged in a specially prepared liquid. When they are well colored, an emulsion of oil, water, and soap, known as "fat liquor," is given them, after which they are stretched and made as smooth as possible, either by hand or by machinery. They are then dried, either by the air or in specially prepared rooms where superheated air is drawn through by a system of power fans. They are then thoroughly softened, or "staked," as it is called, either by hand or machinery, when they are ready for the seasoning process. This consists in treating the grain surface with a light dressing. After this is dry the skins are ready to be glazed. In olden times a skin was glazed by being placed on an inclined hard-wood table. The workmen, using a glass of cylindrical shape, by much hard rubbing caused sufficient friction to produce a gloss; but now all factories use machines making 150 to 200 revolutions per minute, with an inclined bed upon which the pressure is regulated by means of springs. The friction which produces the gloss is made by means of a glass cylinder firmly clamped into the moving arm of the machine. Skins are usually glazed twice, and sometimes three times, according to the quality of work desired, after which they are measured and assorted for the market according to qualities and weights.

Currying and Finishing.—Currying is the step in leather making following the tanning process. The currier carries out a series of operations by which tanned leather (with the exception of sole leather) acquires the properties necessary for commercial use. The process, in principle, consists in softening and equalizing the leather, dressing, polishing, slicking, and carrying the work forward to the final finishing, the object of the various manipulations being to make the leather pliable and elastic. Different leathers are treated differently in detail, processes often being varied to meet changing conditions and demands, but they have a common aim, namely, to produce a marketable leather. Only currying in its broadest sense is here described.

Hides and skins tanned by any of the vegetable processes are technically known as "rough," "unwrought," or "crust" leather. A few years ago the trades of tanners and curriers were usually entirely distinct; but at present leather is generally tanned and finished by the same establishment, and those termed "rough-leather" tanners have largely passed away.

The tanned stock is often softened by being placed in a revolving "tumbler," or wash wheel, where it is so tumbled about in contact with water and some softening agency, like borax, for instance, that the fibers and adhering flesh are loosened. Sometimes this softening process is done in stationary tubs or vats. The currier also assorts the stock, selecting it for the purposes for which it is best suited. The heavier hides or sides, at some stage of tanning or currying, are split into two or more pieces and finished accordingly, the hair side made into "grain" leather of some sort and the flesh side into "flesh splits," or into some specially designated leather. When split more than once, the pieces taken between the grain and flesh are broadly termed "middle" splits. After splitting, the stock is sometimes retanned in mildly prepared liquors.

The art of leather making really belongs to the currier. The smooth-finished leather is termed "glove grain," or given some special name. "Pebbled" leather, or that with some roughened surface to imitate some special skin, or for special work, is finished on rolls of steel or metal, which have been cut or engraved to make an impression to meet the requirements of trade.

"Shaving" is the work done on leather to remove the fleshy particles remaining and to equalize the thickness. Mechanical shaving is a process of later years, and is to a large extent superseding hand shaving. The machines for this purpose are made with concave wheels or wheels with irregular blades to work as nearly as possible on the principle of hand shaving, with the object of producing the same results.

All vegetable-tanned leather has to be filled with grease to a certain extent, to keep it soft. This process is technically termed "stuffing," and is now more generally accomplished by mechanical means in a revolving drum of suitable dimensions. The interior of this drum is usually studded with protruding pins which, as the wheel revolves, carry the leather toward the top, allowing it to drop back into the "stuffing" compound. This compound consists of tallow, stearin, degras, and "brown" grease, in varying proportions, heated to proper temperature. The surplus grease is then removed, the leather "put out," or smoothed and stretched, and, at the present time largely by mechanical means, slicked, seasoned, and smoothed to receive the final blacking or colors.

Grain Upper Leather.—Upper leather may be made from either green-salted or dry hides. If from dry hides, the time given to soaking and the methods of softening while soaking, differ from those employed in tanning green-salted hides; as the former have to be milled and mechanically softened, while the latter have merely to be immersed in cold water. The soaking in one case may take three or four days, while in the other, five or six days are required. In this part of the process there has been but little change in many years.

During the process of soaking, if side leather is to be made, the hides are split from head to tail on the line of the backbone. When soaked, each hide is laid over

a cylindrical table or beam, and the meat and flesh are removed by hand with a knife made for the purpose; or this may be done by a fleshing machine—much the quicker process. A good fleshing machine saves the labor of four or five men and does the work well.

When prepared in this way the sides are strung together and thrown into vats containing lime water of full strength, to neutralize the grease that may be in them and loosen the hair. The sides are reeled from one vat to another occasionally for about six days, when the hair is easily removed in a machine or by hand, after which they are thrown into a vat of water and hen manure, called the drench, to remove all traces of lime. They are then worked over the beam to clean the grain and thrown into clear, cold water for an hour or two, when they are ready for the tanning liquor. This is made by leaching ground hemlock or oak bark, by processes similar to those used in making sole and belting leather, but the liquors for upper leather are made of less strength.

The hides are first immersed in very weak liquors which may, with good results, be a little sour. The reason for this weak or sour liquor is that it gives a good color to the grain without closing the pores of the hide, as would be done if strong liquors were first used. At intervals the sides are removed from weak liquors to stronger ones until, with from five to six changes in from twenty to thirty days, they reach the strongest. When about two-thirds tanned, the sides are taken from the liquors, partially dried, and prepared for splitting, which is usually done in a band-knife splitting machine, the sides being pressed through rollers against the moving band knife. The endeavor in this process is to leave the grain, or hair side of the leather, which is more valuable, of even thickness; and as the hides vary in thickness in different parts, the splits are left uneven and more or less ragged, and may have to be trimmed, while the grains retain the full size of the side.

The grain is now returned to the tannery to finish the process of tanning, which proceeds quite rapidly, as the untanned part of the leather has been exposed by the splitting and readily absorbs tannin from the liquor. This retanning may require from three days to two weeks, according as the leather is thick or thin. During the retanning the grains may be handled, i. e., hauled from the liquor and thrown back, or they may be stirred from time to time in vats fitted with paddle wheels, or both. They may also be treated for a few hours in tight revolving drums, or mills, with tanning liquors. Liquors for retanning may be either of bark, gambier, or sumac, or of the three combined.

When the grains are retanned the currying proces proper begins. The grains are first dried or pressed to the requisite degree of dampness, when they are put into a stuffing mill, which is similar to the tanning mill but fitted with holes through the journals, through which heat may be driven to warm up the mill before the leather is put in, and by means of which, grease and oil, called stuffing, may be inserted while the mill is running with the leather in it. Usually about 80 sides are thus stuffed at once, in from forty to sixty minutes. From the stuffing mill the leather is set out with stone and steel hand tools called "slickers," on hard-wood or stone tables, to make it smooth, after which it is hung up to dry. The drying takes from two to four days. When dry it is taken down, and the grain is prepared for blacking either by cutting it off with a thin, flat blade with a turned edge, which is pushed over the surface by a skilled workman, removing the top of the grain in small, thin, lace-like sheets, or by a weak solution of ammonia rubbed over the uncut surface to remove the grease from the outside and allow the coloring matter to penetrate the leather.

A black is produced over the grain by two applications—the first of logwood water, and the second of copperas water applied before the logwood application is dry. The leather is then hung up, and, when dry, is ready to finish. It may be finished into embossed or pebbled leather, or into smooth leather of several kinds, according as it has been stuffed for one or another. The amount and proportion of grease and oil used in the stuffing determine the finish that is to be made. In the finishing it is several times hung up to dry. The blacking and finish may be applied by machines or by hand, but the machines save about one-half of the labor. In many finishes glazing and rolling machines do work that can not be done by hand. Finishing grain leather requires from a week to ten days, most of the time being consumed in drying the sides in the several stages of the process. When the leather is finished it is measured in an automatic machine, or it may be measured with a frame divided into squares of one-fourth of a foot each, placed upon the side as it lies flat on a table. Grain leather is usually sold by the square foot.

Waxed Splits.—The splits are taken from the splitting machine as above described, trimmed and returned to the tannery where, being usually thicker than the grains, they require more time to retan. When tanned they are dried and stuffed in the same manner as the grains, but usually with a larger proportion of stuffing. After being set up, they are whitened, trimmed, blacked, and "slickered," treated to a coating of flour paste, set or glassed again, and given a finishing coat.

Splits are suitable for other finishes than waxing. Many are smoothed out and finished for innersoling, for which purpose the process is much simpler, as they require no grease and need only to be rubbed hard and smooth to make them good substitutes for inner sole leather. Wax upper leather differs from grain upper leather in that, like wax splits, it is finished on the opposite or flesh side, but it is similarly used as a substitute for calfskins in heavy and low-grade shoes.

Twelfth Census of the United States.

CENSUS BULLETIN.

No. 196. WASHINGTON, D. C. June 18, 1902.

AGRICULTURE.

OREGON.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I have the honor to transmit herewith, for publication in bulletin form, the statistics of agriculture in the state of Oregon, taken in accordance with the provisions of section 7 of the act of March 3, 1899. This section requires that—

> The schedules relating to agriculture shall comprehend the following topics: Name of occupant of each farm, color of occupant, tenure, acreage, value of farm and improvements, acreage of different products, quantity and value of products, and number and value of live stock. All questions as to quantity and value of crops shall relate to the year ending December thirty-first next preceding the enumeration.

A "farm," as defined by the Twelfth Census, includes all the land, under one management, used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., connected therewith. It includes also the house in which the farmer resides and all other buildings used by him in connection with his farming operations.

The farms of Oregon, June 1, 1900, numbered 35,837, and were valued at $132,337,514. Of this amount $19,199,694, or 14.5 per cent, represents the value of buildings, and $113,137,820, or 85.5 per cent, the value of the land and improvements other than buildings. On the same date the value of farm implements and machinery was $6,506,725, and of live stock, $33,917,048. These values, added to that of farms, give $172,761,287, the "total value of farm property."

The products derived from domestic animals, poultry, and bees, including animals sold and animals slaughtered on farms, are referred to in this bulletin as "animal products." The total value of all such products, together with the value of all crops, is termed "total value of farm products." This value for 1899 was $38,090,969, of which $16,284,282, or 42.8 per cent, represents the value of animal products, and $21,806,687, or 57.2 per cent, the value of crops, including forest products cut or produced on farms. The total value of farm products for 1899 exceeds that for 1889 by $19,064,849, or 100.2 per cent. A portion of this increase is doubtless due to a more detailed enumeration in 1900 than in 1890.

The "gross farm income" is obtained by deducting from the total value of farm products the value of the products fed to live stock on the farms of the producers. In 1899 the reported value of products fed was $6,194,721, leaving $31,896,248, as the gross farm income. The ratio which this amount bears to the "total value of farm property" is referred to in this bulletin as the "percentage of gross income upon investment." For Oregon in 1899 it was 18.5 per cent.

As no reports of expenditures for taxes, interest, insurance, feed for stock, and similar items have been obtained by any census, no statement of net farm income can be given.

Special reports as to the dimensions and cost of the leading irrigation ditches and canals, the area of land under them, methods for the artificial application of water to the growing crops, and other facts relating to irrigation, were obtained by correspondence with farmers, engineers, and others. This correspondence was under the joint direction of Mr. F. H. Newell, chief hydrographer of the Geological Survey, acting as expert special agent for the division of agriculture, and Mr. Clarence J. Blanchard.

The statistics presented in this bulletin will be treated in greater detail in the report on agriculture in the United States. The present publication is designed to present a summarized advance statement for Oregon.

Very respectfully,

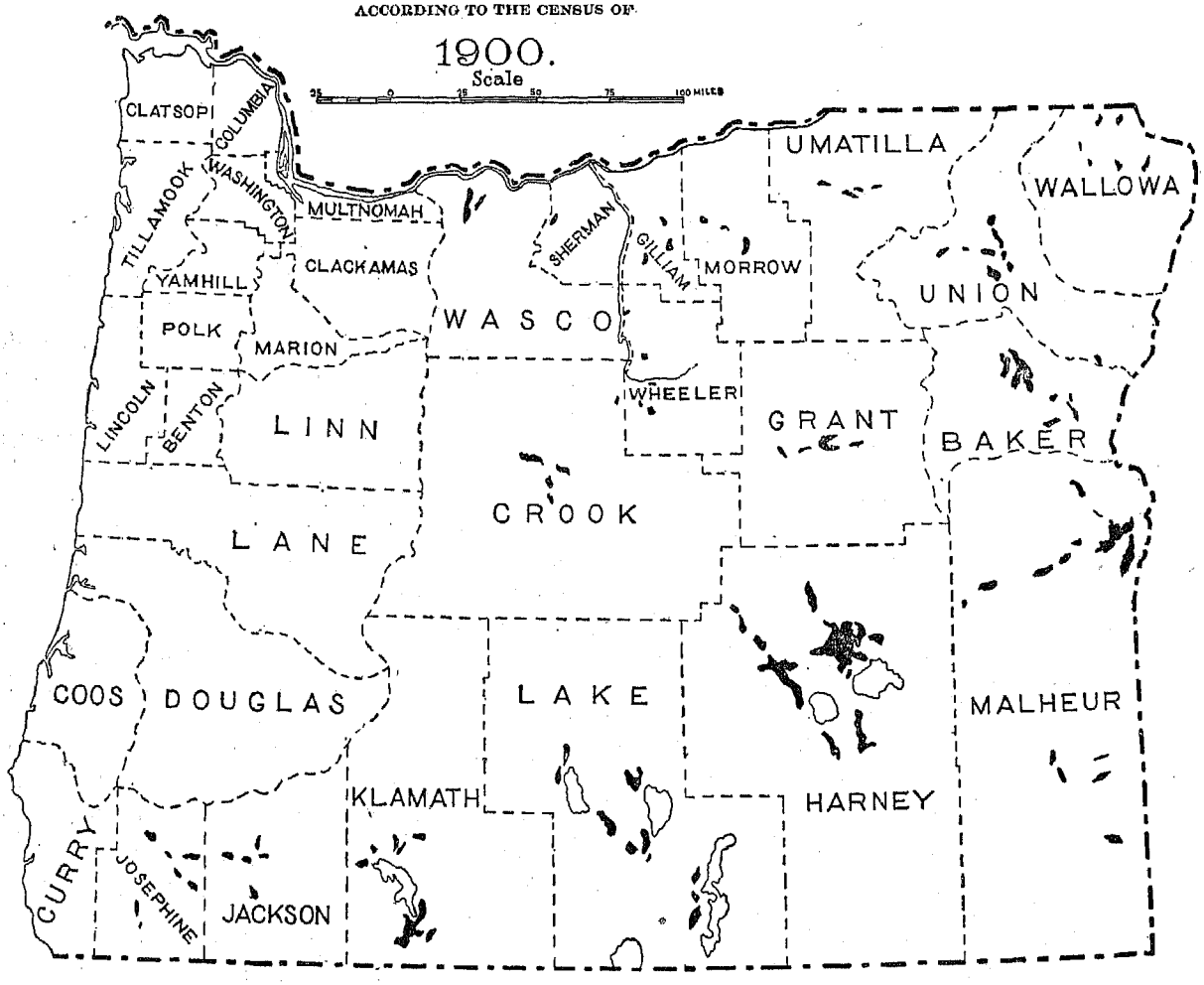
L. G. Powers.
Chief Statistician for Agriculture.

CP 15M

SKETCH MAP
OF
OREGON
SHOWING THE
IRRIGATED AREAS
ACCORDING TO THE CENSUS OF
1900.

Total Irrigated Area

387,095 Acres



AGRICULTURE IN OREGON.

GENERAL STATISTICS.

Oregon has a total land area of 94,560 square miles, or 60,518,400 acres, of which 10,071,328 acres, or 16.6 per cent, are included in farms.

The Cascade Mountains, extending north and south, divide the state into "Eastern Oregon" and "Western Oregon." The former contains about two-thirds of the total area of the state, but the latter includes the greater part of the agricultural lands now in use. With irrigation, however, the farm area of the eastern section might be increased tenfold.

In the valleys of the western part, notably those of the Willamette, Umpqua, and Rogue rivers, the soil is a rich, dark loam. The hills have a heavier soil and the mountains are suitable only for grazing. In the eastern part, the soil is sandy in general, and contains much alkali, but is very fertile under irrigation. In the northeast, extensive areas of naturally fertile wheat lands are found; in the southeast, the cultivation of crops is of very little importance, but the land is extensively used for grazing purposes.

NUMBER AND SIZE OF FARMS.

The following table gives, by decades since 1850, the number of farms, the total and average acreage, and the per cent of farm land improved.

TABLE 1.—FARMS AND FARM ACREAGE: 1850 TO 1900.

YEAR.	Number of farms.	NUMBER OF ACRES IN FARMS.				Per cent of farm land improved.
		Total.	Improved.	Unimproved.	Average.	
1900	35,837	10,071,328	3,328,308	6,743,020	281.0	33.0
1890	25,530	6,909,888	3,516,000	3,393,888	270.7	50.9
1880	16,217	4,214,712	2,198,645	2,016,067	259.9	52.2
1870	7,587	2,389,252	1,116,290	1,272,962	314.9	46.7
1860	5,806	2,060,539	896,414	1,164,125	354.9	43.5
1850	1,164	432,808	132,857	299,951	371.8	30.7

The total number of farms in Oregon in 1900 was over thirty times as great as in 1850, and 40.4 per cent greater than in 1890. The total acreage has also increased rapidly, being over twenty-three times as great as in 1850. The gain in the last ten years was 45.8 per cent. With the exception of the last decade, the area of improved land has increased steadily, and, until 1880, at a more rapid rate than the total acreage. The decrease in the acreage and per cent of farm land improved shown for the last decade, is due to a more strict construction of the term "improved" by the Twelfth than by any preceding census. The increased areas devoted to the various crops show that there has been no decrease in the actual area under cultivation.

Between 1850 and 1880, the number of farms increased faster than the total acreage, involving a decrease in the average size of farms, and indicating a progressive division of farm holdings and a more complete utilization of the soil. The slight increases shown for the last two decades are due to the large additions made to ranges in the eastern part of the state, which recently have been taken from the public domain, and, for the first time, enumerated as farm land. The decrease continued through the last two decades in the western counties and in some of the older-settled counties of the eastern section.

FARM PROPERTY AND PRODUCTS.

Table 2 presents a summary of the principal statistics relating to farm property and products for each census year, beginning with 1850.

TABLE 2.—VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND OF FARM PRODUCTS: 1850 TO 1900.

YEAR.	Total value of farm property.	Land, improvements, and buildings.	Implements and machinery.	Live stock.	Farm products.[1]
1900	$172,761,287	$132,337,514	$6,506,725	$33,917,048	$38,090,969
1890	143,024,800	115,819,200	4,556,770	22,648,830	19,026,120
1880	73,673,140	56,908,575	2,956,173	13,808,392	13,234,548
1870[2]	30,475,381	22,352,989	1,293,717	6,828,675	[3]7,122,790
1860	22,099,161	15,200,593	952,313	5,946,255	----------
1850	4,908,782	2,849,170	183,423	1,876,189	----------

[1] For year preceding that designated.
[2] Values for 1870 were reported in depreciated currency. To reduce to specie basis of other years they must be diminished one-fifth.
[3] Includes betterments and additions to live stock.

The above table shows a remarkable increase in the value of every form of farm property during the five decades from 1850 to 1900. In the last decade, the gain in the total value of farm property was $29,736,487, or 20.8 per cent. The increase in the value of land, improvements, and buildings was $16,518,314, or 14.3 per cent; in that of implements and machinery, $1,949,955, or 42.8 per cent; and in that of live stock, $11,268,218, or 49.8 per cent. The value of farm products shown for 1900 is 100.2 per cent greater than that reported for 1889, but a portion of this increase is doubtless due to a more detailed enumeration in 1900 than in previous census years.

COUNTY STATISTICS.

Table 3 gives a statement of general agricultural statistics by counties.

TABLE 3.—NUMBER AND ACREAGE OF FARMS, AND VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, JUNE 1, 1900, WITH VALUE OF PRODUCTS OF 1899 NOT FED TO LIVE STOCK, AND EXPENDITURES IN 1899 FOR LABOR AND FERTILIZERS, BY COUNTIES.

COUNTIES.	NUMBER OF FARMS.		ACRES IN FARMS.		VALUES OF FARM PROPERTY.				Value of products not fed to live stock.	EXPENDITURES.	
	Total.	With buildings.	Total.	Improved.	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		Labor.	Fertilizers.
The State	35,837	34,976	10,071,328	3,328,308	$113,137,820	$19,199,694	$6,506,725	$33,917,048	$31,896,248	$4,842,834	$27,395
Baker	725	700	176,455	78,389	2,190,425	407,865	146,895	1,400,712	945,562	159,510	1,080
Benton	865	849	235,652	85,823	3,381,460	349,480	165,930	651,091	766,417	62,550	290
Clackamas	2,568	2,530	298,491	90,061	6,664,350	1,303,620	337,630	945,879	1,437,403	190,650	1,050
Clatsop	433	427	72,515	14,994	1,559,170	297,610	109,460	211,866	211,340	33,920	150
Columbia	801	792	142,906	18,045	1,465,660	411,290	76,880	333,719	478,210	60,090	390
Coos	868	854	172,336	37,622	2,117,570	412,080	102,050	562,119	604,954	43,250	40
Crook	576	557	783,485	55,734	2,846,440	393,680	117,600	1,642,391	932,559	125,220	----------
Curry	290	280	103,236	23,149	999,300	140,410	36,010	286,908	210,834	20,050	40
Douglas	1,641	1,624	553,168	122,997	4,764,020	876,980	255,180	1,178,543	1,204,729	109,250	2,010
Gilliam	441	437	340,460	186,258	1,438,470	237,120	153,910	848,388	605,011	123,370	200
Grant	697	664	316,346	41,222	1,220,870	265,930	110,180	1,410,780	912,086	116,630	150
Harney	348	319	272,877	125,549	1,457,920	262,690	77,340	1,930,777	627,909	143,550	20
Jackson	1,356	1,334	294,163	92,103	3,614,660	698,810	219,880	788,886	1,050,289	116,350	1,880
Josephine	557	550	96,019	22,189	958,200	248,950	70,170	243,719	339,846	36,980	510
Klamath	453	447	221,554	72,239	807,780	241,130	98,690	845,208	484,467	63,830	----------
Lake	397	363	249,288	95,824	1,324,840	232,940	92,840	1,766,154	823,050	143,230	----------
Lane	2,370	2,326	503,405	140,513	5,815,290	1,089,180	342,770	1,226,567	1,493,811	149,050	305
Lincoln	489	487	89,665	8,823	546,910	127,290	24,600	188,878	156,438	5,780	40
Linn	2,417	2,359	491,489	216,582	7,516,860	1,369,250	434,350	1,437,580	1,753,243	163,370	620
Malheur	583	538	221,043	91,250	2,142,850	277,360	139,720	2,837,567	862,170	210,914	70
Marion	2,754	2,698	396,091	199,254	10,186,780	1,472,440	417,250	1,312,620	2,299,055	463,610	1,050
Morrow	586	542	509,958	144,457	1,982,331	276,300	146,980	1,318,798	904,458	196,000	620
Multnomah	1,276	1,249	102,926	34,196	6,642,490	1,022,720	200,600	557,015	1,095,209	159,100	5,130
Polk	1,192	1,168	256,847	127,072	4,977,240	808,310	250,220	741,983	1,165,492	206,020	4,570
Sherman	545	527	302,482	198,285	2,458,750	348,110	253,020	531,160	680,564	195,650	380
Tillamook	631	626	101,912	26,940	1,339,680	299,490	76,640	377,952	393,337	35,180	100
Umatilla	1,593	1,545	703,852	382,763	9,301,870	1,110,840	552,320	1,919,897	2,536,755	473,150	280
Union	1,481	1,431	391,299	162,495	5,884,100	863,870	367,980	1,471,557	1,513,469	225,460	400
Wallowa	803	789	193,255	55,181	1,283,305	308,060	121,160	1,062,831	674,175	59,440	70
Wasco	1,851	1,808	431,600	115,059	3,019,650	712,190	248,420	1,123,282	1,077,102	233,570	2,100
Washington	2,302	2,277	251,568	92,512	4,993,820	989,010	293,010	836,582	1,468,001	173,340	1,590
Wheeler	390	381	280,754	22,056	993,506	180,974	66,090	847,178	558,058	86,320	580
Yamhill	1,595	1,575	284,385	134,832	5,989,550	1,069,720	318,670	840,607	1,423,458	196,520	1,700
Grande Ronde[1]	104	99	23,774	3,845	117,960	14,310	5,800	15,915	20,496	----------	----------
Klamath[1]	213	182	165,166	31,391	360,110	26,165	25,620	122,137	30,814	2,380	----------
Siletz[1]	49	47	5,660	1,499	50,383	24,020	7,440	18,929	10,576	890	----------
Umatilla[1]	65	60	26,830	25,360	674,890	21,900	38,790	59,767	138,918	58,660	----------
Warm Springs[1]	37	35	8,466	1,645	48,360	7,600	4,680	21,106	10,983	----------	----------

[1] Indian reservation.

Aside from those counties which have undergone territorial changes, only Harney and Morrow report decreases since 1890 in the total number of farms. Harney alone shows a decrease in the total farm area, all others reporting substantial gains. The decreased improved acreage reported for a number of counties is due to a more intensive cultivation of smaller areas of farm land and a more strict construction of the term "improved" by the Twelfth than by any preceding census. The central counties, which are chiefly devoted to stock raising, contain the largest farms, while the smallest farms are in the western counties, and devoted to general agriculture, dairying, fruit growing, and market gardening. The average size of farms for the state is 281.0 acres, varying from 80.7 acres in Multnomah county to 1,360.2 acres in Crook county.

For the state, the average value of farms is $3,693. In over two-thirds of the counties the total value of farms has increased since 1890, the decreases reported in the remaining counties being slight. Marked gains are shown in the value of implements and machinery, the average value per farm in 1900 being $182. All counties, except Yamhill, report higher values for live stock, the state average being $946 per farm.

The average expenditure in the state for labor in 1899 was $135 per farm, but varied greatly in different sections, the average amount expended in all the eastern counties, except Wallowa, being much larger than elsewhere. The total expenditure for fertilizers in 1899 was greater than in 1889, but still averaged less than $1 per farm. The majority of counties show increases in the use of commercial fertilizers.

FARM TENURE.

Table 4 gives a comparative statement of farm tenure for 1880, 1890, and 1900. Tenants are divided into two groups: "Cash tenants," who pay a rental in cash or a stated amount of labor or farm produce, and "share tenants," who pay as rental a stated share of the produce.

In Table 5 the tenure of farms in 1900 is given by race of farmer, and "farms operated by owners" are subdivided into groups, designated as farms operated by "owners," "part owners," "owners and tenants," and "managers." These groups comprise, respectively: (1) Farms operated by individuals who own all the land they cultivate;

(2) farms operated by individuals who own a part of the land and rent the remainder from others; (3) farms operated under the joint direction and by the united labor of two or more individuals, one owning the farm or a part of it, and the other, or others, owning no part, but receiving for supervision or labor a share of the products; and (4) farms operated by individuals who receive for their supervision and other services a fixed salary from the owners.

TABLE 4.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES: 1880 TO 1900.

YEAR.	Total number of farms.	NUMBER OF FARMS OPERATED BY—			PER CENT OF FARMS OPERATED BY—		
		Owners.[1]	Cash tenants.	Share tenants.	Owners.[1]	Cash tenants.	Share tenants.
1900	35,837	29,471	2,637	3,729	82.2	7.4	10.4
1890	25,530	22,324	1,083	2,123	87.5	4.2	8.3
1880	16,217	13,938	741	1,538	85.9	4.6	9.5

[1] Including "part owners," "owners and tenants," and "managers."

TABLE 5.—NUMBER AND PER CENT OF FARMS OF SPECIFIED TENURES, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER.

PART 1.—NUMBER OF FARMS OF SPECIFIED TENURES.

RACE.	Total number of farms.	Owners.	Part owners.	Owners and tenants.	Managers.	Cash tenants.	Share tenants.
The State	35,837	24,885	4,251	327	508	2,637	3,729
White	35,286	24,179	4,013	324	502	2,579	3,689
Colored	551	206	238	3	6	58	40
Chinese	93	3	----------	----------	1	55	34
Indian	445	195	236	2	5	3	4
Negro	13	8	2	1	----------	----------	2

PART 2.—PER CENT OF FARMS OF SPECIFIED TENURES.

The State	100.0	68.0	11.9	0.9	1.4	7.4	10.4
White	100.0	68.5	11.4	0.9	1.4	7.3	10.5
Colored	100.0	37.4	43.2	0.5	1.1	10.5	7.3

In the period from 1880 to 1900, the total number of farms increased 121.0 per cent, the greater part of the increase having occurred in the last decade. The number of farms operated by owners has increased 7,147, or 32.0 per cent, since 1890; by cash tenants, 1,554, or 143.5 per cent; and by share tenants, 1,606, or 75.6 per cent. The percentages in Table 4 show that the number of farms operated by owners has not increased so rapidly during the last decade as the number operated by tenants.

In 1900, 98.5 per cent of all farms were operated by white farmers, and 1.5 per cent by colored farmers. Of the white farmers, 80.8 per cent own all or a part of the farms they operate, and 19.2 per cent operate farms owned by others. The corresponding percentages for colored farmers are 81.1 and 18.9. Of the colored farmers, 80.8 per cent are Indians, 16.9 per cent are Chinese, and 2.3 per cent are negroes. All except 14 of the Indian and negro farmers own all or a part of the farms they operate, while all but 3 of the Chinese operate farms owned by others. The greatest relative numbers of cash tenants are in the counties near the city of Portland and along the coast, where there are numerous fruit, vegetable, and dairy farms, which require such investments for labor and live stock as to make share tenancy inexpedient. There are relatively more cash tenants among colored farmers than among white farmers.

No previous census has reported the number of farms operated by "part owners," "owners and tenants," and "managers," but it is believed that the number conducted by the last-named class is constantly increasing.

FARMS CLASSIFIED BY RACE OF FARMER AND BY TENURE.

Tables 6 and 7 present the principal statistics for farms classified by race of farmer and by tenure.

TABLE 6.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY RACE OF FARMER AND BY TENURE, WITH PERCENTAGES.

RACE OF FARMER, AND TENURE.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	35,837	281.0	10,071,328	100.0	$172,761,287	100.0
White farmers	35,286	279.6	9,864,481	98.0	171,531,997	99.3
Negro farmers	14	179.3	2,510	(2)	38,417	(2)
Indian farmers	448	455.6	201,826	2.0	962,655	0.6
Chinese farmers[1]	94	26.7	2,511	(2)	228,218	0.1
Owners	24,385	214.9	5,239,331	52.0	97,358,839	56.4
Part owners	4,251	485.6	2,064,302	20.5	29,017,464	16.8
Owners and tenants	327	328.7	107,495	1.1	2,159,167	1.2
Managers	508	2,288.3	1,162,468	11.5	12,013,180	7.0
Cash tenants	2,637	201.3	530,817	5.3	12,670,729	7.3
Share tenants	3,729	259.3	966,885	9.6	19,541,908	11.3

[1] Including 2 Japanese.
[2] Less than one-tenth of 1 per cent.

TABLE 7.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY RACE OF FARMER AND BY TENURE.

RACE OF FARMER, AND TENURE.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$3,157	$536	$182	$946	$890	18.5
White farmers	3,181	541	183	956	898	18.5
Negro farmers	1,664	349	86	645	574	20.9
Indian farmers	1,522	145	97	409	199	9.2
Chinese farmers[1]	1,951	268	76	132	1,102	45.4
Owners	2,499	518	160	816	748	18.7
Part owners	4,629	677	281	1,239	1,357	19.9
Owners and tenants	4,596	785	264	958	1,122	17.0
Managers	13,990	417	398	8,843	4,025	17.0
Cash tenants	3,556	465	142	642	770	16.0
Share tenants	3,902	533	199	607	922	17.6

[1] Including 2 Japanese.

Colored farmers operate but 1.5 per cent of the farms in Oregon, and control 2.1 per cent of the total acreage and 0.7 per cent of the total value of farm property. The values of all forms of farm property are less for colored than for white farmers. The per cent of gross income for negro farmers, of whom there are but few in the state, is

somewhat higher than for white farmers, owing to the fact that the average area of their farms is small, and the cultivation consequently more intensive. Notwithstanding the large average size of their farms, the per cent for Indians is very low, owing to their very general neglect of agriculture; while the very high per cent for Chinese farms is due to the fact that many of these are intensively cultivated market gardens.

Farms operated by managers have the highest average value of all forms of farm property, except buildings, and for this item "owners and tenants" have the largest average. The gross income is also largest for managers, but the ratio which their gross income bears to the total value of farm property is smaller, owing to the high valuation of their farm property, than for some of the other groups. As the large average area and high average value of live stock for this group would indicate, many of the farms of managers are stock ranches.

FARMS CLASSIFIED BY AREA.

Tables 8 and 9 present the principal statistics for farms classified by area.

TABLE 8.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY AREA, WITH PERCENTAGES.

AREA.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	35,837	281.0	10,071,328	100.0	$172,761,287	100.0
Under 3 acres	404	2.3	933	(1)	1,738,914	1.0
3 to 9 acres	1,027	6.0	6,171	0.1	1,491,897	0.9
10 to 19 acres	1,640	13.8	22,695	0.2	2,831,786	1.6
20 to 49 acres	4,088	34.5	140,669	1.4	8,561,267	5.0
50 to 99 acres	4,673	75.1	350,734	3.5	12,709,702	7.4
100 to 174 acres	11,055	149.0	1,647,387	16.4	30,920,082	17.9
175 to 259 acres	3,402	213.4	725,858	7.2	17,076,446	9.9
260 to 499 acres	5,826	358.7	2,089,844	20.7	38,103,224	22.6
500 to 999 acres	2,440	679.4	1,657,634	16.5	25,631,017	14.8
1,000 acres and over	1,287	2,664.7	3,429,453	34.0	32,696,952	18.9

[1] Less than one-tenth of 1 per cent.

TABLE 9.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY AREA.

AREA.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$3,157	$536	$182	$946	$890	18.5
Under 3 acres	367	306	48	3,583	1,364	31.7
3 to 9 acres	818	453	58	124	306	21.0
10 to 19 acres	1,098	399	68	162	327	18.9
20 to 49 acres	1,358	403	84	252	411	19.6
50 to 99 acres	1,829	422	116	353	517	19.0
100 to 174 acres	1,821	347	124	505	514	18.4
175 to 259 acres	3,490	628	204	698	867	17.3
260 to 499 acres	4,579	702	260	1,171	1,151	17.2
500 to 999 acres	7,221	946	402	1,936	1,853	17.6
1,000 acres and over	15,502	1,525	683	7,696	5,087	20.0

The group of farms containing from 100 to 174 acres each comprises a larger number of farms than any other class, but the group "1,000 acres and over" constitutes a larger part of the total acreage.

With a few exceptions, the average values of all forms of farm property increase with the size of the farms. For the group of farms of less than 3 acres each, all values are comparatively high, as this class contains most of the florists' establishments of the state, and many market gardens, poultry farms, and city dairies. The high value of live stock for this group is due to the fact that it includes many ranges consisting of large areas of public domain though the area actually owned or leased is less than 3 acres. The incomes from these industries are determined, not so much by the area of the land used, as by the amount of capital invested and the expenditures for labor and fertilizers.

The average gross incomes per acre for the various groups classified by area are as follows: Farms under 3 acres, $590.51; 3 to 9 acres, $50.85; 10 to 19 acres, $23.61; 20 to 49 acres, $11.93; 50 to 99 acres, $6.88; 100 to 174 acres, $3.45; 175 to 259 acres, $4.06; 260 to 499 acres, $3.21; 500 to 999 acres, $2.73; and 1,000 acres and over, $1.91. The average gross income per acre decreases generally as the farms increase in size.

FARMS CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

Tables 10 and 11 present the leading features of the statistics relating to farms classified by principal source of income. If the value of the hay and grain raised on any farm exceeds that of any other crop and constitutes at least 40 per cent of the total value of products not fed to live stock, the farm is classified as a "hay and grain" farm. Similarly if vegetables are the leading crop, constituting 40 per cent of these products, it is a "vegetable" farm. The farms of the other groups are classified in accordance with the same general principle. "Miscellaneous" farms are those whose operators do not derive their principal income from any one class of farm products. Farms with no income in 1899 are classified according to the agricultural operations upon other farms in the same locality.

TABLE 10.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME, WITH PERCENTAGES.

PRINCIPAL SOURCE OF INCOME.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	35,837	281.0	10,071,328	100.0	$172,761,287	100.0
Hay and grain	9,712	323.0	3,137,205	31.2	61,892,811	35.8
Vegetables	1,676	97.2	162,849	1.6	5,011,107	2.9
Fruits	1,072	111.1	119,068	1.2	4,863,662	2.8
Live stock	10,218	454.6	4,644,659	46.1	59,627,948	34.5
Dairy produce	3,751	176.2	660,991	6.6	14,176,453	8.2
Sugar	11	279.1	3,070	(1)	125,507	0.1
Flowers and plants	38	2.5	94	(1)	199,230	0.1
Nursery products	33	56.0	1,847	(1)	220,870	0.2
Miscellaneous	9,326	143.8	1,341,545	13.3	26,643,704	15.4

[1] Less than one-tenth of 1 per cent.

TABLE 11.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY PRINCIPAL SOURCE OF INCOME.

PRINCIPAL SOURCE OF INCOME.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$3,157	$536	$182	$946	$890	18.5
Hay and grain	4,793	647	277	656	1,041	16.3
Vegetables	2,163	437	107	283	632	21.1
Fruits	3,350	729	145	313	884	19.5
Live stock	3,057	552	182	2,045	1,201	20.6
Dairy produce	2,462	503	138	676	589	15.6
Sugar	9,643	566	443	758	2,893	25.4
Flowers and plants	3,208	1,889	123	23	2,387	45.5
Nursery products	4,958	1,373	218	144	4,618	69.0
Miscellaneous	1,985	403	116	353	538	18.8

For the several classes of farms the average values per acre of products not fed to live stock are as follows: Farms whose operators derive their principal income from flowers and plants, $965.00; nursery products, $82.51; sugar, $10.36; fruits, $7.96; vegetables, $6.50; miscellaneous, $3.74; dairy produce, $3.34; hay and grain, $3.22; and live stock, $2.64.

The wide variations shown in the averages and percentages of gross income are due largely to the fact that, in computing gross income, no deduction is made for expenditures. For florists' establishments, nurseries, and market gardens the average expenditure for such items as labor and fertilizers represents a far larger percentage of the gross income than for "hay and grain," "live-stock," or "miscellaneous" farms. Were it possible to present the average net incomes, the variations shown would be comparatively slight.

FARMS CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

Tables 12 and 13 present data relating to farms classified by the reported value of products not fed to live stock.

TABLE 12.—NUMBER AND ACREAGE OF FARMS, AND VALUE OF FARM PROPERTY, JUNE 1, 1900, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK, WITH PERCENTAGES.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	Number of farms.	NUMBER OF ACRES IN FARMS.			VALUE OF FARM PROPERTY.	
		Average.	Total.	Per cent.	Total.	Per cent.
The State	35,837	281.0	10,071,328	100.0	$172,761,287	100.0
$0	969	241.9	234,371	2.3	1,809,230	1.0
$1 to $49	1,012	143.3	144,984	1.4	1,186,300	0.7
$50 to $99	1,657	127.4	211,064	2.1	2,137,660	1.2
$100 to $249	6,337	116.3	736,683	7.3	10,453,277	6.1
$250 to $499	8,360	146.7	1,226,518	12.2	21,378,150	12.4
$500 to $999	8,625	212.0	1,828,218	18.2	36,510,568	21.1
$1,000 to $2,499	6,665	370.1	2,466,415	24.5	51,967,161	30.1
$2,500 and over	2,212	1,457.1	3,223,075	32.0	47,318,941	27.4

TABLE 13.—AVERAGE VALUES OF SPECIFIED CLASSES OF FARM PROPERTY, AND AVERAGE GROSS INCOME PER FARM, WITH PER CENT OF GROSS INCOME ON TOTAL INVESTMENT IN FARM PROPERTY, CLASSIFIED BY REPORTED VALUE OF PRODUCTS NOT FED TO LIVE STOCK.

VALUE OF PRODUCTS NOT FED TO LIVE STOCK.	AVERAGE VALUES PER FARM OF—					Per cent of gross income on total investment in farm property.
	Farm property, June 1, 1900.				Gross income (products of 1899 not fed to live stock).	
	Land and improvements (except buildings).	Buildings.	Implements and machinery.	Live stock.		
The State	$3,157	$536	$182	$946	$890	18.5
$0	1,269	129	49	420	----------	----------
$1 to $49	793	170	44	165	29	2.5
$50 to $99	852	204	49	185	69	5.4
$100 to $249	1,052	279	67	252	167	10.1
$250 to $499	1,657	387	109	401	357	14.0
$500 to $999	2,861	557	179	636	700	16.5
$1,000 to $2,499	5,373	867	312	1,245	1,459	18.7
$2,500 and over	12,968	1,348	621	6,455	5,402	25.3

There were 969 farmers reporting no income in 1899. Most of these farms were homesteads taken up too late for cultivation in 1899. Some are suburban or summer homes, and others had changed owners or tenants, and the persons in charge, June 1, 1900, were unable to give definite information concerning the products of the

preceding year. To this extent the reports fall short of giving a complete statement of farm income in 1899.

LIVE STOCK.

At the request of the various live-stock associations of the country, a new classification of domestic animals was adopted for the census of 1900. The age grouping for neat cattle was determined by their present and prospective relations to the dairy industry and the supply of meat products. Horses and mules are classified by age, and neat cattle and sheep by age and sex. The new classification permits a very close comparison with previous census reports.

Table 14 presents a summary of live-stock statistics.

TABLE 14.—DOMESTIC ANIMALS, FOWLS, AND BEES ON FARMS AND RANGES, JUNE 1, 1900, WITH TOTAL AND AVERAGE VALUES, AND NUMBER OF DOMESTIC ANIMALS NOT ON FARMS OR RANGES.

LIVE STOCK.	Age in years.	ON FARMS AND RANGES.			NOT ON FARMS OR RANGES.
		Number.	Value.	Average value.	Number.
Calves	Under 1	168,323	$1,536,478	$9.13	3,120
Steers	1 and under 2	68,754	1,253,752	18.24	591
Steers	2 and under 3	43,928	1,142,145	26.00	148
Steers	3 and over	21,448	725,205	33.81	244
Bulls	1 and over	13,675	474,777	34.72	124
Heifers	1 and under 2	78,628	1,380,105	17.55	689
Cows kept for milk	2 and over	122,447	4,093,333	33.43	10,222
Cows and heifers not kept for milk.	2 and over	183,100	4,559,107	24.90	163
Colts	Under 1	26,138	267,521	10.23	286
Horses	1 and under 2	27,682	480,133	17.34	212
Horses	2 and over	234,112	7,903,406	33.76	19,529
Mule colts	Under 1	1,091	20,882	19.14	6
Mules	1 and under 2	1,014	30,013	29.60	7
Mules	2 and over	5,341	267,354	50.06	497
Asses and burros	All ages	305	42,423	139.09	45
Lambs	Under 1	1,078,936	1,919,620	1.78	623
Sheep (ewes)	1 and over	1,480,282	4,188,763	2.83	890
Sheep (rams and wethers).	1 and over	481,073	1,455,064	3.02	963
Swine	All ages	281,406	1,057,037	3.76	5,135
Goats	All ages	109,661	375,229	3.42	334
Fowls:[1]					
Chickens[2]		1,290,818	582,524		
Turkeys		36,031			
Geese		26,580			
Ducks		19,774			
Bees (swarms of)		55,585	160,382	2.89	
Unclassified			1,800		
Value of all live stock			$33,917,048		

[1] The number reported is of fowls over 3 months old. The value is of all, old and young.
[2] Including Guinea fowls.

The total value of all live stock on farms and ranges, June 1, 1900, was $33,917,048, of which 32.6 per cent represents the value of neat cattle other than dairy cows; 25.5 per cent, that of horses; 22.3 per cent, that of sheep; 12.1 per cent, that of dairy cows; 3.1 per cent, that of swine; and 4.4 per cent, that of all other live stock.

No reports were secured of the value of live stock not on farms or ranges, but it is probable that such animals have higher average values than farm or range animals. Allowing the same averages, however, the total value of all domestic animals not on farms or ranges, June 1, 1900, would be $1,137,758. Exclusive of poultry and bees not on farms, the total value of all live stock in the state is approximately $35,054,800.

CHANGES IN LIVE STOCK ON FARMS AND RANGES.

The following table shows the changes since 1850 in the numbers of the most important domestic animals.

TABLE 15.—NUMBER OF SPECIFIED DOMESTIC ANIMALS ON FARMS AND RANGES: 1850 TO 1900.

YEAR.	Dairy cows.	Other neat cattle.	Horses.	Mules and asses.	Sheep.[1]	Swine.
1900	122,447	577,856	287,932	7,751	1,961,355	281,406
1890	114,156	406,492	224,962	4,946	1,780,312	208,259
1880	59,549	356,693	124,107	2,804	1,083,162	156,222
1870	48,325	71,872	51,702	2,581	318,123	119,455
1860	53,170	100,961	36,772	980	86,052	81,615
1850	9,427	32,302	8,046	420	15,382	30,235

[1] Lambs not included.

The above table shows uninterrupted progress in the live-stock industry for the last half century. The number of dairy cows, June 1, 1900, was almost thirteen times as great as in 1850, and 7.3 per cent greater than in 1890. In the census of 1900, the term "dairy cows" was limited to those "kept for milk" at the time of the enumeration, while many cows milked at some time during the year were probably classed with "other neat cattle." The great increase in dairy products confirms this statement. Nearly eighteen times as many neat cattle, other than dairy cows, were reported in 1900 as in 1850, the gain in the last decade being 42.2 per cent. The number of "other neat cattle" in 1900 included 168,323 calves, however, and, as it is uncertain whether any calves were reported under this head in 1890, the increase shown for the last decade may be only apparent. The gains since 1890 in the numbers of other domestic animals are as follows: Horses, 28.0 per cent; mules and asses, 56.7 per cent; swine, 35.1 per cent; and sheep, 10.2 per cent. The increase in the number of sheep has not been as great in the last ten years as in the three former decades, owing to foreign competition in wool production, and fluctuations in prices, which, together with the increasing value of land, have caused many farmers to abandon sheep raising for other agricultural industries.

In comparing the poultry report of 1900 with that of the Eleventh Census, it should be borne in mind that in 1900 the enumerators were instructed not to report fowls under three months old, while in 1890 no such limitation was made. This fact explains to a great extent the apparent decrease in the numbers of turkeys and ducks and the small increase in the numbers of geese and chickens. Compared with the figures for 1890, the present census shows that geese increased in number 24.3 per cent and chickens, 9.3 per cent; while ducks decreased 38.8 per cent, and turkeys 17.3 per cent.

ANIMAL PRODUCTS.

Table 16 is a summarized statement of the products of the animal industry.

TABLE 16.—QUANTITIES AND VALUES OF SPECIFIED ANIMAL PRODUCTS, AND VALUES OF POULTRY RAISED, ANIMALS SOLD, AND ANIMALS SLAUGHTERED ON FARMS AND RANGES IN 1899.

PRODUCTS.	Unit of measure.	Quantity.	Value.
Wool	Pounds	18,349,660	$2,396,741
Mohair and goat hair	Pounds	267,780	74,868
Milk	Gallons	[1]48,582,968	[2]3,550,953
Butter	Pounds	8,107,450	
Cheese	Pounds	467,256	
Eggs	Dozens	7,709,970	1,162,071
Poultry			826,687
Honey	Pounds	979,140	109,247
Wax	Pounds	16,740	
Animals sold			6,598,325
Animals slaughtered			1,565,895
Total			16,284,282

[1] Includes all milk produced, whether sold, consumed, or made into butter or cheese.
[2] Includes the value of milk sold or consumed, and of butter and cheese made.

The value of animal products in 1899 was $16,284,282, or 42.8 per cent of all farm products, and 51.1 per cent of the gross farm income. Of the total value given, 50.1 per cent represents the value of animals sold and animals slaughtered on farms; 21.8 per cent, that of dairy products; 15.2 per cent, that of wool, mohair, and goat hair; 12.2 per cent, that of poultry and eggs; and 0.7 per cent, that of honey and wax.

ANIMALS SOLD AND ANIMALS SLAUGHTERED ON FARMS.

The value of animals sold and animals slaughtered on farms is $8,164,220, or 25.6 per cent of the gross farm income. Of the total number of farmers reporting live stock, 21,523, or 63.0 per cent, report animals slaughtered on farms, the average value per farm being $72.75; while 19,379, or 56.7 per cent of the total number, report sales of live animals, with an average receipt per farm of $340.49. In obtaining reports of receipts from sales of live animals, the enumerators were instructed to secure from each operator a statement of the amount received from sales in 1899 less the amount paid for animals purchased during the same year.

DAIRY PRODUCE.

The dairy industry has made great progress in the last decade, the production of milk showing an increase of 23,540,692 gallons, or 94.0 per cent; while the quantity of butter made on farms increased 69.4 per cent, and that of cheese, 75.9 per cent.

Of the $3,550,953 given in Table 16 as the value of dairy produce, $2,006,399, or 56.5 per cent, represents the amount received from the sale of dairy produce, and $1,544,554, or 43.5 per cent, the value of such produce consumed on farms. Of the former amount, $1,111,073 was received from the sale of 10,308,119 gallons of milk; $777,989, from 4,092,642 pounds of butter; $73,439, from 154,549 gallons of cream; and $43,898, from 397,967 pounds of cheese.

POULTRY AND EGGS.

The total value of the products of the poultry industry in 1899 was $1,988,758, of which 58.4 per cent represents the value of eggs produced, and 41.6 per cent, that of poultry raised. Over three million dozens more eggs were produced in 1899 than ten years before, the per cent of increase being 73.1.

WOOL.

The production of wool has increased rapidly since 1850, the gain in the last decade being 83.8 per cent. Malheur, Morrow, Baker, Lake, and Crook counties show the greatest increase. The average weight of fleeces increased from 6.3 pounds in 1890 to 8.6 pounds in 1900, showing a marked improvment in the grade of sheep kept.

HONEY AND WAX.

The quantity of honey produced in 1899 was 979,140 pounds, a gain of 544,112 pounds, or 125.1 per cent over the production of 1889. The quantity of wax reported for 1899 was 16,740 pounds, which was more than twice that of ten years before.

HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS.

Table 17 presents, for the leading groups of farms, the number of farms reporting horses and dairy cows, the total number of these animals, and the average number per farm. In computing the averages presented, only those farms which report the kind of stock under consideration are included.

TABLE 17.—HORSES AND DAIRY COWS ON SPECIFIED CLASSES OF FARMS AND RANGES, JUNE 1, 1900.

CLASSES.	HORSES.			DAIRY COWS.		
	Farms reporting.	Number.	Average per farm.	Farms reporting.	Number.	Average per farm.
Total	31,759	287,932	9.1	29,414	122,447	4.2
White farmers	31,268	280,269	9.0	29,200	121,945	4.2
Colored farmers	491	7,663	15.6	214	502	2.3
Owners[1]	25,621	222,609	8.7	23,882	97,263	4.1
Managers	441	28,043	63.6	373	2,365	6.3
Cash tenants	2,301	13,653	5.9	2,062	11,712	5.7
Share tenants	3,396	23,627	7.0	3,097	11,107	3.6
Under 20 acres	2,046	7,193	3.5	2,012	3,956	2.0
20 to 99 acres	7,488	23,779	3.2	7,206	19,609	2.7
100 to 174 acres	9,766	64,453	6.6	8,684	32,024	3.7
175 to 259 acres	3,204	20,309	6.3	3,029	13,826	4.6
260 acres and over	9,305	172,198	18.5	8,483	53,032	6.3
Hay and grain	8,709	75,284	8.6	7,512	24,448	3.5
Vegetable	1,351	4,926	3.6	1,104	2,949	2.7
Fruit	862	3,923	4.6	708	1,583	2.2
Live stock	9,565	153,696	16.1	8,783	40,941	4.7
Dairy	3,293	18,876	5.7	3,751	30,063	8.0
Miscellaneous[2]	7,979	31,227	3.9	7,556	22,463	3.0

[1] Including "part owners" and "owners and tenants."
[2] Including sugar farms, florists' establishments, and nurseries.

CROPS.

The following table gives the statistics of the principal crops grown in 1899.

TABLE 18.—ACREAGES, QUANTITIES, AND VALUES OF THE PRINCIPAL FARM CROPS IN 1899.

CROPS.	Acres.	Unit of measure.	Quantity.	Value.
Corn	16,992	Bushels	359,523	$155,693
Wheat	873,379	Bushels	14,508,636	6,358,395
Oats	261,406	Bushels	6,725,828	2,078,950
Barley	60,375	Bushels	1,515,150	606,945
Rye	10,090	Bushels	109,234	67,053
Buckwheat	402	Bushels	7,010	4,425
Flaxseed	2,016	Bushels	8,740	8,564
Kafir corn	4	Bushels	134	39
Clover seed		Bushels	1,948	9,856
Grass seed		Bushels	24,437	11,604
Hay and forage	731,823	Tons	1,117,886	6,147,018
Tobacco	14	Pounds	4,630	769
Hops	15,434	Pounds	14,675,577	937,513
Peanuts	1	Bushels	25	18
Dry beans	841	Bushels	11,077	20,567
Dry pease	1,304	Bushels	22,615	21,114
Potatoes	30,035	Bushels	3,761,367	1,210,034
Sweet potatoes	27	Bushels	2,825	1,903
Onions	851	Bushels	208,502	167,175
Miscellaneous vegetables	15,494	Bushels		907,293
Sorghum sirup		Gallons	2,473	1,150
Sugar beets	2,510	Tons	14,462	63,322
Sorghum cane	39	Tons	11	43
Small fruits	3,470			386,632
Grapes	[1] 1,033	Centals	53,891	[2] 162,543
Orchard fruits	[1] 67,757	Bushels		[3] 906,015
Tropical fruits				11
Nuts				2,560
Forest products				1,300,724
Flowers and plants	58			95,872
Seeds	45			10,448
Nursery products	1,014			151,498
Miscellaneous	278			10,941
Total	2,096,692			21,806,687

[1] Estimated from number of vines or trees.
[2] Including value of raisins, wine, etc.
[3] Including value of cider, vinegar, etc.

Of the total value of crops, cereals, including Kafir corn, contributed 42.5 per cent; hay and forage, 28.2 per cent; vegetables, including potatoes, sweet potatoes, and onions, 10.5 per cent; fruits and nuts, 6.7 per cent; and all other crops, 12.1 per cent.

The average values per acre of the various crops were as follows: Flowers and plants, $1,653; miscellaneous seeds, $232; onions, $196; grapes, $157; nursery products, $149; small fruits, $111; sweet potatoes, $70; hops, $61; miscellaneous vegetables, $59; potatoes, $40; sugar beets, $25; orchard fruits, $13; and cereals, $8.

CEREALS.

Table 19 is a statement of the changes in cereal production since 1849.

TABLE 19.—ACREAGE AND PRODUCTION OF CEREALS: 1849 TO 1899.

PART 1.—ACREAGE.

YEAR.[1]	Barley.	Buckwheat.	Corn.	Oats.	Rye.	Wheat.
1899	60,375	402	16,992	261,406	10,090	873,379
1889	37,722	250	12,101	218,736	6,845	553,052
1879	29,311	372	5,646	151,624	841	445,077

[1] No statistics of acreage were secured prior to 1879.

PART 2.—BUSHELS PRODUCED.

1899	1,515,150	7,010	359,523	6,725,828	109,234	14,508,636
1889	874,353	2,678	238,203	5,948,594	63,206	9,296,734
1879	920,977	6,215	126,862	4,385,650	13,305	7,480,010
1869	210,736	1,645	72,138	2,029,909	3,890	2,340,746
1859	26,254	2,749	76,122	885,673	2,704	826,776
1849			2,918	61,214	106	211,943

The total area devoted to cereals in 1879 was 632,871 acres; in 1889, 828,706 acres; and in 1899, 1,222,644 acres. The increases in the acreages devoted to the several cereals in the last decade were: Wheat, 57.9 per cent; oats, 19.5 per cent; buckwheat, 60.8 per cent; barley, 60.1 per cent; rye, 47.4 per cent; and corn, 40.4 per cent. The total number of bushels of all cereals grown in 1849 was 276,181, and in 1899, 23,225,381.

Of the total area under cereals in 1899, 71.4 per cent was devoted to wheat; 21.4 per cent, to oats; 4.9 per cent, to barley; 1.4 per cent, to corn; and 0.9 per cent, to rye and buckwheat.

A comparison by counties shows that the acreage of wheat in the Willamette Valley was less in 1899 than in 1879, though larger than in 1889, while the northeastern counties, which in 1879 reported only about one-tenth of the total acreage, reported in 1899 nearly one-half of the total for the state. In 1900 Umatilla county reported 20.9 per cent of the total area in wheat, with a yield of over 3,000,000 bushels. Sherman, Linn, and Marion counties follow, in the order named. The Willamette Valley counties grew over three-fourths of the oats reported in 1899, Marion reporting 15.7 per cent of the total area, and Linn, 15.1 per cent. The acreage devoted to this crop in the eastern counties was small. Barley was grown most extensively in the northeastern counties. Corn was reported in largest quantities in Jackson and Douglas counties, though grown generally throughout the state. Buckwheat received but little attention.

HAY AND FORAGE.

In 1900, 29,273 farmers, or 81.7 per cent of the total number in the state, reported hay and forage crops, with a total acreage for 1899 of 731,823 acres, or 56.7 per cent more than ten years before. Of this acreage 33.6 per cent produced grains cut green for hay. Exclusive of cornstalks and corn strippings the average yield of hay and forage per acre was 1.5 tons.

In 1899 the acreage and yield of the various kinds of hay and forage were as follows: Wild, salt, and prairie grasses, 202,680 acres and 234,220 tons; millet and Hungarian grasses, 598 acres and 970 tons; alfalfa or lucern, 53,612 acres and 145,875 tons; clover, 31,885 acres and 70,341 tons; other tame and cultivated grasses, 189,183 acres and 323,734 tons; grains cut green for hay, 245,759 acres and 320,735 tons; crops grown for forage, 8,106 acres and 21,525 tons; and cornstalks, 545 acres and 486 tons.

In Table 18 the production of cornstalks and corn strippings is included under "hay and forage," but the acreage is included under "corn," as the forage secured was an incidental product of the corn crop.

ORCHARD FRUITS.

The changes in orchard fruits since 1890 are shown in the following table.

TABLE 20.—ORCHARD TREES AND FRUITS: 1890 AND 1900.

FRUITS.	NUMBER OF TREES.		BUSHELS OF FRUIT.	
	1900.	1890.	1899.	1889.
Apples	2,825,898	1,268,395	878,980	1,038,492
Apricots	10,869	856	1,665	633
Cherries	237,155	51,277	65,347	42,127
Peaches	281,716	115,244	101,190	69,934
Pears	374,165	74,816	112,225	106,383
Plums and prunes	2,517,523	247,805	359,821	199,700

The fruit-growing industry is most extensive in the region lying between the Cascade and Coast ranges. The value of orchard products in 1899 was $906,015, of which amount Jackson and Douglas counties contributed more than one-third.

Since 1890 the total number of orchard trees in the state has increased from 1,757,893 to 6,314,232. Of this increase the gain in plum and prune trees constitutes 49.8 per cent, and that in apple trees, 34.2 per cent.

During the decade the number of apple trees has more than doubled, but their percentage of the total number of orchard trees in the state has decreased from 72.2 to 44.8 per cent. Linn, Clackamas, Marion, and Douglas counties together reported over one million apple trees.

The number of plum and prune trees reported in 1900 was more than ten times that of 1890. Over half of these trees were grown in Marion, Douglas, Yamhill, and Clackamas counties.

During the decade, peach trees more than doubled in number, and the numbers of pear and cherry trees reported by the present census are nearly five times as great as in 1890. Apricots show large gains, but are of little relative importance.

In addition to the number of trees shown in Table 20, unclassified orchard trees to the number of 66,906 were reported, with a yield of 7,774 bushels of fruit. The value of orchard products given above includes the value of 2,060 barrels of cider, 1,170 barrels of vinegar, and 2,818,200 pounds of dried and evaporated fruits.

The quantity of fruit produced in any year is determined largely by the nature of the season. Consequently, comparisons between the crop of 1889 and that of 1899 have little significance, as the crop of the latter year was severely injured by frosts.

SMALL FRUITS.

The total area used in the cultivation of small fruits in 1899 was 3,470 acres, distributed among 11,335 farms. The value of the fruit grown was $386,632, an average of $34 per farm. Of the total area, 1,792 acres were devoted to strawberries, whose total production was 3,837,820 quarts, grown principally in Multnomah and Wasco counties. The acreages and productions of the other berries were as follows: Blackberries and dewberries, 717 acres and 1,310,920 quarts; raspberries and Logan berries, 479 acres and 783,060 quarts; gooseberries, 203 acres and 326,780 quarts; currants, 169 acres and 238,420 quarts; and other berries, 110 acres and 148,534 quarts.

VEGETABLES.

The value of all vegetables grown in the state in 1899, including potatoes, sweet potatoes, and onions, was $2,286,405. Of this amount $1,210,034, or 52.9 per cent, represents the value of potatoes, which were reported by 22,717 farmers, or 63.4 per cent of the total number in the state. Aside from the land devoted to potatoes and onions, 15,494 acres were used in the growing of miscellaneous vegetables. Of this area the products of 11,596 acres were not reported in detail. Of the remaining area, 924 acres were devoted to the cultivation of cabbages; 601, to sweet corn; 573, to carrots; 372, to turnips; 331, to watermelons; 308, to tomatoes; 228, to beets; 110, to cucumbers; 101, to squashes; and 350, to other vegetables.

HOPS.

In 1850, 8 pounds of hops were reported for Oregon; in 1860, 493 pounds; and in 1870, 9,745 pounds. In 1880, 244,371 pounds were reported from 304 acres; in 1890, 3,613,726 pounds from 3,130 acres; and in 1900, 14,675,577 pounds from 15,434 acres—the product being over four times, and the acreage almost five times, as great as in 1890.

In 1900, 1,096 farmers reported hops with an average area of 14.1 acres per farm, and an average yield per acre of 951 pounds. The crop was valued at $937,513, an average of $855 per farm, $61 per acre, and $0.06 per pound. The small average yield and low price are largely due to late rains which caused a deterioration in the quality of the crop.

The counties of the Willamette Valley lead in the production of hops, Marion, Polk, and Yamhill counties, ranking in the order named, reporting 68.7 per cent of the total acreage.

SUGAR BEETS.

Only three counties in Oregon report sugar beets, but the industry, although of recent inception, bids fair to become one of importance in the state. In 1899, 63 farmers devoted to this crop an area of 2,510 acres, an average of 39.8 acres per farm, obtaining a total yield of 14,462 tons of beets, an average of 5.8 tons per acre. The value of this crop was $63,322, an average of $1,005 per farm, $25.23 per acre, and $4.38 per ton.

These beets were grown in the northeastern part of the state, Union county alone reporting 99.5 per cent of the total acreage.

FLORICULTURE.

The area devoted to the cultivation of flowers and ornamental plants in 1899 was 58 acres, and the value of the products sold therefrom was $95,872. These flowers and plants were grown by 62 farmers and florists, of whom 38 made commercial floriculture their principal business. They had invested in the aggregate $199,230, of which $121,900 represents the value of the land and improvements other than buildings; $71,800 that of buildings; $4,675 that of implements and machinery; and $855 that of live stock. The value of their products in 1899 was

$90,850, of which $88,940 represents the value of flowers and plants; $140 the value of products fed to live stock; and $1,770 the value of other products. The expenditure for labor was $16,175, and for fertilizers, $1,525. The average gross income per farm was $2,387.

In addition to the 38 principal florists' establishments, 112 farms and market gardens made use of glass in the propagation of flowers, plants, or vegetables. They had an area under glass of 100,185 square feet, making, with the 216,255 square feet belonging to the florists' establishments, a total of 316,440 square feet.

NURSERIES.

The total value of nursery stock sold in 1899 was $151,498, reported by the operators of 74 farms and nurseries. Of this number, 33 derived their principal income from the nursery business. They had 1,847 acres of land, valued at $163,600; buildings worth $45,300; implements and machinery, $7,200; and live stock, $4,770. Their total income was $154,530, of which $145,174 represents the value of nursery stock; $2,140, the value of products fed to live stock; and $7,216, the value of other products. The average gross income for each farm reporting was $4,618. They expended for labor $35,260, and for fertilizers, $1,085.

LABOR AND FERTILIZERS.

The total expenditure for labor on farms in 1899, including the value of board furnished, was $4,842,834, an average of $135 per farm. The average was highest for the most intensively cultivated farms, being $1,068 for nurseries, $805 for sugar farms, $426 for florists' establishments, $169 for live-stock farms, $166 for hay and grain farms, $146 for fruit farms, $103 for vegetable farms, and $71 for dairy farms. "Managers" expended on an average, $1,065; "share tenants," $133; "cash tenants," $109; and "owners," $101. White farmers expended $136 per farm, and colored farmers, $96.

Fertilizers purchased in 1899 cost $27,395, or less than $1 per farm, but an increase since 1890 of 104.9 per cent. The average expenditure was $40 for florists' establishments, $33 for nurseries, $3 for vegetable farms, $2 for fruit and sugar farms, and $1 for hay and grain and dairy farms.

INDIAN RESERVATIONS.

Oregon, as well as the two other Pacific Coast states, has presented a splendid field for the ethnologist. In that state, there exist the remnants of a large number of Indian tribes, most of which are aboriginal to this region, representing more than ten distinct linguistic stocks. They have been collected largely upon five reservations, namely, Grande Ronde, Klamath, Siletz, Umatilla, and Warm Springs, while some still live along or near the Columbia River and depend upon fish and game for their support.

GRANDE RONDE RESERVATION.

Grande Ronde reservation is situated in the northwestern part of Oregon, in Polk and Yamhill counties, and contains an area of 93¼ square miles. Approximately 10,000 acres are arable, being a fair quality of land lying in the small valleys along the tributaries of the Yamhill River.

The Indians at Grande Ronde represent the remnants of 9 small tribes: The Clackamas, Cow Creek, Lakmiut, Marys River, Rogue River, Santiam, Umpqua, Wapete, and Yam Hill, numbering in all 402. The larger number cultivate their own allotments and those of the infirm members of their families. Oats and wheat are their principal crops, and small areas seeded to these cereals were also cut green for hay. A number cultivated vegetable gardens and patches of small fruits, while orchards of apple, pear, plum, and other fruit trees are very common. The majority of the 97 Indian farmers had from 10 to 80 acres under cultivation in the census year, and a few had as high as 150 acres.

Stock raising is carried on only on a small scale in connection with their other farming operations. A few have a number of cattle and report small sales of live stock; they sell enough beef to supply the agency in addition to satisfying their own needs. Dairy cows, chickens, and swine have found a place on most farms, and one Indian farmer has a flock of sheep. The horses are largely of Indian pony stock and are used in connection with farm work.

KLAMATH RESERVATION.

Klamath reserve lies in the high plateau region of south central Oregon, east of the Cascade Mountains, in Klamath and Lake counties, and embraces an area of 1,650 square miles. This tract affords an excellent opportunity for stock raising; the fertile lowlands along lakes and rivers provide an abundance of hay and pasturage. A large marsh in the northern part of the reservation, covering approximately 90,000 acres, is also surrounded with excellent hay lands. Agriculture is very uncertain on account of the altitude, which averages over 4,000 feet. Early frosts often cut short the growing season.

The tribes here are the Klamath, Modoc, Paiute, and Pit River, with a total population of 1,136. The Klamath and Modoc, of Lutuamian stock, who constitute the larger part of the population, have so intermarried that they can no longer be distinguished and now form a single band. They are progressing in agricultural pursuits, and are giving more attention to their cattle than in former years.

In 1899 frost destroyed the growing crops of cereals at Klamath, and many acres of wheat, oats, and rye were cut green for hay. Most of the farmers cut large quantities of the wild grass, one Indian cutting as high as 600 acres. A few cultivated garden vegetables.

Surveys have been made for an irrigation system which will cover at least 50,000 acres of land; three miles of ditch have already been opened, and the result in the increased production on the allotments watered is very satisfactory.

The majority of the 201 Indian farmers possess range cattle, and some have large herds. Many reported small sales of live stock, while a few made sales of over $1,000 in 1899. The herds of cattle could well be augmented by disposing of the worthless Indian ponies and substituting marketable stock for them. Dairy cows are owned by a number of farmers, and chickens and swine are also quite common. The Klamath Indians lost considerable of their stock during the winter of 1898 and 1899, on account of a shortage in the hay crop of the previous season.

UMATILLA RESERVATION.

Umatilla reservation, comprising an area of 125 square miles, is situated in the northeastern part of Oregon, in Umatilla county. A large portion of this tract is well adapted to wheat raising; the remainder constitutes timber and grazing land. Three tribes are located here, the Cayuse, Umatilla, and Wallawalla, the total population of the reservation being 1,397.

Only 20 of the 65 farms on the reservation are operated by Indians, the others being leased to white men, or are the allotments of the Indian families of white men who have married Indian women. Wheat is the principal crop, but barley, corn, and oats are also grown. Grains cut green (usually oats) constitute their hay crop, although one Indian seeded 5 acres to alfalfa. Garden produce was not generally reported. The majority of the 20 Indian farmers cultivated from 50 to 100 acres, while one had 400 acres under cultivation.

A few Indians have made a small start in stock raising but have not, as yet, accumulated a sufficient number of cattle to realize any large profit. Several still work their farms with horses of pony stock, but others have purchased farm horses of a fair grade of American stock. Chickens, swine, and dairy cows have found a place on a number of Indian farms.

WARM SPRINGS RESERVATION.

Warm Springs reservation, so called from the springs along one of the streams flowing through the reservation, lies in Wasco and Crook counties in the north central part of the state, and has an area of 725 square miles. Most of the land is rough, mountainous, and of poor quality, but fairly well adapted to stock raising, the native grasses being nutritious and plentiful. There is sufficient agricultural land along the water courses to support the present population. The soil is rich and produces an abundance of grains, grasses, and vegetables.

The tribes at Warm Springs are the Des Chutes, John Day, Paiute, Tenino, Warm Springs, and Wasco, with a population of 837. Their farms are fairly well equipped with stock and implements, and a few may be said to be quite prosperous.

There are 37 farms on the reservation, all of which are operated by Indians, the majority having from 20 to 80 acres under cultivation. Their principal crops are wheat, oats, and hay, but several farmers also raised a small amount of barley. The season of 1899 was very favorable for agriculture at Warm Springs, and the acreage cultivated by the Indians was much greater than in any preceding year. The vegetable crop was not generally reported.

A number own range cattle and reported small sales of live stock, usually less than $200. One Indian farmer owns a large flock of sheep in addition to a number of range cattle, and his sales of live stock amounted to $3,145 in 1899. The total value of the fleeces shorn from his flock in that year was $1,250. All have too many Indian ponies and persist in raising them, when, by disposing of them and purchasing cattle, they could establish a profitable industry.

IRRIGATION STATISTICS.

The two sections, into which Oregon is divided by the Cascade range of mountains, are very dissimilar in climate, topography, and soil. In the western section the winters are not marked by prolonged periods of cold, nor the summers by long heated terms. There is a very heavy rainfall and irrigation is not used for general crops, but water is artificially applied in summer by a number of truck farms, and a few cases of irrigation of hay lands (resulting in an extra cutting) are reported from the southern part of this section.

The greater part of the eastern section is arid, or semi-arid, but the soil, as a rule, is very productive when there is sufficient moisture. There are numerous rivers of considerable size, and the available water supply of the section as a whole is large. In the counties bordering on the Columbia River, irrigation is not generally practiced, and, except in occasional years of small rainfall, it is unnecessary for most crops. A greater part of the territory south and west of these counties is useful, without irrigation, for grazing purposes only.

In the Rogue River Valley in Jackson and Josephine counties, hay is the only crop usually irrigated, but a number of systems have been started or projected for the purpose of supplying orchard lands with water.

The total number of irrigators in Oregon in 1900 was 4,636. The total area irrigated was 388,310 acres, of which 388,111 acres were irrigated from streams and 199 acres were irrigated from wells by the use of pumping plants. The following table shows, by counties, the general statistics of acreage and cost of irrigating systems for each of these methods.

TABLE A.—ACREAGES IRRIGATED FROM STREAMS AND WELLS IN 1899, WITH TOTAL COST OF CONSTRUCTION OF IRRIGATION SYSTEMS, AND THE AVERAGE COST PER ACRE.

COUNTIES.	IRRIGATION FROM STREAMS.			IRRIGATION FROM WELLS.		
	Acres irrigated.	Cost of construction of ditch systems.		Acres irrigated.	Cost of construction of pumping plants.	
		Total.	Average per acre irrigated in 1899.		Total.	Average per acre irrigated in 1899.
The State	388,111	$1,838,782	$4.74	199	$4,989	$25.07
Baker	46,674	206,299	4.42	80	1,972	24.65
Crook	13,921	111,090	7.98			
Gilliam	1,084	5,312	4.90	2	52	26.0
Grant	19,623	88,460	4.51	9	230	25.56
Harney	111,090	178,855	1.61			
Jackson	7,054	78,229	11.09			
Josephine	4,121	32,267	7.83			
Klamath	23,911	225,242	9.42			
Lake	51,995	135,187	2.60			
Malheur	49,283	507,122	10.29	12	313	26.08
Morrow	3,865	21,528	5.57			
Sherman	108	718	6.65	4	104	26.00
Umatilla	5,148	36,602	7.11	20	510	25.50
Union	26,727	80,716	3.02	8	209	26.13
Wallowa	14,016	52,980	3.78			
Wasco	3,341	46,072	13.79	1	30	30.00
Wheeler	4,973	23,721	4.77	25	614	24.56
All other counties	1,177	8,392	7.13	38	955	25.13

The irrigation systems of the state are generally inexpensive and are operated mostly by individual farmers for their own use. The low average cost of construction per acre irrigated for the state is largely due to the simple methods employed to irrigate large areas used for pasturage. There has been very little attempt to store winter water for summer use.

CHANGES SINCE 1889.

The reports on irrigation secured by the Eleventh Census contain data for only the principal irrigating counties, which are as follows: Baker, Crook, Grant, Gilliam, Harney, Jackson, Josephine, Klamath, Lake, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler. Wheeler was formed from Crook, Gilliam, and Grant since the Eleventh Census was taken. The following table shows for these counties the changes between 1889 and 1899 in the number of irrigators and the acreages irrigated.

TABLE B.—NUMBER OF IRRIGATORS AND ACRES IRRIGATED IN PRINCIPAL IRRIGATING COUNTIES, IN 1889 AND 1899, WITH PERCENTAGES OF INCREASE.

COUNTIES.	NUMBER OF IRRIGATORS.			NUMBER OF ACRES IRRIGATED.		
	1899.	1889.	Per cent increase.	1899.	1889.	Per cent increase.
Total[1]	4,502	3,150	42.9	387,095	177,944	117.5
Baker	594	408	45.6	46,754	31,471	48.6
[2] Crook	212	245	17.9	13,921	8,618	[2] 39.7
[2] Gilliam	32	78		1,086	1,037	
[2] Grant	327	325		19,632	18,718	
[2] Wheeler	193			4,998		
Harney	228	240	[3] 5.3	111,090	26,289	322.6
Jackson	409	169	142.0	7,054	3,230	118.4
Josephine	235	144	63.2	4,121	2,598	58.6
Klamath	129	56	130.4	23,911	5,699	319.6
Lake	272	355	[3] 23.4	51,995	25,549	103.5
Malheur	479	329	45.6	49,295	22,037	123.7
Morrow	76	45	68.9	3,865	879	339.7
Sherman	12	8	50.0	112	142	[3] 21.1
Umatilla	329	148	122.3	5,168	3,571	44.7
Union	494	346	42.8	26,735	21,947	21.8
Wallowa	178	111	60.4	14,016	4,147	238.0
Wasco	303	143	111.9	3,342	2,012	66.1

[1] Includes only 17 principal irrigating counties. In all other counties there were 134 irrigators and an irrigated area of 1,215 acres.
[2] Wheeler county formed in 1899 from parts of Crook, Gilliam, and Grant counties.
[3] Decrease.

Substantial increases are shown for all counties, the only decreases reported being in Harney and Lake counties, where the number of irrigators was less in 1899 than in 1889. In these counties there were, notwithstanding these decreases, very great gains in the acreage irrigated.

IRRIGATED CROPS.

Of the total area irrigated in 1899, 290,256 acres were in crops and 98,054 acres were used for pasture only. The irrigated pasture was all reported from the 17 counties mentioned above, the irrigated land in other counties, amounting to 1,215 acres, being devoted exclusively to crops. The following table shows the total and irrigated acreages and production of all crops in the leading irrigating counties enumerated above, together with the per cent which the irrigated acreage bears to the total for each crop.

TABLE C.—ACRES AND PRODUCTION OF PRINCIPAL CROPS, TOTAL AND IRRIGATED, IN CHIEF IRRIGATING COUNTIES, WITH PERCENTAGES.

CROPS.	ACRES.			Unit of measure.	PRODUCTION.		
	Total.	Irrigated.	Per cent irrigated.		Total.	Irrigated.	Per cent irrigated.
Corn	9,623	626	6.5	Bushels	166,437	12,682	7.6
Wheat	491,258	16,092	3.3	Bushels	7,280,443	387,201	5.3
Oats	31,395	8,576	27.3	Bushels	835,350	290,805	34.8
Barley	51,231	8,877	17.3	Bushels	1,239,193	281,336	22.7
Rye	9,263	1,070	11.6	Bushels	96,268	17,466	18.1
Wild, salt, or prairie grasses	185,277	138,966	75.0	Tons	214,690	165,269	77.0
Millet and Hungarian grasses	366	258	70.5	Tons	446	432	96.9
Alfalfa or lucern	52,001	44,877	86.3	Tons	142,287	127,791	89.8
Clover	3,842	2,729	71.0	Tons	8,085	5,825	72.0
Other tame and cultivated grasses	64,554	35,175	54.5	Tons	98,332	57,915	58.9
Grains cut green for hay	182,573	18,806	10.3	Tons	219,173	34,703	15.8
Forage crops	3,493	1,214	34.8	Tons	4,563	1,630	35.7
Dry beans	419	224	53.5	Bushels	6,294	4,640	73.7
Dry pease	64	41	64.1	Bushels	1,368	1,075	78.6
Potatoes	7,071	1,872	26.5	Bushels	762,089	252,935	33.2
Onions	146	100	68.5	Bushels	24,570	18,790	76.5
Miscellaneous vegetables	4,305	1,654	38.4				
Small fruits	1,272	955	75.1				
Sugar beets	2,510	230	9.2	Tons	14,462	2,268	15.7
Grapes	554	99	17.9	Centals	21,755	2,979	13.7
Orchard fruits	16,472	5,312	32.2				
Hops	257	35	13.6	Pounds	279,750	38,250	13.7
Other crops	603	46	7.6				

The largest percentages are shown for the hay and forage crops, except grains cut green for hay for which the percentages are about the same as for the cereals. The percentages of production are larger than of acreage in nearly all cases as the production is generally larger on irrigated land.

Table D shows, by counties, the value of the crops grown on irrigated land in the state in 1899.

TABLE D.—VALUE OF CROPS PRODUCED ON IRRIGATED LAND, BY COUNTIES.

COUNTIES.	All crops.	Hay and forage.	Cereals.	Vegetables.	Orchard fruits.	Small fruits.	Other crops.
The State[1]	$2,926,606	$2,030,729	$438,812	$280,337	$91,971	$60,571	$24,186
Baker	537,563	329,941	162,188	27,716	14,045	2,648	1,025
Crook	190,567	157,070	25,017	7,486	618	376	
Gilliam	22,270	11,189	2,389	2,366	6,295	16	15
Grant	203,477	138,947	25,117	18,359	18,677	2,216	161
Harney	232,448	210,003	16,739	5,463		238	
Jackson	132,390	91,326	7,198	18,291	8,358	6,209	1,008
Josephine	81,698	46,588	2,814	19,838	4,724	2,044	5,690
Klamath	123,491	101,859	18,025	2,904	603	100	
Lake	209,291	187,492	10,101	9,514	1,659	525	
Malheur	387,016	310,039	45,422	27,236	3,280	976	63
Morrow	63,120	58,569	1,367	2,162	749	174	99
Sherman	7,170	190		950	5,162	628	240
Umatilla	118,923	59,289	3,636	20,296	8,456	23,317	3,929
Union	303,859	174,833	64,821	34,344	11,191	7,814	10,856
Wallowa	127,235	62,368	51,133	10,027	2,107	1,462	138
Wasco	59,542	25,114	803	18,714	4,370	9,834	707
Wheeler	78,245	63,672	2,042	10,117	1,677	734	3
All other counties	48,306	2,240		44,554		1,260	252

[1] Exclusive of Indian reservations.

Of the total value of crops grown on irrigated land, 69.4 per cent represents the value of hay and forage; 15.0 per cent, the value of cereals; 9.6 per cent, that of vegetables; 3.1 per cent, that of orchard fruits; 2.1 per cent, that of small fruits; and 0.8 per cent, that of other crops. The total value of the crops grown on irrigated land constitutes 7.7 per cent of the total value of farm products for the state.

Twelfth Census of the United States.

CENSUS BULLETIN.

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MANUFACTURES.

MANUFACTURES OF TOBACCO.

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I transmit herewith, for publication in bulletin form, a report on manufactures of tobacco for 1900, prepared under my direction by Mr. John H. Garber, of the Census Office.

The statistics possess unusual interest, as this is the first census at which the industry, one of the leading 10 of the United States, has been discussed in a special report. The data were collected upon General Schedule No. 3 and not upon a special schedule, as were those relating to most of the manufactures treated in special census reports.

The statistics are presented in 20 tables: Table 1 is a general summary for all manufactures of tobacco for 1900; Table 2 gives the quantity of leaf tobacco used in manufactures, 1890 to 1900, inclusive; Table 3 gives the quantity of tobacco grown, by states and territories, 1840 to 1900; Table 4 shows the imports and domestic and foreign exports of manufactured and unmanufactured tobacco, by countries, for the fiscal year 1900; Table 5 shows imports and domestic and foreign exports for each fiscal year from 1881 to 1900; Table 6 is a comparative summary for cigars and cigarettes, 1860 to 1900, with percentages of increase for each decade; Table 7 is a comparative summary, cigars and cigarettes, by states and territories, 1890 and 1900; Table 8 shows the cost of materials, with percentage each kind is of the total, 1900; Table 9 gives materials and products by kinds and quantity and by states and territories, 1900; Table 10 shows the number of cigars and cigarettes withdrawn for consumption and tax-paid for the fiscal years from 1863 to 1900, inclusive; Table 11 is a detailed summary for cigars and cigarettes, by states and territories, 1900; Table 12 is a comparative summary for chewing and smoking tobacco and snuff, 1860 to 1900, with percentages of increase for each decade; Table 13 is a comparative summary for chewing and smoking tobacco and snuff, by states and territories, 1890 and 1900; Table 14 shows the cost of materials used, with percentage each kind is of the total, 1900; Table 15 gives the materials and products, kinds and quantity, by states and territories, 1900; Table 16 presents the aggregate quantity of chewing and smoking tobacco and snuff withdrawn for consumption and tax-paid, from 1863 to 1900, inclusive; Table 17 is a detailed summary for chewing and smoking tobacco and snuff, by states, 1900; Table 18 is a comparative summary for tobacco, stemming and rehandling, by states, 1890 and 1900; Table 19 shows the cost of materials, with percentage each kind is of the total, 1900; and Table 20 is a detailed summary for tobacco, stemming and rehandling, by states, 1900.

In drafting the schedules of inquiry for the census of 1900 care was taken to preserve the basis of comparison with prior censuses. Comparison may be made safely with respect to all the items of inquiry except those relating to capital, salaried officials, clerks, etc., and their salaries, the average number of employees, and the total amount of wages paid. Live capital, that is, cash on hand, bills receivable, unsettled ledger account raw materials, stock in process of manufacture, finished products on hand, and other sundries, was first called for at the census of 1890. No definite attempt was made, prior to the census of 1890, to secure a return of live capital invested.

Changes were made in the inquiries relating to employees and wages in order to eliminate defects found to exist on the form of inquiry adopted in 1890. At the census of 1890 the average number of persons employed during the entire year was called for, and also the average number employed at stated weekly rates of pay, and the average number was computed for the actual time the establishments were reported as being in operation. At the census of 1900 the greatest and least numbers of employees were reported, and also the average number employed during each month of the year. The average number of wage-earners (men, women, and children) employed during the entire year was ascertained by using 12, the number of calendar months, as a divisor into the total of the average numbers reported for each month. This difference in the method of ascertaining the average number of wage-earners during the entire year may have resulted in a variation in the number, and should be considered in making comparisons.

At the census of 1890 the number and salaries of proprietors and firm members actively engaged in the business or in supervision were reported, combined with clerks and other officials. In cases where proprietors and firm members were reported without salaries, the amount that would ordinarily be paid for similar services was estimated. At the census of 1900 only the number of proprietors and firm members actively engaged in the industry or in supervision was ascertained, and no salaries were reported for this class. It is therefore impossible to compare the number and salaries of salaried officials of any character for the two censuses.

Furthermore, the schedules for 1890 included in the wage-earning class, overseers, foremen, and superintendents (not general superintendents or managers), while the census of 1900 separates from the wage-earning class such salaried employees as general superintendents, clerks, and salesmen. It is possible and probable that this change in the form of the question has resulted in eliminating from the wage-earners, as reported by the present census, many high-salaried employees included in that group for the census of 1890.

In some instances, the number of proprietors and firm members, shown in the accompanying tables, falls short of the number of establishments reported. This is accounted for by the fact that no proprietors or firm members are reported for corporations or cooperative establishments. The number of salaried officials, clerks, etc., is the greatest number reported employed at any one time during the year.

The reports show a capital of $124,089,871 invested in manufactures of tobacco in the United States. This sum represents the value of land, buildings, machinery, tools, and implements, and the live capital utilized, but does not include the capital stock of any of the manufacturing corporations. The value of the products is returned at $283,076,546, to produce which involved an outlay of $8,951,534 for salaries of officials, clerks, etc.; $49,852,484 for wages; $79,495,422 for miscellaneous expenses, including rent, taxes, etc.; and $107,182,656 for materials used, mill supplies, freight, and fuel. It is not to be assumed, however, that the difference between the aggregate of these sums and the value of the products is, in any sense, indicative of the profits in the manufacture of the products during the census year. The census schedule takes no cognizance of the cost of selling manufactured articles, or of interest on capital invested, or of the mercantile losses incurred in the business, or of depreciation in plant. The value of the product given is the value as obtained or fixed at the shop or factory. This statement is necessary in order to avoid erroneous conclusions from the figures presented.

Very respectfully,

S. N. D. North

Chief Statistician for Manufactures.

MANUFACTURES OF TOBACCO.

By John H. Garber.

For the census of 1900, manufactures of tobacco were divided into three groups or classes, namely: Cigars and cigarettes; chewing and smoking tobacco and snuff; and tobacco, stemmed and rehandled. Statistical inquiries were grouped correspondingly, and the principal statistics for each classification and the combined totals are presented in Table 1.

Table 1.—MANUFACTURES OF TOBACCO: SUMMARY FOR 1900.

	Total.	Cigars and cigarettes.	Chewing and smoking tobacco and snuff.	Tobacco stemming and rehandling.
Number of establishments	15,252	14,539	437	276
Capital:				
Total	$124,089,871	$67,706,493	$43,856,570	$12,526,808
Land	$6,203,407	$3,946,170	$1,917,427	$339,810
Buildings	$13,588,195	$6,242,594	$6,359,738	$985,863
Machinery, tools, and implements	$10,194,150	$3,635,106	$6,119,777	$439,267
Cash and sundries	$94,104,119	$53,882,623	$29,459,628	$10,761,868
Salaried officials, clerks, etc., number	8,262	4,470	3,368	424
Salaries	$8,951,534	$4,712,786	$3,884,071	$354,677
Wage-earners, average number	142,277	103,462	29,161	9,654
Total wages	$49,852,484	$40,925,596	$7,109,821	$1,817,067
Miscellaneous expenses	$79,495,422	$31,436,701	$47,533,705	$525,016
Cost of materials used	$107,182,656	$57,946,020	$35,038,287	$14,198,349
Value of products	$283,076,546	$160,223,152	$103,754,362	$19,099,032

The value of cigars and cigarettes was 56.6 per cent of the total value of all tobacco manufactures; chewing and smoking tobacco and snuff, 36.7 per cent; and tobacco, stemmed and rehandled, 6.7 per cent. The manufacturers of cigars and cigarettes, and of chewing and smoking tobacco and snuff, use a considerable quantity of material as it comes from establishments engaged in the business of stemming and rehandling, and there is, therefore, for the three classes of tobacco factories, a duplication of values such as is common to correlative industries some of which use material in partially manufactured form.

Through the excise system of the General Government the Bureau of Internal Revenue comes into possession of statistics of materials used in tobacco manufacture, and also of the quantity of the different classes of finished products. This information is given to the public in the form of annual reports by the Commissioner of Internal Revenue, which reports, however, do not include statistics of capital, wage-earners, wages, cost of materials, miscellaneous expenses, or value of products. The tabulations of the Census Office for this manufacture are designed to present information supplementary to that published by the Bureau of Internal Revenue, duplicating only the number of establishments. In this item, however, the reports of the two bureaus can not be expected to agree because of the elimination of very small establishments by the Census Office from its canvass and the difference in methods of classification.

Table 2 shows the quantity of leaf tobacco used in the three principal groups of its manufactures, for each fiscal year from 1890 to 1900, inclusive. This table is taken from the reports of the Commissioner of Internal Revenue, 1900 and 1901.

Table 2.—LEAF TOBACCO: QUANTITY USED IN MANUFACTURES, 1890 TO 1900, INCLUSIVE.

[From reports of Internal Revenue Commissioner 1900 and 1901.]

Year.	Number of pounds of leaf tobacco used.			
	Total.	Cigars.	Cigarettes.	Tobacco and snuff.
1890	311,862,784	[1] 91,746,311	.....	220,116,473
1891	332,511,067	85,435,928	9,115,810	237,959,329
1892	339,012,619	90,875,830	9,907,222	238,229,567
1893	312,907,679	84,428,797	12,497,183	215,981,699
1894	317,640,403	77,359,405	12,614,409	227,666,589
1895	323,656,332	77,499,875	16,094,338	230,062,119
1896	308,398,583	75,938,866	19,114,190	213,345,527
1897	357,171,033	78,736,071	17,477,402	260,957,560
1898	349,877,737	85,437,974	17,081,349	247,358,414
1899	367,139,310	93,746,678	14,416,947	258,975,685
1900	379,162,884	105,395,189	13,084,037	260,683,658

[1] Includes cigarettes.

Table 3 shows the production of leaf tobacco, by states and territories, as reported on the agricultural schedules at the censuses of 1840 to 1900, inclusive.

Table 3.—QUANTITY OF TOBACCO GROWN, BY STATES AND TERRITORIES: 1840 TO 1900.

States and territories.	1900	1890	1880	1870	1860	1850	1840
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	868,163,275	488,256,646	472,661,157	262,785,341	434,209,461	199,752,655	219,163,319
Alabama	311,950	162,430	452,426	152,742	282,914	164,990	273,302
Arizona	100	2	600	100	.....	.....	.....
Arkansas	831,700	954,790	970,220	594,886	989,980	218,936	148,439
California	23,490	12,907	73,317	63,809	3,150	1,000	.....
Colorado	.....	120	.....	890	.....	.....	.....

TABLE 3.—QUANTITY OF TOBACCO GROWN, BY STATES AND TERRITORIES: 1840 TO 1900—Continued.

STATES AND TERRITORIES.	1900	1890	1880	1870	1860	1850	1840
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Connecticut	16,930,770	8,874,924	14,044,652	8,328,798	6,000,133	1,267,624	471,657
Dakota	940	785	1,897	.....	10	.....	.....
Delaware	2,000	29,680	1,278	250	9,699	.....	272
District of Columbia	.....	.....	1,400	.....	15,200	7,800	55,550
Florida	1,125,600	470,443	21,182	157,405	828,815	998,614	75,274
Georgia	1,105,600	263,752	228,590	288,596	919,318	423,924	162,894
Hawaii	50,410	.....	.....	.....	.....	.....	.....
Idaho	750	.....	400	.....	.....	.....	.....
Illinois	1,447,150	3,042,936	3,935,825	5,249,274	6,885,262	841,394	564,326
Indiana	6,882,470	7,710,297	8,872,842	9,325,392	7,993,378	1,044,620	1,820,306
Indian Territory	97,030	.....	.....	.....	.....	.....	.....
Iowa	127,420	74,396	420,477	71,792	303,168	6,041	8,076
Kansas	45,960	62,083	191,669	33,241	20,349	.....	.....
Kentucky	314,288,050	221,880,303	171,120,784	105,305,869	108,126,840	55,501,196	53,436,909
Louisiana	102,100	46,845	55,954	15,541	39,940	26,878	119,824
Maine	150	200	250	15	1,583	.....	30
Maryland	24,589,480	12,356,838	26,082,147	15,785,339	38,410,965	21,407,497	24,816,012
Massachusetts	6,406,570	2,794,848	5,369,436	7,312,885	3,233,198	138,246	64,955
Michigan	64,580	11,984	83,969	5,385	121,099	1,245	1,602
Minnesota	127,730	23,285	69,922	8,247	38,938	.....	.....
Mississippi	62,760	62,111	414,668	61,012	159,141	49,960	83,471
Missouri	3,041,996	9,424,823	12,015,657	12,820,483	25,086,196	17,113,784	9,067,913
Montana	200	25	.....	600	.....	.....	.....
Nebraska	5,765	11,049	57,979	5,988	3,636	.....	.....
Nevada	.....	.....	1,500	25	.....	.....	.....
New Hampshire	181,644	86,598	170,843	155,334	18,581	50	115
New Jersey	720	33,855	172,315	40,871	149,485	310	1,922
New Mexico	1,460	1,415	890	8,587	7,044	8,467	.....
New York	13,958,370	9,316,135	6,481,431	2,349,798	5,764,582	33,189	744
North Carolina	127,503,400	36,375,258	26,986,213	11,150,087	32,853,250	11,934,786	16,772,359
Ohio	65,957,100	37,853,563	34,735,235	18,741,973	25,092,581	10,454,449	5,942,275
Oklahoma	11,880	.....	.....	.....	.....	.....	.....
Oregon	4,630	3,325	17,325	3,847	405	325	.....
Pennsylvania	41,502,620	28,956,247	36,943,272	3,467,539	3,181,586	912,651	325,018
Rhode Island	.....	.....	785	796	705	.....	317
South Carolina	19,895,970	222,898	45,678	34,805	104,412	74,285	51,519
Tennessee	49,157,550	36,368,395	29,365,052	21,465,452	43,448,097	20,148,932	29,550,432
Texas	550,120	175,706	221,283	59,706	97,914	66,897	.....
Utah	.....	.....	.....	.....	.....	70	.....
Vermont	291,390	70,518	181,432	72,671	12,245	.....	585
Virginia	122,884,900	48,522,655	79,988,868	37,086,364	123,968,312	56,803,227	75,347,106
Washington	1,180	7,040	6,930	1,682	10	.....	.....
West Virginia	3,087,140	2,602,021	2,296,146	2,046,452	.....	.....	.....
Wisconsin	45,500,480	19,389,166	10,608,423	960,813	87,340	1,268	115

The total production of the United States for 1900 was 868,163,275 pounds, an increase of 379,906,629 pounds, or 77.8 per cent, over the crop of 1890. All the states and territories were represented except Colorado, District of Columbia, Nevada, Rhode Island, and Utah, but the cultivation of tobacco on a large scale was confined to comparatively few states. The crop of only 18 states exceeded 1,000,000 pounds each, and that of 13 states, 5,000,000 pounds each. Eight states produced more than 20,000,000, and 3 states more than 100,000,000 pounds each. Kentucky, North Carolina, Virginia, Ohio, and Tennessee, in the order named, were the greatest 5 producers, whose combined crop was 679,791,000 pounds, or 78.3 per cent of the entire production. Kentucky alone produced 36.2 per cent of the entire crop of the United States. The genesis of American tobacco culture was in Virginia, and that state exceeded any other in quantity grown until 1870, when Kentucky took first place. Among the leading producers, North Carolina showed the greatest percentage of increase for the decade between the Eleventh and Twelfth censuses, and in 1900 ranked second in quantity grown, Virginia being third. The 868,163,275 pounds shown in Table 3 as the total production of the United States was valued at $56,993,003, or an average of 6.6 cents a pound. This was grown from 1,101,483 acres of land, distributed among 308,317 farms, the average crop being 788.2 pounds per acre. It is estimated upon the experience of a series of years that the United States grows approximately one-half of the world's supply of tobacco.

During the fiscal year ending June 30, 1900, the United States exported 344,655,697 pounds of unmanufactured tobacco, consisting of leaf, stems, and trimmings. Table 4, compiled from "Commerce and Navigation of the United States, Bureau of Statistics, Treasury Department," shows by countries the imports and foreign and domestic exports of tobacco and its manufactures for the fiscal year 1900.

TABLE 4.—MANUFACTURED AND UNMANUFACTURED TOBACCO: IMPORTS AND FOREIGN AND DOMESTIC EXPORTS, BY COUNTRIES, FISCAL YEAR 1900.

IMPORTS.[1]

COUNTRIES.	TOBACCO, AND MANUFACTURES OF.						
	Leaf.				Manufactures of—		
	Suitable for cigar wrappers.		Other.		Cigars, cigarettes, and cheroots.		All other.
	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Dollars.
EUROPE.							
Austria-Hungary	9	14	31,008	14,329			1,282
Azores, and Madeira Islands							
Belgium	5	5	6,014	477	10	45	16
Denmark							85
France			3,170	734	53	234	3,544
Germany	92,925	87,822	170,903	50,396	1,869	5,350	1,701
Gibraltar							
Greece					36	48	83
Greenland, Iceland, etc							
Italy					66	197	2,554
Malta, Gozo, etc			6,434	763			
Netherlands	5,048,194	4,558,143	52,976	11,128	27	32	43
Portugal							
Russia:							
Baltic and White Seas					21	71	2
Black Sea			6,905	1,111			
Spain							
Sweden and Norway							12
Switzerland							8
Turkey in Europe			669,205	214,041	228	740	
United Kingdom	1,649	708	56,884	22,235	19,065	74,354	14,617
NORTH AMERICA.							
Bermuda							
British Honduras			6	3			
Dominion of Canada:							
Nova Scotia, New Brunswick, etc							2
Quebec, Ontario, Manitoba, etc	230,865	203,795	175,026	88,674	18	9	2,423
British Columbia	151	151	458	341	21	43	272
Newfoundland and Labrador	493	140	338	136			
Central American States:							
Costa Rica							
Guatemala							
Honduras			24	5			
Nicaragua							
Salvador							
Mexico	7,161	4,853	296,603	77,786	7,196	12,534	11
Miquelon, Langley, etc							
West Indies:							
British	171	347	2,585	1,432	183	980	
Cuba	131,494	233,568	11,272,384	7,382,423	419,243	2,185,907	5,795
Danish							
Dutch			681	229			
French							
Haiti							
Porto Rico	32,395	14,299	1,127,506	244,219	9,688	12,842	426
Santo Domingo							
SOUTH AMERICA.							
Argentina							
Bolivia							
Brazil	4	2	10	2			26
Chile							
Colombia	12	11					
Guianas:							
British							
Dutch							
French							
Peru							
Uruguay							
Venezuela	2	2	1,123	629			
ASIA.							
Aden							
Chinese Empire			454	77	52	130	23,811
China—British			100	25			
East Indies:							
British					126	118	
Dutch	15,388	18,476					
French							
Hongkong			4,430	629	86	75	7,110
Japan			406	56	76	328	261
Korea							
Russia—Asiatic							
Turkey in Asia			161,984	61,197	47	136	3
All other Asia							
OCEANIA.							
British Australasia							
French Oceania							
German Oceania							
Guam							
Hawaii					13	26	
Philippine Islands	150	23	1,635	301	921	1,068	
Tonga, Samoa, etc							
AFRICA.							
British Africa							
Canary Islands							
French Africa							
German Africa							
Liberia							
Portuguese Africa							
Turkey in Africa							
Egypt			9,557	1,486	1,514	4,656	127
All other Africa							
Total	5,561,068	5,122,359	14,058,559	8,174,864	460,559	2,299,928	64,214

[1] Commerce and Navigation of the United States, United States Treasury Department, 1900.

TABLE 4.—MANUFACTURED AND UNMANUFACTURED TOBACCO: IMPORTS AND FOREIGN AND DOMESTIC EXPORTS, BY COUNTRIES, FISCAL YEAR 1900—Continued.

EXPORTS—DOMESTIC.[1]

COUNTRIES.	TOBACCO, AND MANUFACTURES OF.										
	Unmanufactured.				Manufactured.						
	Leaf.		Stems and trimmings.		Cigars.		Cigarettes.		Plug.		All other.
	Pounds.	Dollars.	Pounds.	Dollars.	M.	Dollars.	M.	Dollars.	Pounds.	Dollars.	Dollars.
EUROPE.											
Austria-Hungary	124,735	12,688									
Azores and Madeira Islands	1,795	189							1,000	250	22
Belgium	17,122,797	1,467,748	23,503	830	6	188	2,217	4,617	232,789	44,090	64,488
Denmark	113,621	11,037	156,702	12,362			17,754	50,212	12,295	3,396	724
France	38,584,488	2,999,118			22	893	1,116	3,762	11,480	2,706	6,563
Germany	52,525,167	4,911,382	4,951,322	144,824	11	431	13,165	37,656	257,355	55,991	66,279
Gibraltar	598,885	44,249	48,273	1,875			386	631	89,791	17,264	8,193
Greece							10	73			
Greenland, Iceland, etc					1	60					
Italy	38,372,301	3,665,692			5	150	90	366			590
Malta, Gozo, etc	336,656	14,853	14,524	428			987	1,654	46,335	10,423	315
Netherlands	19,932,942	1,302,841	4,095,928	78,040	5	235	5,950	13,783	242,788	51,970	6,696
Portugal	288,433	29,085									
Russia:											
Baltic and White seas	6,800	888									
Black Sea	7,000	750									
Spain	13,772,478	661,842			2	25					
Sweden and Norway	2,272,022	201,695	247,666	7,850			47,730	124,058			710
Switzerland							3,240	6,653	131	47	880
Turkey in Europe											
United Kingdom	121,793,251	10,957,441	165,819	4,275	280	8,821	109,926	255,558	4,159,046	859,648	106,870
NORTH AMERICA.											
Bermuda	13,573	1,032			38	1,459	1,696	5,148	27,245	6,351	1,601
British Honduras	95,990	8,408			9	199	3,092	3,874	10	4	748
Dominion of Canada:											
Nova Scotia, New Brunswick, etc	195,796	31,630				7	105	166	567	231	903
Quebec, Ontario, Manitoba, etc	9,373,700	902,533	347,550	8,796	75	3,038	26	82	26,703	6,600	26,305
British Columbia	112,754	17,399			10	385	48	60	66,804	20,077	19,954
Newfoundland and Labrador	273,895	15,318	200	5			675	2,137	87,068	14,770	22,060
Central American states:											
Costa Rica	138,059	22,565			3	35	2	6	252,281	43,851	2,330
Guatemala							301	331			1,170
Honduras	3,396	427					572	868	153	52	466
Nicaragua	17,499	2,285			1	35			12,802	1,962	4,269
Salvador											160
Mexico	2,686,758	182,938					5	10	9,760	2,429	4,589
Miquelon, Langley, etc	2,439	337							7,145	1,028	500
West Indies:											
British	1,283,051	115,584			49	1,941	8,744	11,522	117,052	23,552	16,466
Cuba	498	100			6	217	193	648	1,102,489	188,256	7,442
Danish	123,819	9,750					373	910	4,570	1,183	895
Dutch	128,391	17,221							355,508	53,603	8,381
French	494,495	33,430					50	40	4,000	900	128
Haiti	922,905	85,988			1	40			2,375	418	789
Porto Rico	2,055	185			2	54			492	142	368
Santo Domingo							2	8			284
SOUTH AMERICA.											
Argentina	261,984	23,394			14	200	160	486	548	137	23,334
Bolivia							3,000	2,460			25
Brazil	22,453	3,496			12	410					47
Chile	5,308	687			1	11	31	90	38,970	9,949	368
Colombia	89,606	13,107			48	240	56	163	16,403	3,777	3,668
Guianas:											
British	483,301	42,642			1	60	55	159			1,571
Dutch	116,861	9,218					82	154			3,448
French	59,291	6,179							4,271	529	111
Peru	7,605	804			10	336	40	138	285	57	92
Uruguay	195,457	14,485					149	457	320	66	227
Venezuela	230,233	29,711			3	178			181,066	28,580	15,792
ASIA.											
Aden							1,300	1,761	3,120	516	
Chinese Empire	459,469	44,473			20	170	357,864	494,798	59,769	16,110	7,207
China—British											
East Indies:											
British	20,037	2,885			4	50	142,983	159,879	158,838	25,898	48,588
Dutch							694	998	976	154	14,467
French							50	40			
Hongkong					25	550	17,075	27,074	55,254	11,127	12,786
Japan	3,104,472	322,362			7	150	78,265	95,988	40,851	7,651	3,412
Korea							1,500	1,960			70
Russia—Asiatic											240
Turkey in Asia											
All other Asia							600	695			
OCEANIA.											
British Australasia	3,765,957	546,809			388	20,450	120,690	397,454	4,110,093	1,028,818	252,860
French Oceania					1	18					568
German Oceania											7,978
Guam											482
Hawaii					1,308	29,317	32,010	66,603	7,486	1,746	235,093
Philippine Islands	928	275			120	2,318	3,000	9,145	860	207	828
Tonga, Samoa, etc											120
AFRICA.											
British Africa	2,680,760	241,501			91	1,952	186,149	505,284	301,259	66,546	3,074
Canary Islands	687,279	62,979							81,571	10,741	5
French Africa	598,802	56,734					10	27			5
German Africa	1,600	432									
Liberia	11,655	875									
Portuguese Africa	111,558	9,723					138	330	1,250	236	81
Turkey in Africa											
Egypt									1,380	200	
All other Africa	17,650	1,687							3,870	1,131	1,101
Total	334,604,210	29,163,086	10,051,487	259,285	2,579	74,623	1,164,356	2,290,876	12,198,474	2,624,870	1,019,772

[1] Commerce and Navigation of the United States, United States Treasury Department, 1900.

TABLE 4.—MANUFACTURED AND UNMANUFACTURED TOBACCO: IMPORTS AND FOREIGN AND DOMESTIC EXPORTS, BY COUNTRIES, FISCAL YEAR 1900—Continued.

EXPORTS—FOREIGN.[1]

COUNTRIES.	TOBACCO, AND MANUFACTURES OF.						
	Leaf.				Manufactures of—		
	Suitable for cigar wrappers.		Other.		Cigars, cigarettes, and cheroots.		All other.
	Pounds.	Dollars.	Pounds.	Dollars.	Pounds.	Dollars.	Dollars.
EUROPE.							
Austria-Hungary							
Azores, and Madeira Islands							
Belgium	2,024	615					820
Denmark							
France	96	75			40	104	
Germany	29,460	20,214	236,846	71,733	10	33	675
Gibraltar							
Greece							
Greenland, Iceland, etc							
Italy							
Malta, Gozo, etc							
Netherlands	94,896	73,543	24,880	4,988	3	6	
Portugal							
Russia:							
Baltic and White seas							
Black Sea							
Spain							
Sweden and Norway							
Switzerland							
Turkey in Europe							
United Kingdom	832	159	10,814	5,187	470	1,719	
NORTH AMERICA.							
Bermuda							
British Honduras					4,120	5,638	
Dominion of Canada:							
Nova Scotia, New Brunswick, etc	7,105	5,231	5,959	2,920			1
Quebec, Ontario, Manitoba, etc	515,120	454,295	902,037	345,216	570	2,982	2,121
British Columbia	4,510	3,993	7,361	4,783	482	2,081	13
Newfoundland and Labrador							
Central American States:							
Costa Rica					322	1,273	5
Guatemala	169	135			407	725	159
Honduras					10	29	
Nicaragua			100	16	898	2,055	
Salvador							
Mexico	771	762	1,538	588	659	625	164
Miquelon, Langley, etc							
West Indies:							
British	17,087	13,226	521	177			
Cuba	2,395	490	1,932	577	133	94	5
Danish							
Dutch	237	450	80	82			
French							
Haiti	162	148	220	119			
Porto Rico	1,422	950	29,791	4,341			
Santo Domingo							
SOUTH AMERICA.							
Argentina							
Bolivia							
Brazil							
Chile							
Colombia			231	98	409	782	149
Guianas:							
British							
Dutch							
French							
Peru							
Uruguay							
Venezuela			221	119			
ASIA.							
Aden							
Chinese Empire							
China—British							
East Indies:							
British							
Dutch							
French							
Hongkong					76	482	
Japan					197	778	
Korea							
Russia—Asiatic							
Turkey in Asia							
All other Asia							
OCEANIA.							
British Australasia	1,947	597	2,047	820	48	151	
French Oceania					71	311	22
German Oceania							
Guam							
Hawaii					1,677	6,651	362
Philippine Islands	50	13	150	23	908	807	10
Tonga, Samoa, etc							
AFRICA.							
British Africa							
Canary Islands							572
French Africa							
German Africa							
Liberia							
Portuguese Africa							
Turkey in Africa							
Egypt							
All other Africa							
Total	678,283	574,896	1,224,728	441,787	11,510	27,326	5,078

[1] Commerce and Navigation of the United States. United States Treasury Department, 1900.

Of the total quantity exported, the United Kingdom took 121,959,070 pounds, valued at $10,961,716. Germany, France, Italy, and the Netherlands, in the order named, were the next heaviest purchasers. Belgium and Spain were also important buyers of American tobacco, taking 17,146,300 and 13,772,478 pounds, respectively. Of the foreign countries in the Western Hemisphere, Canada and Mexico received the largest shipments, the former purchasing 10,303,395, and the latter 2,686,758 pounds. Of the 3,583,978 pounds exported to Asia, Japan received 3,104,472, or 86.6 per cent. Of the 3,766,885 pounds shipped to Oceania, British Australasia took all but 928. A total of 4,059,304 pounds were exported to Africa; of this amount British Africa received 2,630,760 pounds, or 64.8 per cent.

Table 4 is an accurate presentation of the quantity and value of the consignments of unmanufactured tobacco exported to the various countries of the world, but is not altogether reliable as an index to its final distribution and place of consumption. It is thought that practically all the tobacco exported to the United Kingdom is consumed within British possessions, but much of that exported to Germany is distributed from Bremen and other German ports to Austria-Hungary, Switzerland, Africa, and several other countries. The Regie system prevails in Italy, France, Spain, and Japan, and the quantity of American tobacco exported to those countries might be said to correspond exactly with its consumption. The quantity of pure leaf exported to the United Kingdom was 89,618,817 pounds in 1895; 79,063,780 pounds in 1896; 89,664,950 pounds in 1897; 88,366,290 pounds in 1898; and 85,395,232 pounds in 1899. The quantity exported to Germany was 51,311,070 pounds in 1895; 53,693,132 pounds in 1896; 64,304,001 pounds in 1897; 53,787,518 pounds in 1898; and 44,216,962 pounds in 1899. The quantity exported to France was 34,943,161 pounds in 1895; 33,792,243 pounds in 1896; 23,762,881 pounds in 1897; 22,016,203 pounds in 1898; and 23,656,171 pounds in 1899. The quantity exported to Italy was 24,542,652 pounds in 1895; 32,218,201 pounds in 1896; 27,472,628 pounds in 1897; 23,432,941 pounds in 1898; and 27,397,587 pounds in 1899. The quantity exported to the Netherlands was 17,765,213 pounds in 1895; 19,148,254 pounds in 1896; 26,489,855 pounds in 1897; 18,282,505 pounds in 1898; and 21,170,683 pounds in 1899.

In 1900, the imports of unmanufactured tobacco amounted to 19,619,627 pounds, valued at $13,297,223. Of the total quantity imported, 5,561,068 pounds were for cigar wrappers, of which 5,048,194 pounds, or 90.8 per cent, were grown by Dutch syndicates in the island of Sumatra and imported from the Netherlands. Of the 14,058,559 pounds imported, not suitable for cigar wrappers, 11,272,334 pounds, or 80.2 per cent, came from Cuba.

At the census of 1880 all phases of the tobacco industry, including both its cultivation and manufacture, received comprehensive treatment. The report of the industry at that census embraced statistics showing collectively the imports and the foreign and domestic exports of both manufactured and unmanufactured tobacco for the United States for each fiscal year from 1791 to 1880, inclusive. Table 5 of this report is intended to be supplementary to the import and export table of 1880, and shows the same items for each fiscal year from 1881 to 1900, inclusive.

TABLE 5.—MANUFACTURED AND UNMANUFACTURED TOBACCO: IMPORTS AND FOREIGN AND DOMESTIC EXPORTS, FISCAL YEARS 1881 TO 1900.

YEAR.	IMPORTS.					EXPORTS.			
	Unmanufactured.		Manufactured.			Unmanufactured.		Manufactured.	
			Cigars, cigarettes, and cheroots.		All other.			Cigars.	
	Pounds.	Value.	Pounds.	Value.	Value.	Pounds.	Value.	M.	Value.
1900	19,619,627	$13,297,223	460,559	$2,299,923	$64,214	344,655,697	$29,422,371	2,579	$74,623
1899	14,035,829	9,900,253	418,634	2,082,450	61,549	283,613,122	25,467,218	3,732	76,172
1898	10,477,108	7,488,608	331,902	1,551,009	52,497	263,020,214	22,171,580	1,557	37,881
1897	13,805,227	9,584,155	455,697	2,040,444	57,103	314,931,691	24,711,446	1,962	41,685
1896	32,924,966	16,503,130	500,945	2,141,364	59,448	295,539,312	24,571,362	1,247	30,113
1895	26,668,261	14,745,720	475,564	2,080,233	62,659	300,991,930	25,798,968	1,538	42,200
1894	19,663,259	10,985,886	463,923	2,083,984	70,202	290,684,992	24,087,934	2,062	51,263
1893	28,110,378	14,702,840	654,287	2,831,860	84,846	266,083,083	22,891,899	2,855	63,995
1892	21,988,535	10,332,423	658,169	2,832,047	94,004	255,432,077	20,670,045	3,017	83,544
1891	23,061,008	13,284,162	885,139	3,386,899	92,080	249,232,605	21,033,759	3,875	98,356
1890	28,720,674	17,605,192	1,250,217	4,026,828	78,434	255,647,026	21,479,556	3,482	97,703
1889	20,106,881	10,868,226	1,232,619	3,662,603	80,161	223,759,232	18,901,068	2,969	85,866
1888	18,600,142	10,870,841	1,153,468	3,404,956	101,993	262,682,821	21,936,084	2,176	49,686
1887	17,519,194	8,704,950	1,115,491	3,345,060	126,453	304,920,121	25,948,277	2,584	63,387
1886	15,695,670	7,880,007	1,016,033	3,289,471	92,610	292,773,890	27,153,457	1,887	43,726
1885	12,924,265	6,301,988	919,984	3,133,945	83,704	230,483,646	22,025,786	2,235	52,066
1884	12,955,017	5,962,163	891,769	3,189,225	87,134	207,157,687	17,765,760	3,110	82,306
1883	14,893,131	8,548,999	829,777	3,137,278	85,319	235,628,360	19,438,066	3,885	96,901
1882	11,899,823	6,230,865	802,872	3,032,038	84,859	223,665,980	19,067,721	4,217	113,717
1881	7,468,664	3,897,980	618,503	2,257,139	116,654	227,026,605	18,737,043	3,546	94,559

TABLE 5.—MANUFACTURED AND UNMANUFACTURED TOBACCO: IMPORTS AND FOREIGN AND DOMESTIC EXPORTS, FISCAL YEARS 1881 TO 1900—Continued.

YEAR.	EXPORTS—continued.			FOREIGN EXPORTS.				
	Manufactured—Continued.			Unmanufactured.		Manufactured.		
	Cigarettes.		Chewing, smoking, and snuff.			Cigars, cigarettes, and cheroots.		All other.
	M	Value.	Value.	Pounds.	Value.	Pounds.	Value.	Value.
1900	1,164,356	$2,290,876	$3,644,642	1,903,011	$1,016,683	11,510	$27,826	$5,078
1899	1,169,467	2,197,353	2,905,473	1,981,445	1,290,173	12,488	20,164	1,657
1898	1,105,905	2,018,616	2,762,496	2,363,522	1,447,880	20,631	28,016	460
1897	921,316	1,959,252	3,024,880	1,720,572	1,303,229	29,046	30,547	2,696
1896	633,785	1,408,823	2,941,425	3,702,271	2,698,041	15,104	19,297	6,723
1895	464,636	1,180,699	2,730,266	1,899,827	1,330,623	16,506	18,977	3,776
1894	408,551	1,094,340	2,704,393	1,961,751	959,284	13,306	17,090	5,023
1893	410,854	1,151,487	2,835,073	1,179,978	588,280	26,658	26,412	4,946
1892	306,545	1,018,427	2,967,409	1,143,878	432,756	20,145	29,663	7,850
1891	319,013	1,008,657	3,079,700	1,276,459	580,322	17,247	25,386	14,734
1890	265,001	830,817	2,947,525	1,797,377	891,787	16,613	22,216	9,177
1889	236,727	752,857	2,869,877	1,576,611	882,747	16,439	31,572	9,808
1888	195,713	626,166	2,902,605	1,578,290	906,565	16,717	26,287	13,456
1887	146,503	467,511	2,751,497	1,168,693	643,594	17,193	23,995	16,208
1886	127,946	412,664	2,810,061	1,294,498	666,635	28,646	36,511	23,671
1885	102,679	317,653	2,371,800	1,164,637	573,370	35,615	62,794	103,275
1884	79,032	248,890	2,199,261	823,504	316,243	40,052	62,134	41,234
1883	.....	.....	2,560,262	904,015	317,288	55,584	87,951	21,624
1882	.....	.....	2,249,431	786,930	327,596	71,295	113,287	20,090
1881	.....	.....	2,047,282	704,134	353,658	77,252	118,181	27,525

CIGARS AND CIGARETTES.

Table 6 is a comparative summary of the principal statistics of the manufacture of cigars and cigarettes for the censuses of 1860 to 1900, inclusive.

TABLE 6.—CIGARS AND CIGARETTES: COMPARATIVE SUMMARY, 1860 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.					PER CENT OF INCREASE.			
	1900	1890	1880	1870	1860	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870
Number of establishments	14,539	10,956	7,145	4,631	1,478	32.7	53.3	54.3	213.3
Capital	$67,706,493	$59,517,827	$21,698,549	$11,368,516	$3,035,555	13.8	174.3	90.9	274.5
Salaried officials, clerks, etc., number	4,470	[1]11,156	(2)	(2)	(2)	[3]59.9	.....	.....	.....
Salaries	$4,712,786	[1]$8,292,929	(2)	(2)	(2)	[3]43.2	.....	.....	.....
Wage-earners, average number	103,462	87,000	53,297	26,049	7,997	18.9	63.2	104.6	225.7
Total wages	$40,925,596	$36,475,060	$18,464,562	$9,098,709	$2,531,354	12.2	97.5	102.9	259.4
Men, 16 years and over	62,168	59,452	40,099	21,409	7,266	4.6	48.3	87.3	194.6
Wages	$29,963,405	$28,866,765	(2)	(2)	(2)	3.8	.....	.....	.....
Women, 16 years and over	37,762	24,214	9,108	2,615	731	56.0	165.9	248.3	257.7
Wages	$10,505,052	$7,174,765	(2)	(2)	(2)	46.4	.....	.....	.....
Children, under 16 years	3,532	8,334	4,090	2,025	(2)	5.9	[3]18.5	102.0	.....
Wages	$457,139	$433,530	(2)	(2)	(2)	5.4	.....	.....	.....
Miscellaneous expenses	$31,436,701	$17,673,063	(4)	(4)	(4)	77.9	.....	.....	.....
Cost of materials used	$57,946,020	$50,298,960	$29,577,883	$18,047,370	$8,511,312	15.2	70.1	126.7	271.6
Value of products	$160,223,152	$129,693,275	$63,979,575	$33,373,685	$9,068,778	23.5	102.7	91.7	268.0

[1] Includes proprietors and firm members with their salaries; number only reported in 1900, but not included in this table. (See Table 11.)
[2] Not reported separately.
[3] Decrease.
[4] Not reported.

Table 6 shows, for the four decades, a rapid growth in number of establishments, capital, wage-earners, wages, and value of products. The $13,763,638 increase in miscellaneous expenses from 1890 to 1900 is not disproportionate to the general expansion of the industry, as might appear, because the item includes internal-revenue tax, which was increased within the decade. The value of products shown by the table represents their value at the factory, packed or cased in marketable form ready for shipment, with the necessary revenue stamps affixed. The revenue tax is, therefore, a factor in the determination of such values, and its variation with different legislative acts should be considered in making comparisons. In the period covered by this report the tax was $3.60 a thousand on cigars and cigarettes weighing more than 3 pounds to the thousand; on cigars and cigarettes weighing not more than 3 pounds to the thousand the tax was $1 and $1.50 a thousand, respectively.

From Table 6 it appears that for the decade ending with 1900 there was an increase in all items except in number of salaried officials, superintendents, managers, clerks, and salesmen, and their salaries. These exceptions are chiefly due to differences in methods of classification at the censuses of 1890 and 1900 as explained in the letter of transmittal accompanying this report. The present tendency of manufacturing to centralize into single corporations has also resulted in lessening the number of persons employed in supervision and management.

Table 7 is a comparative summary of cigars and cigarettes, by states and territories, 1890 and 1900.

TABLE 7.—CIGARS AND CIGARETTES: COMPARATIVE SUMMARY,

	STATES AND TERRITORIES.	Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.	
					Number.	Salaries.
1	United States	1900	14,539	$67,706,493	4,470	$4,712,786
		1890	10,956	59,517,827	[1]11,156	[1]8,292,929
2	Alabama	1900	26	116,145	18	13,530
		1890	21	67,995	15	9,512
3	Arizona	1900	7	42,726	4	7,900
		1890	.....	.....	.....	.....
4	Arkansas	1900	19	20,241	1	600
		1890	8	20,599	9	6,136
5	California	1900	231	755,502	47	54,954
		1890	231	1,873,307	384	295,793
6	Colorado	1900	86	199,656	23	19,980
		1890	43	267,566	53	56,971
7	Connecticut	1900	216	863,591	26	28,955
		1890	159	578,859	127	93,317
8	Delaware	1900	25	77,229	1	624
		1890	23	41,087	19	11,070
9	District of Columbia	1900	42	50,618	.....	.....
		1890	70	114,782	72	42,730
10	Florida	1900	128	5,349,907	267	359,424
		1890	86	1,680,396	79	81,444
11	Georgia	1900	34	55,673	7	2,795
		1890	17	45,336	10	6,868
12	Idaho	1900	6	11,543	.....	.....
		1890	.....	.....	.....	.....
13	Illinois	1900	1,489	3,200,934	219	187,366
		1890	715	3,209,601	730	533,204
14	Indiana	1900	474	808,889	69	53,942
		1890	346	732,740	304	173,084
15	Iowa	1900	408	1,264,097	126	117,006
		1890	201	986,271	227	161,433
16	Kansas	1900	169	408,086	14	9,504
		1890	110	301,777	88	51,460
17	Kentucky	1900	180	1,105,303	81	67,677
		1890	144	528,297	159	94,500
18	Louisiana	1900	34	510,433	27	48,240
		1890	78	379,496	100	74,706
19	Maine	1900	54	134,076	10	5,630
		1890	25	80,330	21	12,084
20	Maryland	1900	382	1,519,866	155	105,809
		1890	385	1,396,602	379	226,550
21	Massachusetts	1900	331	2,358,501	133	153,576
		1890	338	1,786,599	352	268,342
22	Michigan	1900	600	1,957,635	207	196,321
		1890	373	1,516,952	408	269,577
23	Minnesota	1900	305	1,218,805	91	83,848
		1890	157	755,076	188	144,339
24	Missouri	1900	580	990,758	78	59,167
		1890	404	1,060,739	426	274,503
25	Montana	1900	30	68,594	.....	.....
		1890	6	16,639	4	2,194
26	Nebraska	1900	141	264,873	9	6,536
		1890	84	261,616	72	51,538
27	New Hampshire	1900	42	147,199	4	2,150
		1890	23	85,245	24	17,138
28	New Jersey	1900	486	1,311,122	38	30,574
		1890	444	1,055,558	382	232,142
29	New Mexico	1900	4	11,800	1	400
		1890	.....	.....	.....	.....
30	New York	1900	3,055	20,733,667	1,259	1,563,367
		1890	2,858	23,436,083	3,343	3,026,284
31	North Carolina	1900	16	169,980	22	16,830
		1890	17	1,073,390	28	20,680
32	North Dakota	1900	26	23,536	.....	.....
		1890	14	44,543	15	11,186

[1] Includes proprietors and firm members with their salaries; number only reported in 1900. (See Table 11.)

BY STATES AND TERRITORIES: 1890 AND 1900.

AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.											
Total.		Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.		Miscellaneous expenses.	Cost of materials used.	Value of products.	
Average number.	Wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.				
103,462	$40,925,596	62,168	$29,963,405	37,762	$10,505,052	3,532	$457,139	$31,436,701	$57,946,020	$160,223,152	1
87,000	36,475,060	59,452	28,866,765	24,214	7,174,765	3,334	433,530	17,673,063	50,298,960	129,693,275	
186	88,395	171	86,669	5	1,030	10	696	36,049	94,227	278,044	2
143	65,145	129	63,209	2	615	12	1,321	20,234	81,248	211,632	
44	29,810	39	27,840	4	1,740	1	230	18,904	25,354	88,264	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
37	15,648	28	13,535	1	400	8	1,713	10,486	26,565	67,400	4
28	10,606	20	9,828	.....	.....	8	778	5,619	17,810	46,313	
1,235	493,314	1,067	448,400	142	40,018	26	4,896	302,783	741,019	1,887,561	5
2,463	983,628	2,265	923,076	166	54,786	32	5,766	447,892	1,015,692	3,140,248	
337	223,316	290	203,274	39	18,864	8	1,178	72,523	234,094	679,947	6
276	188,594	242	174,070	27	12,874	7	1,650	58,929	203,243	575,161	
1,032	570,841	806	500,249	206	67,075	20	3,517	207,841	672,340	1,775,829	7
702	358,381	573	320,832	121	36,311	8	1,238	126,704	421,184	1,110,078	
106	39,786	58	29,765	27	7,766	21	2,255	20,331	38,302	121,872	8
69	29,244	46	21,589	17	6,557	6	1,098	14,256	23,736	83,013	
63	29,236	58	28,618	2	488	3	130	17,907	47,214	124,532	9
87	40,549	86	40,489	.....	.....	1	60	30,046	75,878	211,767	
6,461	3,217,530	5,222	2,858,929	1,233	358,245	6	356	1,264,216	4,800,212	10,891,286	10
5,273	3,376,166	4,202	3,004,411	1,009	362,531	62	9,224	603,883	3,287,961	8,123,220	
106	35,438	87	32,033	10	2,692	9	713	19,839	51,418	125,058	11
68	33,877	54	31,153	7	1,972	7	752	12,088	42,502	110,149	
9	5,285	9	5,285	.....	.....	.....	.....	3,111	9,026	22,684	12
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
5,221	2,452,674	4,167	2,177,648	874	251,117	180	23,909	1,242,252	3,116,597	8,741,483	13
4,097	1,872,359	3,191	1,645,729	699	198,249	207	28,381	770,271	2,894,526	6,942,185	
1,910	694,786	1,116	540,010	699	142,001	95	12,775	395,975	918,360	2,537,077	14
1,291	509,499	942	436,773	257	60,109	92	12,617	248,310	671,665	1,835,712	
1,856	700,777	1,143	536,622	559	144,534	154	19,621	412,818	948,991	2,576,384	15
1,093	441,049	745	360,243	254	66,327	94	14,479	213,312	592,584	1,704,570	
495	190,699	339	151,759	117	34,312	39	4,628	128,569	283,808	789,780	16
346	139,425	285	127,819	45	9,916	16	1,690	73,874	199,387	534,117	
1,349	388,064	671	274,254	452	91,200	226	22,610	296,081	514,943	1,506,559	17
694	280,759	534	248,691	78	21,684	82	10,384	138,541	384,339	1,058,039	
1,200	407,087	807	348,044	384	58,180	9	863	213,588	506,258	1,407,083	18
1,845	679,123	907	381,686	933	296,417	5	1,020	263,964	510,022	1,569,745	
182	86,161	142	78,117	37	7,624	3	420	37,053	98,643	284,817	19
95	44,991	79	41,048	15	3,743	1	200	17,620	58,953	162,023	
2,309	742,155	1,558	594,253	640	134,966	111	12,936	458,003	1,039,783	2,842,769	20
1,848	693,985	1,552	640,312	230	45,569	66	8,104	363,944	1,048,483	2,858,344	
2,752	1,749,676	2,038	1,443,830	700	302,755	14	3,091	594,410	1,910,617	5,298,390	21
2,483	1,199,143	1,784	972,334	689	225,028	10	1,781	437,851	1,822,641	4,165,900	
4,109	1,446,238	1,939	930,837	1,970	494,597	200	20,804	1,041,921	1,992,831	5,588,982	22
2,422	1,030,782	1,784	874,556	583	148,811	55	7,415	414,876	1,340,477	3,512,603	
1,559	660,444	1,159	565,682	344	86,812	56	7,950	338,643	949,616	2,457,942	23
868	422,296	645	351,863	163	60,615	60	9,818	174,003	599,211	1,554,774	
1,511	694,655	1,227	642,145	149	33,745	135	18,765	397,776	1,026,984	2,745,986	24
1,294	584,990	1,098	542,932	95	28,666	101	13,392	275,219	778,492	2,154,882	
72	47,650	55	43,566	2	1,164	15	2,920	18,674	69,578	173,739	25
11	5,816	10	5,192	1	624	.....	.....	3,568	9,539	23,770	
399	171,109	279	135,816	84	29,640	36	5,653	99,690	285,561	702,037	26
366	161,792	271	141,154	55	14,157	40	6,481	71,485	208,032	578,936	
284	146,342	235	132,381	46	13,451	3	510	46,314	275,569	549,698	27
136	64,025	124	61,751	3	870	9	1,404	20,312	102,926	228,650	
1,640	705,158	825	448,283	736	241,043	79	15,832	419,729	1,017,886	2,647,595	28
1,051	472,130	922	445,363	89	20,811	40	5,956	233,327	694,763	1,909,406	
9	5,352	8	5,112	1	240	.....	.....	2,498	6,786	18,850	29
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
26,051	11,157,020	15,342	7,688,913	10,513	3,441,573	196	26,534	10,655,023	17,380,949	49,028,479	30
28,768	13,157,088	19,488	10,042,820	8,819	3,045,118	461	69,150	5,963,186	19,432,008	47,422,603	
180	87,734	60	21,252	94	13,963	26	2,519	68,309	82,053	229,844	31
900	247,974	554	193,427	188	39,140	158	15,407	494,714	967,502	2,551,567	
33	16,932	29	15,972	2	730	2	230	9,259	25,982	69,419	32
53	29,918	49	29,069	3	699	1	150	11,819	54,399	126,902	

TABLE 7.—CIGARS AND CIGARETTES: COMPARATIVE SUMMARY,

	STATES AND TERRITORIES.	Year.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.	
					Number.	Salaries.
33	Ohio	1900	1,129	$4,579,159	372	$363,170
		1890	937	2,729,275	893	543,754
34	Oklahoma	1900	17	21,338	.....	.....
		1890	.....	.....	.....	.....
35	Oregon	1900	38	58,655	1	1,200
		1890	12	56,045	12	10,088
36	Pennsylvania	1900	2,664	13,836,368	886	819,995
		1890	1,967	9,471,276	1,584	985,645
37	Rhode Island	1900	34	121,321	14	11,700
		1890	31	119,289	26	18,297
38	South Carolina	1900	6	12,510	1	900
		1890	7	9,630	6	2,853
39	South Dakota	1900	27	84,460	9	5,355
		1890	12	27,600	12	6,129
40	Tennessee	1900	35	90,547	5	4,360
		1890	25	90,953	24	17,643
41	Texas	1900	79	227,175	22	17,590
		1890	25	126,346	20	16,649
42	Utah	1900	15	46,128	.....	.....
		1890	6	62,833	2	1,616
43	Vermont	1900	21	42,941	2	1,728
		1890	14	62,298	14	12,320
44	Virginia	1900	89	780,261	126	196,092
		1890	102	1,809,416	169	180,350
45	Washington	1900	57	88,724	4	2,820
		1890	20	56,990	14	9,783
46	West Virginia	1900	72	351,017	23	15,602
		1890	55	172,889	45	30,482
47	Wisconsin	1900	622	1,597,914	68	75,569
		1890	355	1,301,856	316	207,155
48	Wyoming	1900	5	14,675	.....	.....
		1890	.....	.....	.....	.....
49	All other states[1]	1900	3	2,320	.....	.....
		1890	8	17,650	1	780

[1] 1900 includes establishments distributed as follows: Indian Territory, 1; Nevada, 2. 1890 includes establishments distributed as follows: Arizona, 1, Oklahoma 1; Wyoming, 6.

BY STATES AND TERRITORIES: 1890 AND 1900—Continued.

AVERAGE NUMBER OF WAGE-EARNERS AND TOTAL WAGES.											
Total.		Men, 16 years and over.		Women, 16 years and over.		Children, under 16 years.		Miscellaneous expenses.	Cost of materials used.	Value of products.	
Average number.	Wages.	Average number.	Wages.	Average number.	Wages.	Average number.	Wages.				
9,046	$3,016,072	3,738	$1,642,778	5,156	$1,351,179	152	$22,115	$2,613,678	$3,717,825	$11,239,824	33
5,682	1,973,389	3,457	1,419,015	1,971	522,206	254	32,168	1,131,702	2,447,042	7,024,748	
35	12,700	25	10,708	5	1,490	5	502	7,101	22,382	50,838	34
71	32,961	60	31,175	7	955	4	831	19,312	60,019	146,401	35
44	21,695	40	20,945	.....	.....	4	750	12,071	31,797	92,460	
25,045	8,404,687	13,660	5,605,101	10,085	2,631,713	1,300	167,873	6,448,701	11,570,888	31,483,141	36
17,385	5,496,557	10,431	3,937,410	5,854	1,434,308	1,100	124,839	3,362,955	7,299,782	19,978,429	
159	65,515	97	47,463	62	18,052	.....	.....	37,466	92,054	292,872	37
179	71,576	80	41,067	95	29,951	4	558	31,927	97,834	254,586	
29	9,400	25	8,400	3	800	1	200	4,614	9,647	31,550	38
22	10,056	22	10,056	.....	.....	.....	.....	5,956	11,017	33,431	
129	59,894	115	57,512	9	1,482	5	900	26,976	68,924	197,155	39
47	17,736	44	17,475	2	132	1	129	7,673	23,570	66,458	
161	80,228	143	76,691	7	2,121	11	1,416	35,708	118,738	290,647	40
139	72,563	119	67,695	12	3,480	8	1,388	33,283	84,442	236,807	
303	133,353	212	116,035	59	12,894	32	4,424	70,666	203,206	525,959	41
149	79,735	129	76,110	6	1,542	14	2,083	29,976	85,858	241,970	
68	38,499	54	35,100	7	2,580	7	819	13,479	49,928	124,487	42
57	43,221	45	38,755	11	4,310	1	156	11,807	45,637	113,097	
52	26,226	47	25,136	4	974	1	116	11,369	30,700	86,223	43
64	37,300	56	35,419	8	1,881	.....	.....	11,751	40,488	117,717	
2,595	586,115	676	214,960	1,791	355,268	128	15,887	2,480,961	1,192,583	4,843,641	44
2,259	604,837	740	249,410	1,355	331,731	164	23,696	1,048,290	1,463,878	3,727,842	
133	68,855	117	64,757	9	2,646	7	1,452	38,936	126,910	293,839	45
77	54,158	70	52,502	1	180	6	1,476	20,535	67,096	178,410	
910	332,223	644	288,709	197	35,774	69	7,740	334,628	250,490	1,060,126	46
462	198,355	346	177,870	77	15,582	39	4,903	142,920	141,813	562,060	
1,969	799,281	1,561	719,512	289	65,159	119	14,610	436,842	1,224,417	3,255,676	47
1,651	661,717	1,280	582,838	274	67,263	97	11,616	308,868	962,202	2,524,949	
16	8,370	16	8,370	.....	.....	.....	.....	4,463	12,123	31,783	48
4	1,905	4	1,905	.....	.....	.....	.....	1,226	3,620	9,600	49
13	8,831	12	8,779	.....	.....	1	52	3,552	12,351	34,002	

The manufacture of cigars was widely distributed in 1900, every state except Mississippi being represented in the census returns for that year. Table 7 shows an increase in value of products from 1890 to 1900 for every state reporting three or more establishments except California, District of Columbia, Louisiana, Maryland, North Carolina, North Dakota, South Carolina, and Vermont. The cause for a decline in this industry in individual states, simultaneous with a substantial increase for the entire country, is not easy to explain. In addition to the vicissitudes common to local or neighborhood manufacturing, it is often due to the establishment of an improved factory system in the field of trade formerly occupied by the industry of a particular state, and in consequence, to the encroachments of competition; or it may be due to the policy of large corporations in withdrawing the manufacture of a particular form of product from one state to locate it in another whose position is more advantageous for lessening cost of production or securing control of markets. For example, a large factory producing both cigars and paper cigarettes may be absorbed by a corporation which withdraws from it the manufacture of cigars to other points, and continues in it only the manufacture of cigarettes. The products of one state are thus decreased while those of other states are increased correspondingly.

New York, Pennsylvania, Ohio, Florida, and Illinois, in the order named, were the leading 5 states in value of cigar and cigarette products in 1900. No cigarettes, however, were made in Ohio, and the value of products shown by the table for that state represents cigars exclusively. Only limited quantities of cigarettes were manufactured in Pennsylvania, Florida, and Illinois, but New York produced more than any other state. The combined cigar and cigarette manufactures of the greatest 5 producing states enumerated above were valued at $111,384,213, or 69.5 per cent of the total for the United States.

Of the capital invested in this branch of the industry, 5.8 per cent was in land, 9.2 per cent in buildings, 5.4 per cent in machinery, tools, and implements, and 79.6 per cent in cash and sundries. Of the miscellaneous expenses, 6.3 per cent was for rent of works, nine-tenths of 1 per cent for taxes, not including internal revenue, 92.7 per cent for rent of offices, insurance, interest, internal-revenue tax, repairs, advertising, and other sundries, and one-tenth of 1 per cent for contract work.

Table 8 shows the cost of materials used in the manufacture of cigars and cigarettes, 1900, with the per cent each class is of the total.

TABLE 8.—CIGARS AND CIGARETTES: COST OF MATERIALS, 1900.

	1900	
	Amount.	Per cent of total.
United States	$57,946,020	100.0
Purchased in raw state	49,290,057	85.0
Purchased in partially manufactured form [1]	7,923,140	13.7
Fuel	278,067	0.5
Rent of power and heat	37,986	0.1
Freight	416,170	0.7

[1] Includes "all other materials" and "mill supplies;" the latter is shown separately in Table 11.

Table 9 shows, by states and territories, the quantity of materials used and the number of each kind of cigars and cigarettes manufactured for the calendar year 1900.

TABLE 9.—CIGARS AND CIGARETTES: MATERIALS AND PRODUCTS, BY STATES AND TERRITORIES, CALENDAR YEAR 1900.

[Compiled from annual report of Commissioner of Internal Revenue, 1901.]

STATES AND TERRITORIES.	Tobacco used in both cigars and cigarettes (pounds).	Cigars and cigarettes manufactured (number).	CIGARS.				CIGARETTES.			
			Weighing more than three pounds per thousand.		Weighing not more than three pounds per thousand.		Weighing more than three pounds per thousand.		Weighing not more than three pounds per thousand.	
			Tobacco used (pounds).	Number.	Tobacco used (pounds).	Number.	Tobacco used (pounds).	Number.	Tobacco used (pounds).	Number.
United States	118,479,225	9,435,312,726	102,561,378	5,565,669,701	2,833,816	610,926,720	33,723	4,585,675	13,050,314	3,254,130,630
Alabama	112,724	7,370,589	112,724	7,370,589						
Alaska	4,848	272,325	4,848	272,325						
Arkansas	28,490	1,348,325	28,490	1,348,325						
Arizona	34,946	1,760,842	34,946	1,760,842						
California	1,317,603	92,706,625	1,266,763	61,099,445	260	84,300			50,580	31,522,880
Colorado	351,598	17,983,824	351,568	17,973,724					30	10,100
Connecticut	874,714	47,480,480	865,780	45,090,350	5,909	1,291,030			3,025	1,049,100
Delaware	128,542	6,253,924	126,476	5,839,784	2,066	414,140				
District of Columbia	57,949	3,309,445	57,949	3,309,445						
Florida	3,375,929	181,476,403	3,372,914	180,727,583	183	36,500			2,832	712,320
Georgia	76,611	4,364,394	75,235	3,814,544					1,376	549,850
Hawaii	4,002	77,700	4,002	77,700						
Idaho	19,981	971,730	19,981	971,730						
Illinois	5,471,599	293,992,878	5,431,435	279,628,468	7,354	1,776,800	900	72,490	31,910	12,520,120
Indiana	1,860,896	92,348,905	1,860,892	92,347,569	4	1,336				
Indian Territory	3,909	185,850	3,909	185,850						
Iowa	1,601,363	90,976,313	1,600,586	90,793,163	777	183,150				
Kansas	461,120	25,275,533	461,120	25,275,533						
Kentucky	1,168,866	60,157,660	1,168,204	59,952,660	125	25,000			537	180,000
Louisiana	948,820	104,348,191	785,757	55,787,771	1,514	305,620			161,549	48,249,800

TABLE 9.—CIGARS AND CIGARETTES: MATERIALS AND PRODUCTS, BY STATES AND TERRITORIES, CALENDAR YEAR 1900—Continued.

STATES AND TERRITORIES.	Tobacco used in both cigars and cigarettes (pounds).	Cigars and cigarettes manufactured (number).	CIGARS. Weighing more than three pounds per thousand. Tobacco used (pounds).	CIGARS. Weighing more than three pounds per thousand. Number.	CIGARS. Weighing not more than three pounds per thousand. Tobacco used (pounds).	CIGARS. Weighing not more than three pounds per thousand. Number.	CIGARETTES. Weighing more than three pounds per thousand. Tobacco used (pounds).	CIGARETTES. Weighing more than three pounds per thousand. Number.	CIGARETTES. Weighing not more than three pounds per thousand. Tobacco used (pounds).	CIGARETTES. Weighing not more than three pounds per thousand. Number.
Maine	155,647	7,438,421	155,647	7,438,421						
Maryland	3,937,700	404,972,476	2,640,391	144,173,346	1,293,118	259,375,280			4,191	1,423,850
Massachusetts	2,842,087	135,630,310	2,813,321	127,679,825	3,553	738,200	1,820	52,860	23,893	7,159,425
Michigan	4,650,583	222,944,099	4,650,451	222,896,799	132	47,300				
Minnesota	1,201,954	65,370,440	1,201,922	65,357,980	15	5,500			17	6,960
Mississippi	806	44,314	806	44,314						
Missouri	1,510,717	84,446,266	1,483,732	76,849,036	11,541	1,109,930			15,444	6,487,300
Montana	89,033	4,230,481	89,033	4,230,481						
Nebraska	394,670	21,804,549	394,670	21,804,549						
Nevada	10,886	537,150	10,886	537,150						
New Hampshire	218,028	9,755,871	218,028	9,755,871						
New Jersey	2,397,790	117,247,175	2,389,173	114,594,085	5,123	1,691,000			3,494	962,090
New Mexico	14,395	1,027,594	13,711	757,514					684	270,080
New York	29,257,778	3,037,727,670	21,395,481	1,117,729,748	743,889	173,543,802	31,248	4,337,325	7,087,160	1,742,116,795
North Carolina	2,371,295	666,685,684	306,464	17,370,874					2,064,831	649,314,810
North Dakota	38,942	2,076,200	38,942	2,076,200						
Ohio	10,711,890	658,819,883	10,658,512	644,831,993	58,378	13,987,890				
Oklahoma	43,687	2,176,894	43,687	2,176,894						
Oregon	90,631	4,338,455	90,631	4,338,455						
Pennsylvania	29,057,897	1,633,281,905	29,022,723	1,623,897,875	2,289	630,010	255	123,000	32,630	8,631,020
Rhode Island	165,576	9,203,886	165,537	9,191,886	39	12,000				
South Carolina	16,177	748,337	16,144	737,307	33	11,030				
South Dakota	112,874	6,427,326	112,874	6,427,326						
Tennessee	125,451	7,045,813	125,451	7,045,813						
Texas	299,692	14,845,943	299,535	14,814,343	2	500			155	31,100
Utah	57,028	2,775,623	57,028	2,775,623						
Vermont	53,209	2,674,253	53,209	2,674,253						
Virginia	7,174,662	1,077,102,550	2,911,187	178,515,818	697,500	155,653,702			3,565,975	742,933,030
Washington	140,032	8,964,526	140,032	8,964,526						
West Virginia	1,372,331	90,131,934	1,372,319	90,129,234	12	2,700				
Wisconsin	2,047,632	101,422,452	2,047,632	101,422,452						
Wyoming	13,635	807,310	13,635	807,310						

This table shows that the combined production of cigars and cigarettes for the year ending December 31, 1900, approximated nine and one-half thousand millions. More than one hundred and eighteen million pounds of tobacco were used in their manufacture, the average being 12.6 pounds of tobacco to each thousand cigars and cigarettes. In cigars alone, an average of 17.1 pounds of tobacco were used to each thousand, and in cigarettes an average of 4 pounds. Pennsylvania was the leading state in the separate manufacture of cigars, with a production of 1,624,527,885; New York, Ohio, Maryland, and Illinois followed in the order named, with 1,291,273,550; 658,819,883; 403,548,626; and 281,400,268, respectively. The combined product of these 5 states was 4,259,570,212, or 69 per cent of the entire output of the United States.

The records of the Bureau of Internal Revenue show that, for the year ending December 31, 1900, the leading 10 cities in cigar manufacture, in the order of their production, were New York, N. Y.; Cincinnati, Ohio; Philadelphia, Pa.; Pittsburg, Pa.; Richmond, Va.; Chicago, Ill.; Baltimore, Md.; Lancaster, Pa.; Tampa, Fla.; and Detroit, Mich. The output of the extremes (New York and Detroit) approximated 760,000,000 and 100,000,000 cigars, respectively.

The geographical distribution of cigarette manufacture is much more limited than the manufacture of cigars. Only 19 states are represented in Table 9, and the output of a majority of these was comparatively small. New York led, with an output of 1,746,454,120, followed by Virginia, North Carolina, Louisiana, and California, in the order named, with 742,933,030; 649,314,810; 48,249,800, and 31,522,880 cigarettes, respectively. The combined production of these 5 states was 3,218,474,640, or 98.8 per cent of the entire product of the United States.

The leading 10 cities in cigarette production for the calendar year, 1900, were New York, N. Y.; Richmond, Va.; Durham, N. C.; Rochester, N. Y.; New Orleans, La.; Lynchburg, Va.; San Francisco, Cal.; Wilson, N. C.; Chicago, Ill.; and Philadelphia, Pa. The production of the extremes (Greater New York and Philadelphia) approximated 1,370,000,000 and 9,000,000 cigarettes, respectively.

Table 10 shows the number of cigars and cigarettes withdrawn from factories for shipment and tax-paid, for each fiscal year from 1863 to 1900, inclusive.

TABLE 10.—CIGARS AND CIGARETTES: NUMBER WITHDRAWN FOR CONSUMPTION AND TAX-PAID, FOR EACH FISCAL YEAR FROM 1863 TO 1900, INCLUSIVE.

[Compiled from report of Commissioner of Internal Revenue, 1900.]

FISCAL YEAR ENDED JUNE 30—	Aggregate number.	Cigars.	Cigarettes.
1863[1]	[2]199,288,284	.....	.....
1864	[2]492,780,700	.....	.....
1865	713,001,099	693,230,989	19,770,110
1866	347,674,259	347,443,894	230,365
1867	[2]483,806,456	.....	.....
1868	[2]590,335,052	.....	.....
1869	993,287,429	991,535,934	1,751,495
1870	1,153,352,191	1,139,470,774	13,881,417
1871	1,332,844,357	1,313,913,604	18,930,753
1872	1,527,705,972	1,507,014,922	20,691,050
1873	1,807,034,646	1,779,946,596	27,088,050
1874	1,886,697,498	1,857,979,298	28,718,200
1875	1,967,959,663	1,926,661,780	41,297,883
1876	1,906,227,982	1,828,807,396	77,420,586
1877	1,949,078,513	1,800,009,256	149,069,257
1878	2,070,253,337	1,905,063,743	165,189,594
1879	2,257,523,581	2,019,246,764	238,276,817
1880	2,776,511,614	2,367,803,248	408,708,366
1881	3,250,016,780	2,682,620,797	567,395,983
1882	3,595,519,581	3,040,975,395	554,544,186
1883	3,867,910,645	3,227,888,992	640,021,653
1884	4,363,709,740	3,455,619,017	908,090,723
1885	4,417,721,871	3,358,972,633	1,058,749,238
1886	4,821,859,838	3,510,898,488	1,310,961,350
1887	5,372,810,643	3,788,305,443	1,584,505,200
1888	5,707,452,750	3,844,726,650	1,862,726,100
1889	6,018,901,000	3,867,385,640	2,151,515,360
1890	6,321,144,663	4,087,889,983	2,233,254,680
1891	7,159,431,527	4,474,892,767	2,684,538,760
1892	7,441,782,257	4,548,799,417	2,892,982,840
1893	7,990,895,817	4,814,197,117	3,176,698,700
1894	7,250,700,563	4,066,917,433	3,183,783,130
1895	7,492,450,117	4,163,972,440	3,328,477,677
1896	8,281,554,680	4,237,755,943	4,043,798,737
1897	8,216,421,567	4,063,169,097	4,153,252,470
1898	8,664,635,305	4,910,937,397	3,753,697,908
1899	7,882,418,561	5,077,287,824	2,805,130,737
1900	8,603,070,166	5,963,170,381	2,639,899,785

[1] From September 1, 1862.
[2] Including cigarettes not separately reported.

Tables 9 and 10 cover different years, neither of which agrees with the census year ending May 31, 1900. The correspondence is sufficiently close for approximations, but for absolute accuracy the differences should be considered. The number of cigars and cigarettes on which taxes were paid during the fiscal year ending June 30, 1900, shown by Table 10, falls considerably short of the number manufactured during the calendar year 1900, shown by Table 9. The discrepancy is explained by the difference in period of time covered by the two tables, and by the lack of correspondence between the number actually made and that withdrawn for consumption. Internal-revenue tax is not collected on cigars and cigarettes withdrawn for export, nor on those intended for domestic consumption, until withdrawn from the warehouses of the manufacturers. Products exported and those remaining in factory warehouses do not, therefore, appear in Table 10, but importations are included. The number of cigars and cigarettes tax-paid is doubtless a better index to consumption than is the number manufactured, but the annual average withdrawn for a period of years should be considered in computing annual consumption, because a marked increase or decrease in the number tax-paid from one year to another may be due to the policy of establishments in forcing manufactures and deliveries pending an increase in internal-revenue tax, or withholding them pending a reduction. The decrease in number of cigarettes since 1897, as shown by Table 10, is in part due to such policy and in part to the increasing consumption of cigarettes manufactured by the consumer from prepared tobacco put upon the market in packages accompanied by cigarette wrappers, which are given to the consumer in separate form. Cigarettes when so manufactured do not, of course, appear in statistical reports.

Table 4 shows, by countries, the imports of cigars, cigarettes, and cheroots, and the foreign exports of the same articles, for the fiscal year ending June 30, 1900, expressed in pounds and value. The number and value of domestic exports of cigars and cigarettes is also given by countries in this table, and Table 5 shows the same items for each fiscal year from 1880 to 1900, inclusive.

Table 11 is a detailed summary for cigar and cigarette manufacture, by states and territories, for the census year ending May 31, 1900.

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900.

	United States.	Alabama.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	District of Columbia.
Number of establishments	14,539	26	7	19	231	86	216	25	42
Character of organization:									
Individual	12,486	20	5	18	156	68	187	21	41
Firm and limited partnership	1,819	5	1	1	69	15	25	3	1
Incorporated company	229	1	1	.....	6	3	3	1	.....
Miscellaneous	5	.....	.....	.....	.....	.....	1	.....	.....
Capital:									
Total	$67,706,493	$116,145	$42,726	$20,241	$755,502	$199,656	$863,591	$77,229	$50,618
Land	$3,946,170	$4,005	$300	$3,315	$22,050	$27,550	$25,010	$3,100	$6,100
Buildings	$6,242,594	$6,775	$5,810	$2,920	$21,950	$27,400	$61,050	$3,575	$5,875
Machinery, tools, and implements	$3,635,106	$3,424	$1,411	$1,480	$47,443	$9,465	$29,494	$8,757	$2,885
Cash and sundries	$53,882,623	$101,941	$35,205	$12,526	$664,059	$135,241	$748,037	$61,797	$35,758
Proprietors and firm members	16,217	29	7	20	346	97	238	27	43
Salaried officials, clerks, etc.:									
Total number	4,470	18	4	1	47	23	26	1	.....
Total salaries	$4,712,786	$13,530	$7,900	$600	$54,954	$19,980	$28,955	$624	.....
Officers of corporations—									
Number	285	5	1	.....	3	5	4	.....	.....
Salaries	$521,931	$5,400	$2,400	.....	$7,500	$3,900	$6,300	.....	.....
General superintendents, managers, clerks, etc.—									
Total number	4,185	13	3	1	44	18	22	1	.....
Total salaries	$4,190,855	$8,130	$5,500	$600	$47,454	$16,080	$22,655	$624	.....
Men—									
Number	3,912	11	3	1	39	18	22	1	.....
Salaries	$4,070,231	$7,280	$5,500	$600	$45,554	$16,080	$22,655	$624	.....
Women—									
Number	273	2	.....	.....	5	.....	.....	.....	.....
Salaries	$120,624	$850	.....	.....	$1,900	.....	.....	.....	.....

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	United States.	Alabama.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	District of Columbia.
Wage-earners, including pieceworkers and total wages:									
Greatest number employed at any one time during the year	125,574	248	75	44	1,453	426	1,179	256	66
Least number employed at any one time during the year	92,438	140	36	31	1,135	322	948	99	61
Average number	103,462	186	44	37	1,235	337	1,032	106	63
Wages	$40,925,596	$88,395	$29,810	$15,648	$493,314	$223,316	$570,841	$39,786	$29,236
Men, 16 years and over—									
Number	62,168	171	39	28	1,067	290	806	58	58
Wages	$29,963,405	$86,669	$27,840	$13,535	$448,400	$203,274	$500,249	$29,765	$28,618
Women, 16 years and over—									
Number	37,762	5	4	1	142	39	206	27	2
Wages	$10,505,052	$1,030	$1,740	$400	$40,018	$18,864	$67,075	$7,766	$488
Children, under 16 years—									
Number	3,532	10	1	8	26	8	20	21	3
Wages	$457,139	$696	$230	$1,713	$4,896	$1,178	$3,517	$2,255	$130
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	61,547	185	40	28	1,124	294	778	60	58
February	62,072	200	42	28	1,124	323	793	66	58
March	63,409	185	43	27	1,092	322	801	66	58
April	64,060	177	49	27	1,094	324	797	61	60
May	65,039	167	65	27	1,052	331	812	55	60
June	61,543	153	28	26	1,012	279	812	56	60
July	58,691	146	29	26	964	241	793	55	58
August	59,401	149	29	23	1,009	247	814	53	58
September	60,756	160	31	26	1,035	252	817	53	59
October	62,450	168	33	30	1,101	289	823	58	58
November	63,468	183	37	31	1,100	287	828	58	58
December	63,580	177	37	32	1,098	291	806	57	56
Women, 16 years and over—									
January	36,540	8	5	1	153	39	188	21	2
February	36,950	8	5	1	156	40	209	33	2
March	37,548	8	5	1	147	47	210	33	2
April	37,855	8	5	1	148	48	212	38	2
May	38,637	8	5	1	142	48	211	38	2
June	37,946	8	2	1	126	39	211	53	2
July	36,550	2	2	1	125	29	192	23	2
August	37,032	2	3	1	128	29	213	23	2
September	37,951	2	3	1	139	28	212	17	2
October	38,757	2	3	1	149	40	215	17	2
November	38,682	2	5	1	147	40	211	17	2
December	38,696	2	5	1	149	41	189	17	2
Children, under 16 years—									
January	3,382	14	1	9	26	8	19	18	3
February	3,377	14	2	9	26	8	21	20	3
March	3,475	15	2	6	26	8	20	23	3
April	3,553	15	2	6	27	8	20	24	3
May	3,692	15	2	6	27	8	20	26	3
June	3,603	15	1	6	26	7	18	28	3
July	3,538	5	1	6	24	6	19	18	3
August	3,568	5	1	10	24	6	20	18	3
September	3,546	5	1	10	25	7	20	18	3
October	3,556	5	1	10	26	8	20	18	3
November	3,601	6	1	10	26	8	20	18	3
December	3,494	6	1	10	26	8	20	18	3
Miscellaneous expenses:									
Total	$31,436,701	$36,049	$18,904	$10,486	$302,783	$72,523	$207,841	$20,331	$17,907
Rent of works	$1,992,825	$7,130	$1,170	$1,213	$49,331	$11,716	$26,450	$4,392	$3,810
Taxes, not including internal revenue	$282,084	$1,087	$181	$437	$4,083	$1,814	$10,741	$301	$121
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$29,124,452	$27,832	$17,553	$8,826	$247,569	$57,558	$170,650	$15,638	$13,916
Contract work	$37,340			$10	$1,200	$1,435			$60
Materials used:									
Total cost	$57,946,020	$94,227	$25,354	$26,565	$741,019	$234,094	$672,340	$38,302	$47,214
Principal materials	$57,133,156	$92,620	$22,699	$26,883	$732,579	$229,217	$663,494	$37,548	$46,677
Purchased in raw state	$49,290,657	$83,357	$19,283	$22,866	$641,519	$200,333	$600,383	$32,643	$41,606
Purchased in partially manufactured form (including all other materials)	$7,842,499	$9,263	$3,416	$3,017	$91,060	$28,884	$63,111	$4,905	$5,071
Fuel	$278,067	$95	$10	$186	$520	$1,286	$4,433	$428	$203
Rent of power and heat	$37,986				$810	$120	$177	$157	$10
Mill supplies	$80,641				$10		$861		
Freight	$416,170	$1,512	$2,645	$496	$7,100	$3,471	$3,375	$169	$324
Products:									
Total value	$160,223,152	$278,044	$88,264	$67,400	$1,887,561	$679,947	$1,775,829	$121,872	$124,532
Comparison of products:									
Number of establishments reporting for both years	11,722	19	4	13	178	62	191	18	40
Value for census year	$137,854,376	$232,652	$19,323	$48,785	$1,578,856	$577,300	$1,722,350	$104,579	$122,232
Value for preceding business year	$124,703,947	$215,800	$18,392	$41,370	$1,451,996	$446,788	$1,592,876	$95,440	$118,001
Power:									
Number of establishments reporting	206				1			2	
Total horsepower	4,791				8			6	
Owned—									
Engines—									
Steam—									
Number	107								
Horsepower	3,673								
Gas or gasoline—									
Number	36								
Horsepower	243								
Water wheels—									
Number	1								
Horsepower	1								
Electric motors—									
Number	24								
Horsepower	228								
Other power—									
Number									
Horsepower									
Rented—									
Total horsepower	646				8			6	
Electric	323							6	
Other kind	323				8				
Furnished to other establishments, horsepower	27								

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Florida.	Georgia.	Idaho.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.
Number of establishments	128	34	6	1,489	474	408	169	180
Character of organization:								
Individual	67	27	5	1,315	417	317	147	148
Firm and limited partnership	46	5	1	155	55	79	22	26
Incorporated company	15	2	.....	19	2	12	.....	6
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....
Capital:								
Total	$5,349,907	$55,673	$11,543	$3,200,934	$808,889	$1,264,097	$408,686	$1,105,303
Land	$220,670	$6,170	$2,250	$320,296	$76,051	$52,160	$21,750	$77,650
Buildings	$410,885	$3,110	$1,775	$379,222	$100,555	$67,437	$60,045	$95,395
Machinery, tools, and implements	$96,214	$2,915	$490	$142,171	$35,966	$65,026	$26,373	$24,126
Cash and sundries	$4,622,138	$43,478	$7,028	$2,359,245	$596,317	$1,079,474	$299,918	$908,132
Proprietors and firm members	160	36	7	1,630	518	458	191	200
Salaried officials, clerks, etc.:								
Total number	267	7	.....	219	69	126	14	81
Total salaries	$359,424	$2,795	.....	$187,366	$53,942	$117,006	$9,504	$67,677
Officers of corporations—								
Number	23	2	.....	15	4	12	.....	11
Salaries	$75,413	$780	.....	$29,140	$6,600	$11,170	.....	$15,720
General superintendents, managers, clerks, etc.—								
Total number	244	5	.....	204	65	114	14	70
Total salaries	$284,011	$2,015	.....	$158,226	$47,342	$105,836	$9,504	$51,957
Men—								
Number	238	4	.....	187	60	105	14	64
Salaries	$281,447	$1,715	.....	$149,560	$45,477	$102,936	$9,504	$48,745
Women—								
Number	6	1	.....	17	5	9	.....	6
Salaries	$2,564	$300	.....	$8,666	$1,865	$2,900	.....	$3,212
Wage-earners, including pieceworkers and total wages:								
Greatest number employed at any one time during the year	8,988	148	13	6,768	2,246	2,258	598	1,724
Least number employed at any one time during the year	5,348	104	4	5,089	1,669	1,718	478	1,417
Average number	6,461	106	9	5,221	1,910	1,856	495	1,349
Wages	$3,217,530	$35,438	$5,285	$2,452,674	$694,786	$700,777	$190,699	$388,064
Men, 16 years and over—								
Number	5,222	87	9	4,167	1,116	1,143	339	671
Wages	$2,858,929	$32,033	$5,285	$2,177,648	$540,010	$536,622	$151,759	$274,254
Women, 16 years and over—								
Number	1,233	10	.....	874	699	559	117	452
Wages	$358,245	$2,692	.....	$251,117	$142,001	$144,534	$34,312	$91,200
Children, under 16 years—								
Number	6	9	.....	180	95	154	39	226
Wages	$356	$713	.....	$23,909	$12,775	$19,621	$4,628	$22,610
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	5,154	100	12	4,346	1,117	1,127	352	672
February	5,268	92	11	4,395	1,113	1,127	354	669
March	5,610	93	10	4,473	1,135	1,131	352	663
April	5,721	88	10	4,460	1,151	1,124	343	663
May	5,799	87	10	4,521	1,162	1,146	341	659
June	5,398	84	5	3,791	1,115	1,101	312	658
July	4,351	80	6	3,724	1,069	1,098	331	645
August	4,547	82	7	3,722	1,074	1,110	326	664
September	5,068	79	7	3,753	1,112	1,169	328	683
October	5,132	78	8	3,791	1,122	1,199	346	704
November	5,195	87	8	4,499	1,118	1,204	347	691
December	5,429	94	8	4,535	1,118	1,185	341	683
Women, 16 years and over—								
January	1,217	10	.....	965	548	541	125	447
February	1,235	11	.....	984	564	556	120	447
March	1,360	14	.....	992	585	571	119	447
April	1,437	14	.....	1,012	786	574	120	426
May	1,348	14	.....	985	788	573	118	425
June	1,237	9	.....	766	772	543	110	426
July	1,005	5	.....	702	573	539	112	464
August	1,075	5	.....	727	573	554	112	465
September	1,185	8	.....	734	799	560	112	466
October	1,225	9	.....	747	799	559	117	469
November	1,209	11	.....	935	800	568	123	470
December	1,258	11	.....	934	802	568	119	467
Children, under 16 years—								
January	6	8	.....	180	97	152	39	221
February	6	8	.....	178	97	150	39	224
March	6	10	.....	183	97	148	40	222
April	6	10	.....	183	97	153	41	224
May	6	10	.....	187	96	163	41	225
June	6	8	.....	185	97	144	37	231
July	6	8	.....	181	94	145	44	228
August	6	8	.....	182	93	148	42	223
September	6	8	.....	179	94	157	37	229
October	6	8	.....	175	94	159	37	229
November	6	8	.....	176	94	161	37	233
December	6	8	.....	172	94	163	35	224
Miscellaneous expenses:								
Total	$1,264,216	$19,839	$3,111	$1,242,252	$395,975	$412,818	$128,569	$296,081
Rent of works	$12,987	$3,833	$576	$173,842	$44,902	$52,843	$17,382	$20,004
Taxes, not including internal revenue	$17,941	$821	$169	$16,403	$6,640	$8,647	$2,992	$4,951
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$1,232,538	$15,185	$2,366	$1,047,743	$344,408	$351,178	$108,195	$271,126
Contract work	$750	.....	.....	$4,264	$25	$150	.....	.....
Materials used:								
Total cost	$4,800,212	$51,418	$9,026	$3,116,597	$918,360	$948,991	$283,808	$514,943
Principal materials	$4,757,371	$50,390	$8,470	$3,073,093	$901,747	$925,896	$275,275	$507,745
Purchased in raw state	$4,370,649	$44,851	$6,750	$2,676,531	$793,762	$805,644	$235,793	$437,761
Purchased in partially manufactured form (including all other materials)	$386,722	$5,539	$1,720	$396,562	$107,985	$120,252	$39,482	$69,984
Fuel	$445	$148	$98	$21,198	$6,518	$7,502	$2,484	$2,215
Rent of power and heat	$20	.....	.....	$3,698	$558	$1,189	$106	$366
Mill supplies	$230	.....	.....	$50	$180	$75	$630	$50
Freight	$42,146	$880	$458	$18,558	$9,362	$14,329	$5,313	$4,567

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Florida.	Georgia.	Idaho.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.
Products:								
Total value	$10,891,286	$125,058	$22,684	$8,741,483	$2,537,077	$2,576,384	$789,780	$1,506,559
Comparison of products:								
Number of establishments reporting for both years	79	19	4	1,187	371	308	134	150
Value for census year	$8,599,409	$65,023	$16,300	$6,530,879	$2,265,397	$2,193,476	$605,397	$1,244,993
Value for preceding business year	$7,120,777	$60,211	$19,250	$5,902,269	$2,123,990	$1,948,294	$580,840	$1,277,091
Power:								
Number of establishments reporting				2	2	3	1	2
Total horsepower				14	35	9	18	27
Owned—								
Engines—								
Steam—								
Number					1			1
Horsepower					30			10
Gas or gasoline—								
Number							1	
Horsepower							18	
Water wheels—								
Number								
Horsepower								
Electric motors—								
Number								1
Horsepower								10
Other power—								
Number								
Horsepower								
Rented—								
Total horsepower				14	5	9		7
Electric				14	5	6		7
Other kind						3		
Furnished to other establishments, horsepower								

	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Missouri.	Montana.
Number of establishments	34	54	382	331	600	305	580	30
Character of organization:								
Individual	29	45	332	264	495	266	485	27
Firm and limited partnership	4	9	47	58	88	35	77	3
Incorporated company	1		3	8	17	4	18	
Miscellaneous				1				
Capital:								
Total	$510,433	$134,076	$1,519,866	$2,358,501	$1,957,635	$1,218,805	$990,758	$68,594
Land	$36,300	$2,450	$171,694	$122,970	$78,932	$98,955	$43,908	$6,450
Buildings	$79,175	$3,700	$238,010	$118,950	$119,587	$160,510	$96,595	$16,950
Machinery, tools, and implements	$39,716	$8,281	$76,413	$91,971	$86,978	$38,367	$47,944	$2,325
Cash and sundries	$355,242	$119,645	$1,033,749	$2,024,610	$1,672,138	$920,973	$802,311	$42,869
Proprietors and firm members	39	59	436	370	674	342	642	33
Salaried officials, clerks, etc.:								
Total number	27	10	155	133	207	91	78	
Total salaries	$48,240	$5,630	$105,809	$153,576	$196,321	$83,848	$59,167	
Officers of corporations—								
Number	1		5	9	22	5	22	
Salaries	$20,000		$5,824	$15,560	$30,215	$4,800	$19,636	
General superintendents, managers, clerks, etc.—								
Total number	26	10	150	124	185	86	56	
Total salaries	$28,240	$5,630	$99,985	$138,016	$166,106	$79,048	$39,531	
Men—								
Number	26	8	139	112	177	77	54	
Salaries	$28,240	$4,600	$95,472	$131,880	$162,974	$75,600	$38,931	
Women—								
Number		2	11	12	8	9	2	
Salaries		$1,030	$4,513	$6,136	$3,132	$3,448	$600	
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	1,268	245	2,636	3,362	4,817	1,784	1,847	93
Least number employed at any one time during the year	1,159	153	2,270	2,832	3,830	1,449	1,399	64
Average number	1,200	182	2,309	2,752	4,109	1,559	1,511	72
Wages	$407,087	$86,161	$742,155	$1,749,676	$1,446,238	$660,444	$694,655	$47,650
Men, 16 years of age and over—								
Number	807	142	1,558	2,038	1,939	1,159	1,227	55
Wages	$348,044	$78,117	$594,253	$1,443,830	$930,837	$565,682	$642,145	$43,566
Women, 16 years and over—								
Number	384	37	640	700	1,970	344	149	2
Wages	$58,180	$7,624	$134,966	$302,755	$494,597	$86,812	$33,745	$1,164
Children, under 16 years—								
Number	9	3	111	14	200	56	135	15
Wages	$863	$420	$12,936	$3,091	$20,804	$7,950	$18,765	$2,920
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	811	133	1,526	1,840	1,893	1,128	1,249	55
February	815	133	1,545	1,853	1,901	1,150	1,235	56
March	814	145	1,534	1,857	1,940	1,165	1,252	57
April	808	153	1,534	1,943	2,015	1,207	1,279	52
May	816	166	1,588	2,076	2,074	1,189	1,280	59
June	800	153	1,530	2,111	1,969	1,168	1,202	56
July	785	139	1,496	2,046	1,926	1,145	1,156	57
August	779	130	1,528	2,107	1,926	1,146	1,155	52
September	784	139	1,559	2,188	1,926	1,151	1,205	52
October	810	141	1,579	2,182	1,916	1,156	1,233	53
November	823	137	1,635	2,172	1,890	1,164	1,237	55
December	836	136	1,637	2,085	1,888	1,137	1,238	54
Women, 16 years and over—								
January	398	37	631	631	1,863	336	145	2
February	397	35	638	663	1,891	337	153	2
March	397	36	633	641	1,928	340	160	2
April	398	36	630	664	1,988	339	154	2

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Missouri.	Montana.
Average number of wage-earners, including piece-workers, employed during each month—Cont'd.								
Women 16 years and over—Continued.								
May	371	38	671	704	2,045	348	150	2
June	371	37	634	711	2,049	342	146	2
July	363	38	632	728	2,002	348	144	2
August	363	36	637	723	1,994	348	145	2
September	363	37	637	723	1,987	349	142	2
October	396	38	633	748	1,989	349	156	2
November	397	40	650	729	1,964	349	144	2
December	397	39	651	731	1,935	345	147	2
Children, under 16 years—								
January	14	1	115	14	195	51	132	13
February	14	3	117	15	198	54	134	13
March	14	2	112	13	199	56	138	14
April	9	2	114	15	204	60	141	14
May	7	3	113	15	205	63	147	17
June	7	3	107	14	202	57	140	16
July	7	3	106	13	203	56	135	16
August	7	3	105	13	202	55	138	16
September	7	3	107	14	203	53	134	16
October	9	3	106	13	198	54	129	16
November	9	4	112	14	197	54	129	16
December	9	4	116	15	197	53	129	16
Miscellaneous expenses:								
Total	$213,588	$37,053	$458,003	$594,410	$1,041,921	$338,643	$397,776	$18,674
Rent of works	$11,364	$6,432	$50,199	$68,905	$66,045	$36,920	$61,422	$4,617
Taxes, not including internal revenue	$5,196	$711	$10,793	$12,500	$10,608	$4,636	$7,088	$792
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$196,948	$29,535	$397,011	$512,981	$957,054	$296,707	$328,494	$13,027
Contract work	$80	$375	.....	$24	$8,214	$380	$772	$208
Materials used:								
Total cost	$506,258	$98,643	$1,039,783	$1,910,617	$1,992,831	$949,616	$1,026,984	$69,578
Principal materials	$478,082	$96,400	$1,031,158	$1,887,078	$1,965,349	$928,252	$1,015,269	$66,036
Purchased in raw state	$402,539	$85,811	$886,781	$1,716,611	$1,733,821	$797,407	$902,978	61,352
Purchased in partially manufactured form (including all other materials)	$75,543	$10,589	$144,377	$170,467	$231,528	$130,845	$112,291	$4,684
Fuel	$3,439	$932	$3,999	$11,625	$12,098	$6,611	$5,229	$273
Rent of power and heat	$55	$87	$422	$812	$1,333	$1,704	$272	$370
Mill supplies	$24,277	.....	$260	$125	$525	$15	$42	.....
Freight	$405	$1,224	$3,944	$10,977	$13,526	$13,034	$6,172	$2,899
Products:								
Total value	$1,407,083	$284,817	$2,842,769	$5,298,390	$5,588,982	$2,457,942	$2,745,986	$173,739
Comparison of products:								
Number of establishments reporting for both years	27	38	306	284	470	225	477	25
Value for census year	$274,933	$222,286	$2,421,396	$5,113,131	$4,891,121	$2,336,183	$2,424,323	$159,162
Value for preceding business year	$274,469	$199,590	$2,225,581	$4,710,847	$4,126,199	$1,851,358	$2,206,851	$128,870
Power—								
Number of establishments reporting	3	.....	4	6	4	3	2	.....
Total horsepower	306	.....	94	25	134	18	17	.....
Owned—								
Engines—								
Steam—								
Number	1	.....	1	4	.....	.....	1	.....
Horsepower	300	.....	35	22	.....	.....	15	.....
Gas or gasoline—								
Number	1	.....	1	.....	.....	1	.....	.....
Horsepower	4	.....	5	.....	.....	3	.....	.....
Water wheels—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Electric motors—								
Number	.....	.....	.....	.....	2	.....	.....	.....
Horsepower	.....	.....	.....	.....	32	.....	.....	.....
Other power—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Rented—								
Total horsepower	2	.....	54	3	102	15	2	.....
Electric	2	.....	.....	3	12	15	2	.....
Other kind	.....	.....	54	.....	90	.....	.....	.....
Furnished to other establishments, horsepower	.....	.....	.....	.....	.....	.....	.....	.....

	Nebraska.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.
Number of establishments	141	42	486	4	3,055	16	26	1,129
Character of organization:								
Individual	124	35	455	2	2,644	11	24	972
Firm and limited partnership	15	7	28	2	372	2	2	144
Incorporated company	2	.....	3	.....	38	3	.....	13
Miscellaneous	.....	.....	.....	.....	1	.....	.....	.....
Capital:								
Total	$264,873	$147,199	$1,311,122	$11,800	$20,733,667	$169,980	$23,536	$4,579,159
Land	$17,625	$4,275	$177,665	.....	$1,035,796	$24,740	$1,850	$184,358
Buildings	$20,250	$11,000	$220,165	.....	$1,374,625	$30,375	$3,575	$309,980
Machinery, tools, and implements	$9,515	$5,280	$70,213	$450	$1,227,535	$5,405	$1,613	$320,178
Cash and sundries	$217,483	$126,644	$843,079	$11,350	$17,095,711	$109,460	$16,498	$3,764,643
Proprietors and firm members	158	48	503	6	3,423	13	28	1,273
Salaried officials, clerks, etc.:								
Total number	9	4	38	1	1,259	22	.....	372
Total salaries	$6,536	$2,150	$30,574	$400	$1,563,367	$16,830	.....	$363,170
Officers of corporations—								
Number	2	.....	2	.....	51	2	.....	21
Salaries	$2,080	.....	$3,160	.....	$111,482	$1,200	.....	$26,679
General superintendents, managers, clerks, etc.—								
Total number	7	4	36	1	1,208	20	.....	351
Total salaries	$4,456	$2,150	$27,414	$400	$1,451,885	$15,630	.....	$336,491
Men—								
Number	6	4	30	1	1,136	20	.....	319
Salaries	$4,256	$2,150	$25,658	$400	$1,415,152	$15,630	.....	$323,566
Women—								
Number	1	.....	6	.....	72	.....	.....	32
Salaries	$200	.....	$1,756	.....	$36,733	.....	.....	$12,925

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Nebraska.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.
Wage-earners, *including pieceworkers and total wages:*								
Greatest number employed at any one time during the year	489	330	2,105	13	30,801	237	50	10,907
Least number employed at any one time during the year	358	236	1,421	8	22,206	163	32	8,134
Average number	399	284	1,640	9	26,051	180	33	9,046
Wages	$171,109	$146,342	$705,158	$5,352	$11,157,020	$37,734	$16,932	$3,016,072
Men, 16 years and over—								
Number	279	235	825	8	15,342	60	29	3,738
Wages	$135,816	$132,381	$448,283	$5,112	$7,088,913	$21,252	$15,972	$1,642,778
Women, 16 years and over—								
Number	84	46	736	1	10,513	94	2	5,156
Wages	$29,640	$13,451	$241,043	$240	$3,441,573	$13,963	$730	$1,351,179
Children, under 16 years—								
Number	36	3	79	.....	196	26	2	152
Wages	$5,653	$510	$15,832	.....	$26,534	$2,519	$230	$22,115
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	294	234	816	12	15,125	40	38	3,679
February	284	235	829	10	15,421	60	33	3,569
March	283	212	844	10	15,563	57	29	3,731
April	287	235	871	10	15,446	69	30	3,775
May	286	256	860	9	15,829	73	30	3,855
June	278	257	812	8	15,270	53	26	3,679
July	271	248	778	8	14,634	41	25	3,668
August	276	248	778	7	14,837	52	27	3,665
September	274	209	810	6	14,817	64	28	3,800
October	277	222	836	7	15,745	71	30	3,855
November	268	235	837	7	15,676	73	28	3,834
December	269	233	837	7	15,745	72	28	3,752
Women, 16 years and over—								
January	78	48	646	1	10,442	76	2	4,715
February	90	48	715	1	10,412	76	2	4,824
March	88	38	682	1	10,168	76	2	5,102
April	88	39	703	1	9,935	102	2	5,196
May	88	49	731	1	10,340	106	2	5,149
June	90	48	708	.....	10,653	96	2	5,079
July	75	48	711	.....	10,384	94	2	5,073
August	86	49	752	.....	10,574	94	2	5,160
September	83	40	759	.....	10,709	94	2	5,342
October	86	39	790	1	11,078	104	2	5,432
November	86	47	816	1	10,627	104	1	5,451
December	76	53	820	1	10,829	104	1	5,360
Children, under 16 years—								
January	33	2	72	.....	184	22	2	146
February	37	4	72	.....	182	22	2	145
March	37	4	75	.....	188	24	2	149
April	39	4	76	.....	197	29	3	147
May	38	4	78	.....	194	36	3	159
June	38	4	81	.....	195	27	2	156
July	30	4	79	.....	197	22	1	178
August	37	3	78	.....	202	22	1	173
September	37	2	76	.....	201	24	1	142
October	37	3	86	.....	208	27	1	144
November	36	3	88	.....	210	28	1	143
December	32	3	89	.....	200	28	1	137
Miscellaneous expenses:								
Total	$99,690	$46,314	$419,729	$2,498	$10,655,023	$68,309	$9,259	$2,613,678
Rent of works	$15,123	$5,684	$55,005	$728	$694,794	$986	$2,073	$142,744
Taxes, not including internal revenue	$1,703	$640	$7,166	$56	$59,729	$936	$255	$22,537
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$82,839	$39,990	$357,558	$1,714	$9,885,709	$66,387	$6,931	$2,447,769
Contract work	$25	.....	.....	.....	$14,791	.....	.....	$628
Materials used:								
Total cost	$285,561	$275,569	$1,017,886	$6,786	$17,380,949	$82,053	$25,982	$3,717,825
Principal materials	$276,324	$273,441	$1,005,468	$6,523	$17,165,135	$80,393	$24,590	$3,652,704
Purchased in raw state	$242,071	$261,776	$868,304	$5,750	$14,585,479	$62,434	$21,644	$3,128,382
Purchased in partially manufactured form (including all other materials)	$34,253	$11,665	$137,164	$773	$2,579,656	$17,959	$2,946	$524,322
Fuel	$2,811	$1,200	$6,891	.....	$77,823	$770	$610	$17,109
Rent of power and heat	$10	$152	$552	.....	$11,363	.....	$48	$3,677
Mill supplies	.....	.....	$146	.....	$47,184	$105	.....	$1,002
Freight	$6,416	$776	$4,829	$263	$79,444	$785	$734	$43,333
Products:								
Total value	$702,037	$549,698	$2,647,595	$18,850	$49,028,479	$229,844	$69,419	$11,239,824
Comparison of products:								
Number of establishments reporting for both years	111	38	423	2	2,582	10	16	903
Value for census year	$634,644	$523,560	$2,498,140	$14,250	$44,828,522	$99,005	$46,548	$9,459,032
Value for preceding business year	$581,402	$469,092	$2,106,026	$8,000	$41,618,055	$70,623	$44,610	$8,393,013
Power:								
Number of establishments reporting	.....	.....	6	.....	59	2	.....	29
Total horsepower	.....	.....	85	.....	1,685	115	.....	494
Owned—								
Engines—								
Steam—								
Number	.....	.....	3	.....	28	3	.....	9
Horsepower	.....	.....	79	.....	1,520	115	.....	290
Gas or gasoline—								
Number	.....	.....	.....	.....	11	.....	.....	6
Horsepower	.....	.....	.....	.....	64	.....	.....	42
Water wheels—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Electric motors—								
Number	.....	.....	.....	.....	.....	.....	.....	4
Horsepower	.....	.....	.....	.....	.....	.....	.....	45
Other power—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Rented—								
Total horsepower	.....	.....	6	.....	101	.....	.....	117
Electric	.....	.....	1	.....	43	.....	.....	87
Other kind	.....	.....	5	.....	58	.....	.....	30
Furnished to other establishments, horsepower	.....	.....	.....	.....	.....	5	.....	22

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Oklahoma.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.
Number of establishments	17	38	2,664	34	6	27	35	79
Character of organization:								
Individual	15	30	2,371	31	6	22	29	56
Firm and limited partnership	2	8	271	2	.....	4	6	21
Incorporated company	.....	.....	22	1	.....	1	.....	2
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....
Capital:								
Total	$21,338	$58,655	$13,836,368	$121,321	$12,510	$84,460	$90,547	$227,175
Land	$2,925	$4,175	$818,457	$13,500	$1,500	$3,200	$3,250	$18,540
Buildings	$4,550	$4,875	$1,781,604	$19,700	$1,700	$5,200	$7,300	$16,575
Machinery, tools, and implements	$993	$4,659	$740,389	$11,745	$1,710	$4,135	$5,810	$11,660
Cash and sundries	$12,870	$44,946	$10,495,918	$76,376	$7,600	$71,925	$74,187	$180,400
Proprietors and firm members	19	46	2,928	35	6	30	40	94
Salaried officials, clerks, etc.:								
Total number	.....	1	886	14	1	9	5	22
Total salaries	.....	$1,200	$819,995	$11,700	$900	$5,355	$4,360	$17,590
Officers of corporations—								
Number	.....	.....	37	2	.....	3	.....	2
Salaries	.....	.....	$75,712	$8,000	.....	$2,500	.....	$1,800
General superintendents, managers, clerks, etc.—								
Total number	.....	1	849	12	1	6	5	20
Total salaries	.....	$1,200	$744,283	$8,700	$900	$2,855	$4,360	$15,790
Men—								
Number	.....	1	792	10	1	6	5	20
Salaries	.....	$1,200	$720,381	$7,950	$900	$2,855	$4,360	$15,790
Women—								
Number	.....	.....	57	2	.....	.....	.....	.....
Salaries	.....	.....	$23,902	$750	.....	.....	.....	.....
Wage-earners, including pieceworkers and total wages:								
Greatest number employed at any one time during the year	50	96	30,134	185	37	173	179	440
Least number employed at any one time during the year	33	68	22,793	133	23	107	157	297
Average number	35	71	25,045	159	29	129	161	303
Wages	$12,700	$32,961	$8,404,687	$65,515	$9,400	$59,894	$80,228	$133,353
Men, 16 years and over—								
Number	25	60	13,660	97	25	115	143	212
Wages	$10,708	$31,175	$5,605,101	$47,463	$8,400	$57,512	$76,691	$116,035
Women, 16 years and over—								
Number	5	7	10,085	62	3	9	7	59
Wages	$1,490	$955	$2,631,713	$18,052	$800	$1,482	$2,121	$12,894
Children, under 16 years—								
Number	5	4	1,300	.....	1	5	11	32
Wages	$502	$831	$167,873	.....	$200	$900	$1,416	$4,424
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	27	61	13,531	97	28	111	143	213
February	24	57	13,610	97	28	121	143	201
March	23	67	14,062	97	28	121	149	232
April	25	68	14,301	100	28	119	140	223
May	23	66	14,384	102	21	130	138	230
June	26	61	13,555	102	21	106	133	211
July	22	58	13,025	92	21	94	139	190
August	24	54	13,119	89	25	104	144	193
September	25	64	13,302	96	25	112	150	187
October	27	55	13,558	95	25	117	147	206
November	28	60	13,747	99	23	122	143	218
December	24	62	13,724	98	22	127	141	218
Women, 16 years and over—								
January	4	7	9,875	65	4	8	7	52
February	5	11	9,947	66	4	8	7	52
March	5	11	10,328	61	4	8	7	49
April	6	11	10,372	60	4	8	7	66
May	8	11	10,658	67	.....	13	7	70
June	4	11	10,234	63	.....	9	7	71
July	4	3	9,660	53	.....	9	7	63
August	4	4	9,784	44	.....	9	7	72
September	4	3	9,916	69	4	9	7	64
October	5	3	10,013	66	4	10	7	51
November	10	3	10,170	65	4	10	7	51
December	4	3	10,069	65	4	11	7	51
Children, under 16 years—								
January	4	3	1,230	.....	2	5	11	30
February	4	4	1,206	.....	2	5	11	30
March	5	5	1,273	.....	2	4	11	33
April	5	5	1,307	.....	2	4	11	33
May	5	4	1,371	.....	2	5	12	34
June	5	4	1,336	.....	2	5	12	32
July	5	4	1,298	.....	1	4	11	31
August	5	5	1,314	.....	1	4	11	31
September	5	4	1,320	.....	1	5	11	31
October	5	4	1,308	.....	1	5	11	32
November	5	4	1,333	.....	1	4	11	34
December	5	4	1,306	.....	1	4	11	34
Miscellaneous expenses:								
Total	$7,101	$19,312	$6,448,701	$37,466	$4,614	$26,976	$35,708	$70,066
Rent of works	$320	$6,006	$228,844	$3,658	$565	$4,133	$4,654	$7,117
Taxes, not including internal revenue	$184	$482	$34,963	$642	$242	$491	$552	$974
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$6,097	$12,874	$6,181,967	$33,166	$3,807	$22,352	$30,502	$62,575
Contract work	.....	.....	$2,927	.....	.....	.....	.....	.....
Materials used:								
Total cost	$22,382	$60,019	$11,570,388	$92,054	$9,647	$68,924	$118,738	$208,206
Principal materials	$21,848	$57,823	$11,424,240	$90,730	$9,297	$66,427	$115,951	$199,135
Purchased in raw state	$19,535	$49,835	$9,667,394	$81,097	$8,483	$58,752	$104,938	$176,718
Purchased in partially manufactured form (including all other materials)	$2,313	$7,988	$1,756,846	$9,633	$814	$7,675	$11,013	$22,417
Fuel	$124	$530	$58,548	$923	$75	$1,059	$244	$449
Rent of power and heat	.....	.....	$6,410	$14	.....	.....	.....	$10
Mill supplies	.....	.....	$3,376	$30	.....	.....	.....	.....
Freight	$410	$1,666	$77,814	$357	$275	$1,438	$2,543	$3,612
Products:								
Total value	$50,338	$146,401	$31,483,141	$292,872	$31,550	$197,155	$290,647	$525,959

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Oklahoma.	Oregon.	Pennsylvania.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.
Comparison of products:								
Number of establishments reporting for both years	11	33	2,139	29	6	16	28	52
Value for census year	$38,430	$133,354	$25,955,926	$141,136	$31,550	$132,610	$253,277	$416,571
Value for preceding business year	$32,300	$114,820	$23,392,422	$138,680	$28,800	$113,612	$222,980	$377,737
Power:								
Number of establishments reporting			66	1				
Total horsepower			1,178	50				
Owned—								
Engines—								
Steam—								
Number			46	1				
Horsepower			857	50				
Gas or gasoline—								
Number			14					
Horsepower			82					
Water wheel—								
Number			1					
Horsepower			1					
Electric motors—								
Number			13					
Horsepower			121					
Other power—								
Number								
Horsepower								
Rented—								
Total horsepower:								
Electric			117					
Other kind			117					
Furnished to other establishments, horsepower								

	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	All other states and territories.[1]
Number of establishments	15	21	89	57	72	622	5	3
Character of organization:								
Individual	10	19	69	47	63	542	4	3
Firm and limited partnership	3	2	11	8	7	71	1	
Incorporated company	2		8	2	2	8		
Miscellaneous			1			1		
Capital:								
Total	$46,123	$42,941	$780,261	$88,724	$351,017	$1,597,914	$14,675	$2,320
Land	$2,000	$805	$25,330	$3,010	$39,360	$133,473		$250
Buildings	$2,100	$1,325	$80,800	$7,475	$44,870	$207,144		$150
Machinery, tools, and implements	$890	$2,560	$230,052	$6,275	$16,987	$66,512	$735	$170
Cash and sundries	$41,133	$38,251	$444,079	$71,964	$249,800	$1,190,785	$13,940	$1,750
Proprietors and firm members	17	23	95	60	81	680	6	3
Salaried officials, clerks, etc.:								
Total number		2	126	4	23	68		
Total salaries		$1,728	$196,092	$2,820	$15,602	$75,569		
Officers of corporations—								
Number			9			5		
Salaries			$25,560			$8,400		
General superintendents, managers, clerks, etc.—								
Total number		2	117	4	23	63		
Total salaries		$1,728	$170,532	$2,820	$15,602	$67,169		
Men—								
Number		2	115	4	21	59		
Salaries		$1,728	$169,752	$2,820	$14,836	$65,473		
Women—								
Number			2		2	4		
Salaries			$780		$766	$1,696		
Wage-earners, including pieceworkers, and total wages:								
Greatest number employed at any one time during the year	33	65	3,103	172	1,115	2,243	20	5
Least number employed at any one time during the year	51	47	2,222	117	712	1,845	15	5
Average number	68	52	2,595	133	910	1,969	16	4
Wages	$38,499	$26,226	$586,115	$68,855	$332,223	$799,281	$8,370	$1,905
Men, 16 years and over—								
Number	54	47	676	117	644	1,561	16	4
Wages	$35,100	$25,136	$214,960	$64,757	$288,709	$719,512	$8,370	$1,905
Women, 16 years and over—								
Number	7	4	1,791	9	197	289		
Wages	$2,580	$974	$355,268	$2,646	$35,774	$65,159		
Children, under 16 years—								
Number	7	1	128	7	69	119		
Wages	$819	$116	$15,887	$1,452	$7,740	$14,610		
Average number of wage-earners, including pieceworkers, employed during each month:								
Men, 16 years and over—								
January	54	46	609	123	623	1,539	18	4
February	54	44	593	119	623	1,546	16	4
March	52	44	619	117	632	1,572	16	4
April	53	49	684	118	653	1,612	16	4
May	52	50	662	119	694	1,609	15	4
June	52	48	661	118	618	1,568	11	4
July	55	49	675	106	603	1,507	17	4
August	53	45	671	108	600	1,524	17	4
September	54	49	685	112	678	1,560	18	5
October	54	47	688	121	675	1,559	18	5
November	54	46	772	120	659	1,551	19	5
December	56	46	788	121	670	1,581	15	4
Women, 16 years and over—								
January	8	4	1,710	9	169	297		
February	8	4	1,706	10	173	294		
March	8	4	1,762	10	163	293		
April	8	4	1,719	12	173	297		
May	6	4	1,785	12	195	300		
June	6	4	1,776	6	194	288		
July	6	4	1,851	5	186	279		
August	6	4	1,736	5	199	281		

[1] Includes e stablishments distributed as follows: Indian Territory, 1; Nevada, 2.

TABLE 11.—CIGARS AND CIGARETTES: SUMMARY BY STATES AND TERRITORIES, 1900—Continued.

	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	All other states and territories.[1]
Average number of wage-earners, including piece-workers, employed during each month—Cont'd.								
Women, 16 years and over—Continued.								
September	6	4	1,818	8	219	283	.....	.....
October	7	4	1,868	9	228	285	.....	.....
November	9	4	1,868	11	234	287	.....	.....
December	9	4	1,894	10	232	287	.....	.....
Children, under 16 years—								
January	7	1	111	6	62	113	.....	.....
February	7	2	112	6	60	111	.....	.....
March	7	1	120	6	56	116	.....	.....
April	7	1	119	7	61	118	.....	.....
May	7	1	130	7	74	123	.....	.....
June	6	1	133	7	76	123	.....	.....
July	6	1	135	7	78	119	.....	.....
August	6	1	137	7	76	121	.....	.....
September	7	1	138	7	73	123	.....	.....
October	7	1	149	7	74	119	.....	.....
November	7	1	150	7	73	120	.....	.....
December	7	1	103	7	70	118	.....	.....
Miscellaneous expenses:								
Total	$13,479	$11,369	$2,480,961	$38,936	$334,628	$436,842	$4,463	$1,226
Rent of works	$2,758	$2,620	$12,507	$9,213	$11,550	$42,548	$760	$420
Taxes, not including internal revenue	$411	$315	$7,206	$508	$2,783	$8,943	$126	$37
Rent of office, insurance, interest, and all sundry expenses not hitherto included	$10,310	$8,434	$2,460,423	$29,215	$320,295	$385,154	$3,577	$769
Contract work	.....	.....	$825	.....	.....	$197	.....	.....
Materials used:								
Total cost	$49,928	$30,700	$1,192,583	$126,910	$250,490	$1,224,417	$12,123	$3,620
Principal materials	$47,892	$30,004	$1,182,705	$124,009	$244,188	$1,200,635	$11,876	$3,490
Purchased in raw state	$42,746	$27,314	$898,560	$111,169	$193,597	$1,068,164	$7,384	$3,100
Purchased in partially manufactured form (including all other materials)	$5,146	$2,690	$284,145	$12,840	$50,591	$137,471	$4,492	$390
Fuel	$224	$462	$3,580	$446	$506	$11,638	$50	$75
Rent of power and heat	.....	$20	$2,851	$80	$364	$219	.....	.....
Mill supplies	.....	.....	$748	.....	$10	$210	.....	.....
Freight	$1,812	$214	$2,749	$2,425	$5,422	$11,715	$197	$55
Products:								
Total value	$124,487	$86,223	$4,843,641	$293,839	$1,060,126	$3,255,676	$31,783	$9,600
Comparison of products:								
Number of establishments reporting for both years	10	16	60	48	52	505	1	2
Value for census year	$93,182	$69,368	$4,634,299	$250,315	$905,512	$2,914,858	$3,950	$6,900
Value for preceding business year	$75,584	$62,716	$4,415,626	$211,685	$841,060	$2,638,760	$3,300	$5,900
Power:								
Number of establishments reporting	.....	.....	7	.....	1	.....	.....	.....
Total horsepower	.....	.....	448	.....	25	.....	.....	.....
Owned—								
Engines—								
Steam—								
Number	.....	.....	8	.....	.....	.....	.....	.....
Horsepower	.....	.....	350	.....	.....	.....	.....	.....
Gas or gasoline—								
Number	.....	.....	.....	.....	1	.....	.....	.....
Horsepower	.....	.....	.....	.....	25	.....	.....	.....
Water wheels—								
Number	.....	.....	4	.....	.....	.....	.....	.....
Horsepower	.....	.....	20	.....	.....	.....	.....	.....
Electric motors:—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Other power—								
Number	.....	.....	.....	.....	.....	.....	.....	.....
Horsepower	.....	.....	.....	.....	.....	.....	.....	.....
Rented—								
Total horsepower	.....	.....	78	.....	.....	.....	.....	.....
Electric	.....	.....	3	.....	.....	.....	.....	.....
Other kind	.....	.....	75	.....	.....	.....	.....	.....
Furnished to other establisments, horse-power	.....	.....	.....	.....	.....	.....	.....	.....

[1] Includes establishments distributed as follows: Indian Territory, 1; Nevada, 2.

CHEWING AND SMOKING TOBACCO AND SNUFF.

Table 12 is a comparative summary for chewing and smoking tobacco and snuff, 1860 to 1900, inclusive.

TABLE 12.—CHEWING AND SMOKING TOBACCO AND SNUFF: COMPARATIVE SUMMARY, 1860 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	DATE OF CENSUS.					PER CENT OF INCREASE.			
	1900	1890	1880	1870	1860[1]	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870
Number of establishments	437	395	477	573	626	10.6	[2]17.2	[2]16.8	[2]8.5
Capital	$43,856,570	$30,841,316	$17,207,401	$13,555,814	$9,494,405	42.2	79.2	26.9	42.8
Salaried officials, clerks, etc., number	3,368	[3]1,477	(4)	(4)	(4)	128.0	.....	.....	.....
Salaries	$3,884,071	[3]$1,620,918	(4)	(4)	(4)	139.6	.....	.....	.....
Wage-earners, average number	29,161	29,790	32,756	21,799	18,859	[2]2.1	[2]9.1	50.3	15.6
Total wages	$7,109,821	$6,947,158	$6,419,024	$5,216,633	$3,571,294	2.3	8.2	28.0	46.1
Men, 16 years and over, number	14,124	14,942	14,886	10,588	15,869	[2]5.5	0.4	40.6	[2]33.3
Wages	$4,408,038	$4,582,822	(4)	(4)	(4)	[2]3.8	.....	.....	.....
Women, 16 years and over, number	11,590	10,564	10,776	5,179	2,990	9.7	[2]2.0	108.1	73.2
Wages	$2,388,920	$2,040,600	(4)	(4)	(4)	17.1	.....	.....	.....
Children, under 16 years, number	3,447	4,284	7,094	6,032	(4)	[2]19.5	[2]39.6	17.6	.....
Wages	$312,863	$323,736	(4)	(4)	(4)	[2]3.4	.....	.....	.....
Miscellaneous expenses	$47,533,705	$19,463,749	(5)	(5)	(5)	144.2	.....	.....	.....
Cost of materials used	$35,038,287	$29,192,249	$34,397,072	$21,609,237	$13,024,988	20.0	[2]15.1	59.2	65.9
Value of products	$103,754,362	$65,843,587	$52,793,056	$38,388,359	$21,820,535	57.6	24.7	37.5	75.9

[1] Classified as tobacco and snuff.
[2] Decrease.
[3] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 17.)
[4] Not reported separately.
[5] Not reported.

In the manufacture of chewing and smoking tobacco and snuff, capital increased $34,362,165, or 361.9 per cent, and value of products $81,933,827, or 375.5 per cent in the forty-year period ending with 1900. The rise and fall in number of establishments shown by Table 12 is due to differences in the thoroughness of the canvass of small factories at different censuses, and also to different methods of grouping and classifying establishments by character of products. This item is influenced, too, by the concentration of the industry into large corporations and by the special taxes levied by internal-revenue laws on manufacturers of the different classes of products. The increase of $28,069,956 in miscellaneous expenses between 1890 and 1900 is not disproportionate to the general growth of the industry, as would first appear, because the item includes internal-revenue tax, which was increased by the act which took effect June 13, 1898. From March 3, 1883, to October 1, 1890, the revenue tax on tobacco and snuff was 8 cents a pound, and from October 1, 1890, to June 13, 1898, it was 6 cents; during the time covered by this report it was 12 cents.

Table 13 is a comparative summary for chewing and smoking tobacco and snuff, by states and territories, 1890 and 1900.

TABLE 13.—CHEWING AND SMOKING TOBACCO AND SNUFF: COMPARATIVE SUMMARY, BY STATES AND TERRITORIES, 1890 AND 1900.

	Year.	United States.	California.	Georgia.	Illinois.	Indiana.	Kentucky.	Louisiana.	Maryland.	Michigan.	Minnesota.	Missouri.
Number of establishments	1900	437	.....	.....	30	11	59	3	5	8	3	22
	1890	395	3	6	15	.....	38	5	6	5	4	26
Capital	1900	$48,856,570	.....	.....	$908,481	$17,190	$3,485,793	$314,875	$1,805,611	$894,400	$5,895	$7,020,479
	1890	$30,841,316	$19,410	$13,507	$941,620	.....	$2,687,471	$115,238	$2,203,619	$1,586,460	$41,100	$4,533,925
Salaried officials, clerks, etc., number.	1900	3,368	.....	.....	87	4	493	34	120	156	1	742
	1890	[1]1,477	4	3	56	.....	148	16	43	62	13	267
Salaries	1900	$3,884,071	.....	.....	$127,728	$1,500	$524,758	$45,225	$259,624	$202,689	$600	$741,291
	1890	[1]$1,620,913	$4,660	$990	$74,258	.....	$148,576	$11,845	$38,906	$89,472	$5,304	$401,073
Wage-earners, average number.	1900	29,161	.....	.....	671	28	3,187	284	2,002	1,173	3	3,720
	1890	29,790	26	40	592	.....	2,479	155	1,178	1,290	10	3,117
Total wages	1900	$7,109,821	.....	.....	$217,034	$8,490	$850,018	$71,620	$564,272	$322,817	$1,434	$1,402,549
	1890	$6,947,158	$10,036	$2,210	$200,442	.....	$659,906	$46,606	$335,135	$318,053	$5,450	$1,117,610
Men, 16 years and over	1900	14,124	.....	.....	174	20	2,202	81	584	474	2	1,887
	1890	14,942	13	15	156	.....	1,772	109	248	508	10	1,460
Wages	1900	$4,408,038	.....	.....	$88,730	$7,150	$670,054	$34,357	$243,979	$189,647	$1,218	$841,414
	1890	$4,582,822	$5,526	$1,367	$92,280	.....	$546,282	$40,512	$110,166	$180,287	$5,450	$657,743
Women, 16 years and over	1900	11,590	.....	.....	425	6	567	186	1,292	698	1	1,747
	1890	10,564	13	15	400	.....	414	41	824	755	.....	1,507
Wages	1900	$2,388,920	.....	.....	$116,454	$1,140	$137,549	$35,228	$298,489	$132,962	$216	$539,671
	1890	$2,040,600	$4,510	$490	$105,972	.....	$89,849	$5,150	$213,617	$135,876	.....	$452,057
Children, under 16 years	1900	3,447	.....	.....	72	2	418	17	186	1	.....	86
	1890	4,284	.....	10	36	.....	293	5	106	27	.....	150
Wages	1900	$312,863	.....	.....	$11,850	$200	$42,415	$2,035	$21,804	$208	.....	$21,464
	1890	$323,786	.....	$353	$2,190	.....	$23,775	$944	$11,852	$2,790	.....	$7,810
Miscellaneous expenses	1900	$47,533,705	.....	.....	$1,549,724	$23,054	$7,182,022	$460,888	$3,233,312	$1,935,032	$1,447	$12,511,008
	1890	$19,468,749	$10,514	$3,302	$727,485	.....	$2,320,144	$32,871	$928,023	$1,309,858	$11,286	$4,456,979
Cost of materials used	1900	$35,088,287	.....	.....	$1,072,500	$16,078	$5,221,257	$421,508	$2,496,107	$1,174,039	$4,527	$8,255,857
	1890	$29,192,249	$61,352	$4,363	$727,314	.....	$2,847,081	$128,728	$1,534,205	$2,383,032	$22,948	$8,030,780
Value of products	1900	$103,754,362	.....	.....	$3,167,552	$58,280	$14,948,192	$1,083,524	$7,054,159	$3,746,045	$13,700	$25,101,446
	1890	$65,843,587	$90,905	$13,938	$2,027,153	.....	$6,788,586	$282,080	$3,216,247	$1,742,412	$54,085	$15,428,764

	Year.	New Jersey.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	West Virginia.	Wisconsin.	All other states and territories.
Number of establishments	1900	12	42	80	19	20	35	69	4	6	[2]9
	1890	4	30	90	20	11	24	93	.....	4	[3]11
Capital	1900	$6,692,041	$1,757,687	$6,874,908	$2,081,858	$1,765,539	$1,318,414	$5,728,357	$2,253,775	$717,732	$218,585
	1890	$311,113	$2,671,274	$3,370,267	$2,105,848	$1,347,228	$358,932	$6,840,276	.....	$693,774	$1,010,254
Salaried officials, clerks, etc., number.	1900	204	187	469	162	85	106	509	50	30	29
	1890	20	119	163	70	48	36	316	.....	19	74
Salaries	1900	$197,814	$188,629	$577,048	$242,606	$40,065	$108,241	$486,135	$49,118	$53,420	$37,580
	1890	$18,591	$146,536	$117,602	$97,380	$51,023	$19,658	$301,234	.....	$30,845	$62,900
Wage-earners, average number.	1900	1,955	1,020	6,403	1,087	257	615	6,061	318	300	77
	1890	131	1,531	6,002	1,870	282	531	9,769	.....	245	542
Total wages	1900	$527,195	$345,704	$869,170	$389,881	$102,395	$152,043	$1,082,226	$79,765	$103,958	$19,250
	1890	$46,690	$574,009	$843,105	$549,110	$104,217	$77,766	$1,841,151	.....	$95,124	$119,638
Men, 16 years and over	1900	797	446	2,962	657	107	348	3,119	66	170	28
	1890	84	717	2,606	1,034	110	245	5,551	.....	168	136
Wages	1900	$311,899	$218,673	$492,803	$268,323	$58,208	$106,334	$756,569	$27,901	$78,779	$12,000
	1890	$37,072	$336,949	$553,363	$393,599	$48,067	$55,245	$1,370,975	.....	$79,474	$68,465
Women, 16 years and over	1900	1,054	564	1,949	430	148	193	1,987	252	102	49
	1890	34	711	1,505	807	172	147	2,764	.....	65	390
Wages	1900	$194,660	$125,333	$272,373	$121,558	$43,918	$37,508	$251,650	$51,864	$21,098	$7,250
	1890	$7,668	$219,492	$167,096	$152,135	$56,150	$16,479	$350,228	.....	$14,090	$49,741
Children, under 16 years	1900	104	10	1,492	.....	2	74	955	.....	28	.....
	1890	13	103	1,891	29	.....	189	1,454	.....	12	16
Wages	1900	$20,636	$1,698	$103,995	.....	$269	$8,201	$74,007	.....	$4,081	.....
	1890	$1,950	$17,568	$122,646	$3,876	.....	$6,042	$119,948	.....	$1,560	$1,432
Miscellaneous expenses	1900	$2,718,031	$2,032,836	$6,192,103	$3,001,133	$451,243	$557,149	$4,069,746	$659,763	$845,656	$114,558
	1890	$134,322	$1,006,457	$1,411,623	$1,936,909	$372,956	$152,849	$3,337,634	.....	$523,567	$786,970
Cost of materials used	1900	$2,424,108	$1,734,072	$4,230,049	$1,917,219	$423,245	$516,369	$4,082,291	$477,253	$472,735	$99,073
	1890	$111,095	$1,610,642	$1,867,400	$2,925,371	$507,282	$212,268	$4,825,432	.....	$353,896	$1,039,060
Value of products	1900	$7,788,379	$4,632,101	$13,620,816	$5,752,853	$1,247,397	$1,541,475	$10,707,766	$1,362,978	$1,632,354	$295,395
	1890	$348,814	$4,431,373	$4,783,484	$5,991,177	$1,355,121	$577,690	$11,804,813	.....	$1,212,668	$2,694,277

[1] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 17.)
[2] Includes establishments distributed as follows: Alabama, 1; California, 1; Colorado, 2; Iowa, 2; Massachusetts, 1; Nebraska, 2.
[3] Includes establishments distributed as follows: Alabama, 1; Arizona, 1; Delaware, 1; Indiana, 1; Iowa, 1; Kansas, 1; Massachusetts, 2; Texas, 1; West Virginia, 2.

This branch of the industry was less widely distributed than the manufacture of cigars and cigarettes. Only 23 states were represented in 1900; the returns from 6 of these were not separately tabulated, because they included fewer than 3 establishments each. Missouri, Kentucky, North Carolina, Virginia, and New Jersey, in the order named, were the leading 5 states in value of products, their combined output being valued at $72,166,599, or 69.6 per cent of the total. Michigan, Minnesota, Ohio, Pennsylvania, and Virginia showed a decrease in value of products from 1890 to 1900, due to practically the same causes observed as producing a decrease in value of products for individual states in cigar and cigarette manufacture. Among the leading producers, New Jersey showed the greatest percentage of increase for the decade in both capital and value of products, this being due to the policy of a large corporation in concentrating the manufacture of certain forms of tobacco at Jersey City.

Of the capital invested in this branch of the industry in 1900, land constituted 4.4 per cent of the total reported; buildings, 14.5 per cent; machinery, tools, and implements, 13.9 per cent; and cash on hand and sundries, 67.2 per cent. Of miscellaneous expenses, rent of offices, insurance, interest, internal-revenue tax and stamps, repairs, advertising, and other sundries constituted 99.1 per cent.

Table 14 shows the cost of materials and the per cent each class is of the total for 1900.

TABLE 14.—CHEWING AND SMOKING TOBACCO AND SNUFF: COST OF MATERIALS, 1900.

	1900	
	Amount.	Per cent of total.
Total	$35,038,287	100.0
Purchased in raw state	23,628,161	67.4
Purchased in partially manufactured form [1]	10,838,820	30.9
Fuel	368,652	1.1
Rent of power and heat	8,466	(2)
Freight	194,188	0.6

[1] Includes "all other materials" and "mill supplies;" the latter is shown separately in Table 17.
[2] Less than one-tenth of 1 per cent.

Table 15 is a summary for chewing and smoking tobacco and snuff, by states and territories, of the kinds and quantity of materials and products for the calendar year 1900, as compiled from the reports of the Commissioner of Internal Revenue.

TABLE 15.—CHEWING AND SMOKING TOBACCO AND SNUFF: MATERIALS AND PRODUCTS, KINDS AND QUANTITY, BY STATES AND TERRITORIES, CALENDAR YEAR 1900.

[From report of Commissioner of Internal Revenue, 1901.]

MATERIALS.

STATES AND TERRITORIES.	Total.	Leaf tobacco.	Scraps.	Stems.	Licorice.	Sugar.	Other materials.	In process.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	360,911,538	231,151,242	22,667,692	6,864,724	36,799,147	27,431,007	18,959,471	17,038,255
Alabama	255,196	221,295	547	8,310	711			24,333
Arkansas	1,307		1,307					
California	249,521	171,747	27,127		4,132	4,542	12,101	29,872
Colorado	46,660		46,660					
Connecticut	28,649	1,517	26,972	160				
Florida	17,975	210	17,765					
Georgia	12,102	5,112	4,536				1,729	725
Illinois	12,741,167	7,476,765	2,335,261	422,946	567,995	1,119,685	574,242	244,273
Indiana	348,275	184,351	117,101		1,939	1,563	1,891	41,430
Iowa	550,695	277,993	154,353	70,279	4,678	23,602	726	19,064
Kansas	49,324	5,790	39,869				200	3,465
Kentucky	40,919,547	26,613,850	194,079	28,599	6,463,194	4,521,745	2,670,739	427,341
Louisiana	2,168,230	1,912,458	24,506		82,313	62,896	79,524	6,533
Maryland	20,623,476	11,467,154	1,770,124	1,462,216	194,618	422,773	433,200	4,873,391
Massachusetts	234,000	121,613	18,038	2,262			11,284	80,803
Michigan	8,013,981	4,323,914	1,288,505	29,526	673,515	970,177	481,122	247,222
Minnesota	115,259	9,794	99,777	3,145			793	1,750
Missouri	83,822,770	49,556,663	1,990,318	1,353,469	16,795,957	9,645,780	4,046,520	434,063
Montana	13,371		13,371					
Nebraska	58,964		58,964					
New Hampshire	2,458		2,458					
New Jersey	32,550,483	16,020,131	2,455,393	1,334,003	2,837,817	2,598,537	2,181,515	5,123,087
New Mexico	22,550	19,846	2,278					426
New York	18,542,114	12,720,607	2,466,123	581,212	1,220,967	727,959	618,660	261,586
North Carolina	53,646,967	46,982,357	359,378	16	2,164,362	1,273,935	869,294	1,997,625
Ohio	22,301,334	8,601,394	5,077,733	264,913	3,216,882	3,937,846	1,065,600	136,966
Oregon	10,812		10,512				300	
Pennsylvania	8,245,559	4,338,077	539,987	40,499	95,360	64,542	2,527,449	639,645
South Carolina	6,810	2,699	2,469		150	144	2	1,346
Tennessee	8,380,880	6,088,483	56,678	308,246	130,154	111,486	755,015	930,818
Texas	50,608	1,118	47,952		47		99	1,392
Virginia	35,482,909	28,520,949	357,180	73,511	1,931,906	1,552,837	1,636,338	1,410,188
West Virginia	4,753,857	572,134	2,931,009	2,009	282,353	197,767	763,969	4,616
Wisconsin	6,643,733	4,933,221	129,367	929,403	130,097	193,191	232,159	96,295

TABLE 15.—CHEWING AND SMOKING TOBACCO AND SNUFF: MATERIALS AND PRODUCTS, KINDS AND QUANTITY, BY STATES AND TERRITORIES, CALENDAR YEAR 1900—Continued.

PRODUCTS.

STATES AND TERRITORIES.	Total.	Plug.	Fine cut.	Smoking.	Snuff.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
United States	300,707,189	173,890,614	11,462,797	101,548,467	13,805,311
Alabama	199,529	1,171		502	197,856
Arkansas	1,307			1,307	
California	205,257	30,781		174,476	
Colorado	46,660			46,660	
Connecticut	28,343			28,343	
Florida	17,975			17,975	
Georgia	10,704			10,704	
Illinois	12,061,744	687,481	2,361,729	8,304,719	707,815
Indiana	263,410	134,579		127,326	1,505
Iowa	513,573		25,620	487,646	307
Kansas	44,869	2,818		42,051	
Kentucky	37,354,177	35,474,301	187,582	1,575,482	116,812
Louisiana	2,060,464			2,031,525	28,939
Maryland	12,348,971			10,399,748	1,949,223
Massachusetts	132,072			19,268	112,804
Michigan	7,194,916	1,402,825	1,406,061	4,346,144	39,886
Minnesota	123,626			96,100	27,526
Missouri	78,487,505	72,423,982	78,015	5,975,549	14,959
Montana	13,371			13,371	
Nebraska	58,964			58,964	
New Hampshire	2,453			2,453	
New Jersey	22,480,204	6,068,400	4,313,623	7,925,608	4,182,573
New Mexico	18,304			18,304	
New York	17,258,841	1,400,568	2,404,036	13,366,138	88,099
North Carolina	41,433,436	24,144,270		17,289,357	49,809
Ohio	19,818,539	9,716,945	85,606	10,015,453	535
Oregon	10,742			10,512	230
Pennsylvania	6,685,554	50	94,529	3,352,434	3,238,541
South Carolina	5,578	2,025		3,553	
Tennessee	4,502,679	1,597,313		512,439	2,392,927
Texas	47,658			47,658	
Virginia	26,907,856	20,810,152	7,875	5,449,754	640,075
West Virginia	4,145,032	50		4,135,454	9,528
Wisconsin	6,222,876	2,903	503,121	5,711,490	5,362

According to this table the greatest 5 producers were Missouri, North Carolina, Kentucky, Virginia, and New Jersey, in the order named. These states together produced 206,663,178 pounds, or 68.7 per cent of the total output of the United States. They do not quite correspond in relative position with the 5 states which are first in value of products, because of the difference in form and value of their manufactures.

St. Louis, Mo.; Louisville, Ky.; Winston, N. C.; Richmond, Va.; Middletown, Ohio; Jersey City, N. J.; Martinsville, Va.; Petersburg, Va.; Danville, Va.; and Detroit, Mich., were the leading 10 cities in the manufacture of plug chewing tobacco in 1900, arranged according to the magnitude of their production.

In the manufacture of fine-cut chewing tobacco, Jersey City, N. J.; Chicago, Ill.; Detroit, Mich.; New York, N. Y.; Rochester, N. Y.; Milwaukee, Wis.; Covington, Ky.; Caldwell, N. J.; Utica, N. Y.; and Albany, N. Y., were the leading 10 cities.

Durham, N. C.; Baltimore, Md.; New York, N. Y.; Cincinnati, Ohio; Chicago, Ill.; Jersey City, N. J.; St. Louis, Mo.; Milwaukee, Wis.; Richmond, Va.; and Detroit, Mich., were the greatest 10 producers of smoking tobacco.

The leading 10 cities in the manufacture of snuff were Philadelphia, Pa.; Helmetta, N. J.; Baltimore, Md.; Nashville, Tenn.; Jersey City, N. J.; Clarksville, Tenn.; Chicago, Ill.; Lynchburg, Va.; Pittsburg, Pa.; and Spotswood, N. J.

Table 16 shows the aggregate quantity of chewing and smoking tobacco and snuff withdrawn from the warehouses of manufacturers and importers for domestic consumption for each fiscal year from 1863 to 1900, inclusive, as shown by the report of the Commissioner of Internal Revenue, 1900.

TABLE 16.—AGGREGATE QUANTITY OF CHEWING AND SMOKING TOBACCO AND SNUFF WITHDRAWN FOR CONSUMPTION AND TAX-PAID, FOR EACH FISCAL YEAR FROM 1863 TO 1900, INCLUSIVE.

[Compiled from report of Commissioner of Internal Revenue, 1900.]

FISCAL YEAR ENDING JUNE 30—	Aggregate quantity for each fiscal year.	FISCAL YEAR ENDING JUNE 30—	Aggregate quantity for each fiscal year.
	Pounds.		*Pounds.*
1863[1]	23,852,387	1882	161,324,601
1864	64,577,097	1883	170,361,558
1865	37,641,822	1884	174,196,064
1866	37,493,785	1885	180,777,413
1867	47,631,494	1886	191,592,240
1868	46,764,150	1887	206,499,521
1869	64,305,026	1888	209,362,602
1870	90,288,082	1889	221,524,869
1871	95,135,504	1890	238,290,158
1872	95,209,319	1891	253,896,042
1873	114,789,208	1892	265,126,372
1874	107,747,691	1893	264,312,643
1875	119,435,874	1894	247,078,897
1876	110,380,602	1895	259,101,112
1877	116,146,103	1896	266,215,736
1878	108,824,843	1897	274,903,452
1879	120,398,458	1898	303,385,747
1880	136,275,834	1899	251,759,816
1881	147,013,405	1900	293,894,453

[1] From September 1, 1862.

It will be seen that the quantity produced, as shown by Table 15, does not correspond with the last item of Table 16. The same reasons assigned for a similar discrepancy shown in cigars and cigarettes apply to chewing and smoking tobacco and snuff.

Table 17 is a detailed summary for this branch of the industry, by states and territories, for the census year 1900

TABLE 17.—CHEWING AND SMOKING TOBACCO AND SNUFF: BY STATES AND TERRITORIES, 1900.

	United States.	Illinois.	Indiana.	Kentucky.	Louisiana.	Maryland.	Michigan.	Minnesota.	Missouri.	New Jersey.
Number of establishments	437	30	11	59	3	5	8	3	22	12
Character of organization:										
Individual	197	19	6	17	1	1	3	3	11	1
Firm and limited partnership	124	4	3	19	.....	2	.....	.....	3	3
Incorporated company	116	7	2	23	2	2	5	.....	8	8
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Capital:										
Total	$43,856,570	$908,481	$17,190	$3,485,793	$314,875	$1,805,611	$894,400	$5,895	$7,020,479	$6,692,041
Land	$1,917,427	$26,250	$1,365	$86,938	$11,000	$107,034	$49,611	.....	$307,050	$485,947
Buildings	$6,359,788	$56,500	$4,150	$580,984	$30,500	$356,333	$192,295	.....	$1,568,905	$1,433,059
Machinery, tools, and implements	$6,119,777	$123,804	$2,145	$726,253	$57,847	$536,371	$152,406	$195	$956,199	$1,028,406
Cash and sundries	$29,459,628	$701,927	$9,530	$2,091,618	$215,528	$805,873	$500,088	$5,700	$4,188,325	$3,744,629
Proprietors and firm members	456	28	13	58	1	8	3	3	17	6
Salaried officials, clerks, etc.:										
Total number	3,368	87	4	493	34	120	156	1	742	204
Total salaries	$3,884,071	$127,728	$1,500	$524,758	$45,225	$259,624	$202,689	$600	$741,291	$197,814
Officers of corporations—										
Number	214	6	4	41	3	3	14	.....	22	10
Salaries	$552,012	$17,080	$1,500	$99,536	$14,250	$15,500	$49,756	.....	$74,951	$27,900
General superintendents, managers, clerks, etc.—										
Total number	3,154	81	.....	452	31	117	142	1	720	194
Total salaries	$3,332,059	$110,648	.....	$425,222	$30,975	$244,124	$152,933	$600	$666,340	$169,914
Men—										
Number	3,026	79	.....	427	28	113	138	1	681	187
Salaries	$3,283,658	$108,932	.....	$413,748	$30,264	$242,380	$151,433	$600	$654,337	$167,014
Women—										
Number	128	2	.....	25	3	4	4	.....	39	7
Salaries	$48,401	$1,716	.....	$11,474	$711	$1,744	$1,500	.....	$11,503	$2,900
Wage-earners, including pieceworkers, and total wages:										
Greatest number employed at any one time during the year	39,646	759	45	4,382	332	2,635	1,456	4	5,525	2,611
Least number employed at any one time during the year	24,939	651	26	2,333	207	1,503	1,073	4	2,470	1,871
Average number	29,161	671	28	3,187	284	2,002	1,173	3	3,720	1,955
Wages	$7,109,821	$217,034	$8,490	$850,018	$71,620	$564,272	$322,817	$1,434	$1,402,549	$527,195
Men, 16 years and over—										
Average number	14,124	174	20	2,202	81	584	474	2	1,887	797
Wages	$4,408,038	$88,730	$7,150	$670,054	$34,357	$243,979	$189,647	$1,218	$841,414	$311,899
Women, 16 years and over—										
Average number	11,590	425	6	567	186	1,282	698	1	1,747	1,051
Wages	$2,888,920	$116,454	$1,140	$137,549	$35,228	$298,489	$132,962	$216	$539,671	$194,660
Children, under 16 years—										
Average number	3,447	72	2	418	17	186	1	.....	86	104
Wages	$312,863	$11,850	$200	$42,415	$2,035	$21,804	$208	.....	$21,464	$20,636
Average number of wage-earners, including pieceworkers, employed during each month:										
Men, 16 years and over—										
January	12,064	177	26	2,030	88	606	487	2	1,740	699
February	13,628	183	28	2,735	88	600	563	2	1,781	765
March	14,748	180	23	2,545	83	607	588	2	2,237	918
April	15,241	179	20	2,054	83	609	552	2	2,168	1,024
May	16,047	170	19	2,439	83	590	536	2	2,097	946
June	15,014	162	18	2,389	81	583	155	3	1,872	818
July	13,906	157	17	2,019	78	539	498	2	1,083	754
August	14,849	159	18	2,033	80	573	496	2	2,037	757
September	14,448	162	17	1,945	75	569	481	2	1,968	749
October	14,172	187	21	2,128	68	588	470	2	1,955	736
November	13,272	187	21	2,134	83	600	470	2	1,857	707
December	12,099	181	18	1,971	80	598	393	2	1,848	691
Women, 16 years and over—										
January	10,056	415	5	491	183	1,122	707	1	1,524	862
February	10,985	428	5	627	181	1,060	760	1	1,856	1,056
March	12,029	433	9	610	193	1,363	776	1	1,912	1,266
April	12,331	431	9	591	200	1,321	787	1	1,924	1,114
May	12,647	412	5	633	213	1,388	777	1	1,802	1,082
June	11,781	406	5	592	214	1,108	288	1	1,857	1,123
July	11,868	396	5	543	173	1,323	749	1	1,358	1,152
August	12,084	402	5	555	201	1,184	757	1	1,658	1,198
September	11,865	410	5	537	156	1,185	745	1	1,656	1,046
October	11,827	457	5	542	147	1,418	722	1	1,802	921
November	11,065	462	5	534	189	1,245	680	1	1,758	962
December	10,542	448	5	550	187	1,067	624	1	1,862	860
Children, under 16 years—										
January	2,583	76	3	361	20	163	1	.....	56	95
February	2,834	76	3	453	20	181	1	.....	57	109
March	3,152	72	2	446	20	194	1	.....	88	112
April	3,518	73	2	436	15	205	1	.....	64	104
May	3,924	72	2	467	18	198	1	.....	78	91
June	4,145	72	2	478	18	206	1	.....	60	106
July	4,053	66	1	418	15	174	1	.....	52	112
August	4,079	66	1	430	15	167	1	.....	63	111
September	3,852	66	1	360	10	165	1	.....	81	111
October	3,520	77	1	403	10	194	1	.....	114	104
November	3,504	76	2	383	23	213	1	.....	140	103
December	2,600	76	2	377	20	172	1	.....	176	95
Miscellaneous expenses:										
Total	$47,583,705	$1,549,724	$23,054	$7,182,022	$460,888	$3,233,312	$1,935,032	$1,447	$12,511,008	$2,713,031
Rent of works	$161,358	$19,571	$534	$15,956	$1,616	$2,836	$10,080	$313	$7,544	$2,100
Taxes, not including internal revenue	$275,819	$5,554	$194	$22,556	$4,276	$13,629	$18,808	$17	$45,091	$17,839
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$47,088,948	$1,524,569	$22,326	$7,143,510	$454,996	$3,216,847	$1,906,144	$1,117	$12,458,373	$2,692,842
Contract work	$7,580	$30	.....	.....	.....	.....	.....	.....	.....	$250
Materials used:										
Total cost	$35,088,287	$1,072,500	$16,078	$5,221,257	$421,508	$2,496,107	$1,174,039	$4,527	$8,255,857	$2,424,103
Principal materials	$34,324,752	$1,058,686	$15,589	$5,152,956	$417,545	$2,479,293	$1,107,538	$4,302	$8,161,118	$2,349,445
Purchased in raw state	$23,628,161	$602,733	$13,757	$3,631,022	$289,966	$1,528,932	$558,741	$1,770	$5,384,161	$1,595,944
Purchased in partially manufactured form (including "all other materials")	$10,696,591	$455,953	$1,832	$1,521,934	$127,579	$950,361	$548,797	$2,532	$2,776,957	$753,501
Fuel	$368,652	$10,413	$168	$41,142	$1,686	$10,475	$41,375	$60	$55,363	$38,649
Rent of power and heat	$8,466	$364	$25	$110	.....	$649	.....	$60	$1,567	$420
Mill supplies	$142,229	$1,164	$25	$22,334	$2,277	$5,690	$12,461	$20	$18,664	$29,293
Freight	$194,188	$1,873	$271	$4,715	.....	.....	$12,665	$85	$19,145	$6,301

TABLE 17.—CHEWING AND SMOKING TOBACCO AND SNUFF: BY STATES AND TERRITORIES, 1900—Continued.

	United States.	Illinois.	Indiana.	Kentucky.	Louisiana.	Maryland.	Michigan.	Minnesota.	Missouri.	New Jersey.
Products:										
Total value	$103,754,862	$3,167,552	$58,230	$14,948,192	$1,083,524	$7,054,159	$3,746,045	$13,700	$25,101,446	$7,788,379
Comparison of products:										
Number of establishments reporting for both years	308	23	7	31	.....	3	6	3	16	9
Value for census year	$54,760,450	$2,405,924	$37,877	$3,666,452	.....	$5,716,496	$1,257,985	$13,700	$3,245,287	$7,171,416
Value for preceding business year	$44,453,109	$1,965,790	$33,650	$2,484,074	.....	$4,764,226	$913,188	$11,100	$2,198,622	$6,736,762
Power:										
Number of establishments reporting	259	14	2	35	2	5	6	1	13	12
Total horsepower	20,083	497	25	1,919	110	1,398	1,001	5	3,925	2,128
Owned—										
Engines—										
Steam—										
Number	319	14	2	47	2	8	10	.....	31	22
Horsepower	16,777	477	25	1,812	110	1,204	751	.....	2,547	1,849
Gas or gasoline—										
Number	8	2	.....	.....	.....	1	.....	.....	.....	.....
Horsepower	95	9	.....	.....	.....	13	.....	.....	.....	.....
Water wheels—										
Number	14	.....	.....	.....	.....	.....	.....	.....	.....	9
Horsepower	437	.....	.....	.....	.....	.....	.....	.....	.....	272
Electric motors—										
Number	226	.....	.....	3	.....	43	10	.....	120	.....
Horsepower	2,350	.....	.....	100	.....	180	250	.....	1,257	.....
Other power—										
Number	7	.....	.....	.....	.....	.....	.....	.....	1	.....
Horsepower	215	.....	.....	.....	.....	.....	.....	.....	100	.....
Rented—										
Total horsepower	209	11	.....	7	.....	1	.....	5	21	7
Electric	88	.....	.....	.....	.....	1	.....	.....	21	7
Other kind	121	11	.....	7	.....	.....	.....	5	.....	.....
Furnished to other establishments, horsepower	635	20	.....	60	.....	.....	.....	.....	425	.....

	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	West Virginia.	Wisconsin.	All other states.[1]
Number of establishments	42	80	19	20	35	69	4	6	9
Character of organization:									
Individuals	24	39	10	15	17	24	1	3	2
Firms and limited partnership	9	31	4	3	7	29	1	2	4
Incorporated company	9	10	5	2	11	16	2	1	3
Miscellaneous	.....	.....	.....	.....	.....	.....	.....	.....	.....
Capital:									
Total	$1,757,687	$6,874,908	$2,081,858	$1,765,539	$1,318,414	$5,728,357	$2,253,775	$717,732	$213,535
Land	$116,550	$238,291	$34,421	$181,097	$79,148	$137,225	$52,500	.....	$8,000
Buildings	$160,883	$640,067	$181,660	$345,063	$198,829	$502,960	$102,550	.....	$5,000
Machinery, tools, and implements	$250,019	$648,158	$350,316	$223,357	$167,702	$762,027	$49,937	$71,060	$13,575
Cash and sundries	$1,230,235	$5,348,392	$1,515,461	$1,016,022	$872,735	$4,326,145	$2,048,788	$646,672	$191,960
Proprietors and firm members	38	100	18	26	32	85	3	7	10
Salaried officials, clerks, etc.:									
Total number	137	469	162	35	106	509	50	30	29
Total salaries	$188,629	$577,048	$242,606	$40,065	$108,241	$486,135	$49,118	$58,420	$37,580
Officers of corporations—									
Number	15	25	11	3	15	29	5	3	5
Salaries	$37,033	$51,140	$42,300	$5,030	$16,805	$67,221	$18,220	$9,000	$4,700
General superintendents, managers, clerks, etc.—									
Total number	122	444	151	32	91	480	45	27	24
Total salaries	$151,596	$525,908	$200,306	$35,035	$91,346	$418,914	$30,898	$44,420	$32,880
Men—									
Number	116	436	144	31	90	471	35	26	23
Salaries	$147,820	$523,324	$197,547	$34,635	$90,996	$415,499	$28,329	$43,820	$32,480
Women—									
Number	6	8	7	1	1	9	10	1	1
Salaries	$3,776	$2,584	$2,759	$400	$350	$3,415	$2,569	$600	$400
Wage-earners, including pieceworkers, and total wages:									
Greatest number employed at any one time during the year	1,352	8,593	1,485	418	934	8,358	368	308	81
Least number employed at any one time during the year	1,033	6,171	849	322	660	5,112	292	285	77
Average number	1,020	6,403	1,087	257	615	6,061	318	300	77
Wages	$345,704	$869,170	$389,881	$102,395	$152,043	$1,082,226	$79,765	$103,958	$19,250
Men, 16 years and over—									
Average number	446	2,962	657	107	348	3,119	66	170	28
Wages	$218,673	$492,803	$268,323	$58,208	$106,334	$756,509	$27,901	$78,779	$12,000
Women, 16 years and over—									
Average number	564	1,949	430	148	193	1,987	252	102	49
Wages	$125,333	$272,372	$121,558	$43,918	$37,508	$251,650	$51,864	$21,098	$7,250
Children, under 16 years—									
Average number	10	1,492	.....	2	74	955	.....	28	.....
Wages	$1,698	$103,995	.....	$269	$8,201	$74,007	.....	$4,081	.....
Average number of wage-earners, including pieceworkers, employed during each month:									
Men, 16 years and over—									
January	461	2,102	574	82	218	2,511	69	167	25
February	475	2,328	730	81	220	2,793	68	168	25
March	475	2,577	716	175	276	3,088	65	168	25
April	488	3,081	705	180	351	3,487	65	168	25
May	483	3,581	702	166	456	3,563	65	169	30
June	334	3,588	634	90	414	3,661	64	170	28
July	345	3,558	715	89	424	3,365	65	170	28
August	344	3,542	629	86	426	3,400	68	171	28
September	483	3,400	629	85	430	3,188	65	171	29
October	479	3,096	638	85	354	3,095	71	170	29
November	480	2,671	605	80	298	2,809	67	171	30
December	504	2,074	611	88	308	2,465	63	171	30

[1] Includes establishments distributed as follows: Alabama, 1; California, 1; Colorado, 2; Iowa, 2; Massachusetts, 1; Nebraska, 2.

TABLE 17.—CHEWING AND SMOKING TOBACCO AND SNUFF: BY STATES AND TERRITORIES, 1900—Continued.

	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	West Virginia.	Wisconsin.	All other states.[1]
Average number of wage-earners, including pieceworkers, employed during each month—Continued.									
Women, 16 years and over—									
January	685	1,389	374	134	119	1,673	232	91	49
February	589	1,526	466	132	106	1,823	228	92	49
March	598	1,620	443	197	153	2,059	248	99	49
April	616	1,954	420	200	207	2,167	239	101	49
May	605	2,307	417	172	271	2,175	236	102	49
June	374	2,401	432	137	212	2,239	238	105	49
July	368	2,433	500	135	213	2,116	246	108	49
August	359	2,464	440	135	227	2,085	257	107	49
September	614	2,274	439	135	227	2,009	269	108	49
October	607	2,029	425	134	194	1,975	294	105	49
November	630	1,628	401	128	197	1,817	274	105	49
December	722	1,366	403	134	196	1,703	265	100	49
Children, under 16 years—									
January	11	1,061	.....	2	34	673	.....	27	.....
February	11	1,142	.....	2	34	718	.....	27	.....
March	11	1,247	.....	2	35	893	.....	29	.....
April	11	1,469	.....	2	76	1,031	.....	29	.....
May	11	1,767	.....	2	99	1,089	.....	29	.....
June	11	1,905	.....	2	103	1,153	.....	28	.....
July	9	1,920	.....	2	105	1,150	.....	28	.....
August	9	1,927	.....	2	100	1,159	.....	28	.....
September	9	1,823	.....	2	93	1,101	.....	29	.....
October	11	1,519	.....	2	69	986	.....	29	.....
November	11	1,232	.....	2	61	829	.....	28	.....
December	11	888	.....	2	75	678	.....	27	.....
Miscellaneous expenses:									
Total	$2,082,836	$6,192,103	$3,001,133	$451,243	$557,149	$4,069,746	$659,763	$845,656	$114,553
Rent of works	$28,493	$8,352	$10,039	$2,051	$1,665	$29,612	$310	$13,390	$6,896
Taxes, not including internal revenue	$11,655	$36,563	$13,926	$5,772	$3,472	$65,846	$3,214	$6,736	$671
Rent of offices, insurance, interest, and all sundry expenses not hitherto included	$1,992,688	$6,139,888	$2,977,168	$443,420	$552,012	$3,974,288	$656,239	$825,530	$106,991
Contract work	.....	$7,300	.....	.....	.....	.....	.....	.....	.....
Materials used:									
Total cost	$1,734,072	$4,230,049	$1,917,219	$423,245	$516,369	$4,082,291	$477,253	$472,735	$99,073
Principal materials	$1,701,837	$4,152,463	$1,845,026	$403,088	$489,590	$3,974,326	$472,259	$448,301	$91,390
Purchased in raw state	$1,320,075	$3,027,947	$1,256,477	$329,592	$384,508	$2,908,674	$359,177	$375,965	$58,720
Purchased in partially manufactured form (including "all other materials")	$381,762	$1,124,516	$588,549	$73,496	$105,082	$1,065,652	$113,082	$72,336	$32,670
Fuel	$15,822	$52,259	$19,077	$4,030	$8,585	$56,989	$3,820	$6,886	$1,853
Rent of power and heat	*$1,285*	.....	*$2,276*	*$60*	.....	*$1,530*	*$120*	.....	.....
Mill supplies	$6,083	$11,627	$8,227	$3,950	$3,998	$14,254	$1,054	$823	$285
Freight	$9,045	$13,700	$42,613	$12,117	$14,196	$35,192	.....	$16,725	$5,545
Products:									
Total value	$4,632,101	$13,620,816	$5,752,853	$1,247,397	$1,541,475	$10,707,766	$1,362,978	$1,632,354	$295,395
Comparison of products:									
Number of establishments reporting for both years	30	60	15	17	20	53	3	6	6
Value for census year	$2,286,053	$12,437,341	$3,481,971	$967,529	$1,192,927	$7,623,825	$1,360,638	$1,632,354	$262,675
Value for preceding business year	$1,968,701	$9,359,467	$2,720,835	$820,646	$1,011,759	$6,757,975	$1,129,862	$1,356,010	$220,442
Power:									
Number of establishments reporting	21	44	15	6	16	57	3	3	4
Total horsepower	802	2,207	858	763	1,228	2,270	262	510	175
Owned—									
Engines—									
Steam—									
Number	13	48	14	7	21	68	5	3	4
Horsepower	738	1,881	648	511	1,228	2,164	252	475	105
Gas or gasoline—									
Number	2	.....	.....	3	.....	.....	.....	.....	.....
Horsepower	7	.....	.....	66	.....	.....	.....	.....	.....
Water wheels—									
Number	1	.....	.....	2	.....	.....	.....	.....	2
Horsepower	20	.....	.....	75	.....	.....	.....	.....	70
Electric motors—									
Number	.....	27	2	19	.....	1	.....	1	.....
Horsepower	.....	251	180	96	.....	1	.....	35	.....
Other power—									
Number	.....	4	.....	.....	.....	2	.....	.....	.....
Horsepower	.....	75	.....	.....	.....	40	.....	.....	.....
Rented—									
Total horsepower	37	.....	30	15	.....	65	10	.....	.....
Electric	9	.....	30	15	.....	5	.....	.....	.....
Other kind	28	.....	.....	.....	.....	60	10	.....	.....
Furnished to other establishments, horsepower	.....	.....	25	.....	.....	75	.....	30	.....

[1] Includes establishments distributed as follows: Alabama, 1; California, 1; Colorado, 2; Iowa, 2; Massachusetts, 1; Nebraska, 2.

STEMMING AND REHANDLING.

Table 18 is a comparative summary, by states, of the statistics of tobacco, stemmed and rehandled, 1890 and 1900.

TABLE 18.—TOBACCO, STEMMING AND REHANDLING: COMPARATIVE SUMMARY, BY STATES, 1890 AND 1900.

	Year.	United States.	Connecticut.	Kentucky.	Missouri.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	All other states.
Number of establishments	1900	276	3	98	.....	9	5	48	28	22	54	[1] 9
	1890	292	.....	79	3	.....	13	38	47	5	101	[2] 6
Capital	1900	$12,526,808	$43,050	$4,860,629	.....	$913,167	$101,400	$2,878,088	$616,494	$443,550	$2,454,595	$215,235
	1890	$5,735,610	.....	$1,675,083	$14,700	.....	$282,460	$737,440	$943,846	$8,225	$1,886,806	$187,050
Salaried officials, clerks, etc., number.	1900	424	2	155	.....	14	12	64	5	29	135	8
	1890	[3] 519	.....	110	1	.....	17	54	127	5	191	14
Salaries	1900	$354,677	$872	$113,189	.....	$19,670	$6,500	$86,414	$8,222	$21,920	$91,590	$6,300
	1890	[3] $327,429	.....	$79,944	$244	.....	$11,943	$41,886	$48,789	$417	$130,206	$14,000
Wage-earners, average number	1900	9,654	26	2,302	.....	378	449	2,056	181	461	3,159	642
	1890	5,985	.....	2,262	91	.....	158	707	883	30	1,630	224
Total wages	1900	$1,817,067	$8,705	$439,665	.....	$111,586	$51,373	$552,593	$38,666	$79,243	$454,019	$81,217
	1890	$1,128,517	.....	$363,396	$14,513	.....	$16,127	$241,502	$150,638	$3,432	$303,479	$35,430
Men, 16 years and over	1900	4,698	26	1,656	.....	164	130	776	94	302	1,408	142
	1890	3,804	.....	1,602	68	.....	78	349	814	23	816	54
Wages	1900	$1,109,462	$8,705	$346,769	.....	$68,184	$24,292	$283,077	$24,141	$60,925	$264,031	$29,338
	1890	$815,933	.....	$286,322	$11,922	.....	$10,498	$134,002	$147,874	$3,172	$204,213	$17,930
Women, 16 years and over	1900	4,022	.....	382	.....	204	219	1,237	60	85	1,381	454
	1890	1,641	.....	358	12	.....	62	260	57	6	736	150
Wages	1900	$623,379	.....	$63,979	.....	$42,030	$22,316	$264,405	$12,085	$11,687	$157,977	$48,900
	1890	$253,619	.....	$52,315	$1,910	.....	$4,349	$82,100	$2,520	$230	$94,795	$15,400
Children, under 16 years	1900	934	.....	264	.....	10	100	43	27	74	370	46
	1890	540	.....	302	11	.....	18	98	12	1	78	20
Wages	1900	$84,226	.....	$28,917	.....	$1,372	$4,765	$5,111	$2,440	[1] $6,631	$32,011	$2,979
	1890	$58,965	.....	$24,759	$681	.....	$1,280	$25,400	$244	$30	$4,471	$2,100
Miscellaneous expenses	1900	$525,016	$648	$147,782	.....	$14,220	$11,550	$141,173	$11,742	$28,916	$160,171	$8,814
	1890	$424,869	.....	$110,641	$390	.....	$8,891	$36,032	$78,652	$1,238	$182,599	$6,426
Cost of materials used	1900	$14,198,349	$65,944	$4,025,464	.....	$671,147	$635,910	$2,587,583	$502,733	$904,289	$4,458,205	$352,074
	1890	$12,813,108	.....	$2,589,005	.....	.....	$444,500	$2,615,478	$1,555,536	$31,337	$5,420,492	$156,760
Value of products	1900	$19,099,032	$82,404	$5,467,360	.....	$880,405	$759,000	$3,889,952	$625,394	$1,178,480	$5,726,859	$539,178
	1890	$16,209,761	.....	$3,474,750	$18,432	.....	$516,750	$3,371,794	$2,054,360	$39,032	$6,487,643	$247,000

[1] Includes establishments distributed as follows: Florida, 1; Georgia, 1; Illinois, 1; Indiana, 1; Maryland, 2; South Carolina, 1; Wisconsin, 2.
[2] Includes establishments distributed as follows: Connecticut, 2; Indiana, 1; New York, 2; Wisconsin, 1.
[3] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 20.)

The statistics for this branch of the tobacco industry were first shown at the census of 1890, and there are, therefore, no statistics earlier than those shown in Table 18 available for comparison. Tobacco stemming and rehandling is an industry requiring small expenditure of manufacturing forces, and its character is well described by the terms of its classification. It consists principally in sizing the leaves and sorting them as to shade, general character, and quality; stemming and drying them for export; and treating them by fermentation and other processes according to the requirements of each manufacturer's trade.

In 1900 there were 8 states having more than three establishments each. The industry was largely limited to the states of Virginia, Kentucky, Ohio, Tennessee, and New York, in that order. These 5 states combined represented $17,093,056, or 89.5 per cent of the total value of products. The industry was, therefore, well localized within the tobacco-growing districts.

Of the capital invested in stemming and rehandling of tobacco, 2.7 per cent was in land; 7.9 per cent in buildings; 3.5 per cent in machinery, tools, and implements; and 85.9 per cent in cash and sundries.

Table 19 shows the cost of materials and the per cent each class is of the total, 1900.

TABLE 19.—TOBACCO, STEMMING AND REHANDLING: COST OF MATERIALS, 1900.

	1900	
	Amount.	Per cent of total.
United States	$14,198,349	100.0
Purchased in raw state	13,790,693	97.1
Purchased in partially manufactured form [1]	262,013	1.9
Fuel	50,588	0.4
Rent of power and heat	3,693	(2)
Freight	91,362	0.6

[1] Includes "all other materials" and "mill supplies;" the latter is shown separately in Table 20.
[2] Less than one-tenth of 1 per cent.

Table 20 is a detailed summary, by states and territories, for the census year ending May 31, 1900.

TABLE 20.—TOBACCO, STEMMING AND REHANDLING, BY STATES AND TERRITORIES: 1900.

	United States.	Connecticut.	Kentucky.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	All other states.[1]
Number of establishments	276	3	98	9	5	48	28	22	54	6
Character of organization:										
Individual	120	2	47	2	.....	14	22	11	18	4
Firm and limited partnership	142	1	46	7	5	31	6	11	32	3
Incorporated company	13	.....	5	.....	.....	2	.....	.....	4	2
Miscellaneous	1	.....	.....	.....	.....	1	.....	.....	.....	.....
Capital:										
Total	$12,526,808	$43,050	$4,860,629	$913,167	$101,400	$2,878,688	$616,494	$443,550	$2,454,595	$215,235
Land	$339,810	$400	$163,285	$6,600	$900	$52,875	$7,140	$28,305	$29,250	$51,055
Buildings	$985,863	$2,500	$472,940	$27,400	$14,700	$207,268	$54,000	$64,805	$121,050	$21,200
Machinery, tools, and implements	$439,267	$150	$220,240	$5,167	$16,800	$39,176	$4,284	$14,420	$128,750	$10,280
Cash and sundries	$10,761,868	$40,000	$4,004,164	$874,000	$69,000	$2,579,369	$551,070	$336,020	$2,175,545	$132,700
Proprietors and firm members	429	4	143	17	10	85	34	33	89	14
Salaried officials, clerks, etc.:										
Total number	424	2	155	14	12	64	5	29	135	8
Total salaries	$354,677	$872	$113,189	$19,670	$6,500	$86,414	$8,222	$21,920	$91,590	$6,300
Officers of corporations—										
Number	12	.....	6	.....	.....	1	.....	.....	5	.....
Salaries	$28,150	.....	$20,500	.....	.....	$1,000	.....	.....	$6,650	.....
General superintendents, managers, clerks, etc.—										
Total number	412	2	149	14	12	63	5	29	130	8
Total salaries	$326,527	$872	$92,689	$19,670	$6,500	$85,414	$8,222	$21,920	$84,940	$6,300
Men—										
Number	405	2	143	14	12	62	5	29	130	8
Salaries	$322,991	$872	$89,503	$19,670	$6,500	$85,064	$8,222	$21,920	$84,940	$6,300
Women—										
Number	7	.....	6	.....	.....	1	.....	.....	.....	.....
Salaries	$3,536	.....	$3,186	.....	.....	$350	.....	.....	.....	.....
Wage-earners, including piecework ers and total wages:										
Greatest number employed at any one time during the year	16,552	66	4,502	738	760	3,159	423	763	5,079	1,062
Least number employed at any one time during the year	7,416	11	1,949	495	176	2,005	291	469	1,703	317
Average number	9,654	26	2,302	378	449	2,056	181	461	3,159	642
Wages	$1,817,067	$8,705	$439,665	$111,586	$51,373	$552,593	$38,666	$79,243	$454,019	$81,217
Men, 16 years and over—										
Average number	4,698	26	1,656	164	130	776	94	302	1,408	142
Wages	$1,109,462	$8,705	$346,769	$68,184	$24,292	$288,077	$24,141	$60,925	$264,031	$29,338
Women, 16 years and over—										
Average number	4,022	.....	382	204	219	1,237	60	85	1,381	454
Wages	$628,379	.....	$63,979	$42,030	$22,316	$264,405	$12,085	$11,687	$157,977	$48,900
Children, under 16 years—										
Average number	934	.....	264	10	100	43	27	74	370	46
Wages	$84,226	.....	$28,917	$1,372	$4,765	$5,111	$2,440	$6,631	$32,011	$2,979
Average number of wage-earners, including piecework ers, employed during each month:										
Men, 16 years and over—										
January	6,346	42	2,755	299	160	717	147	445	1,638	143
February	6,564	66	2,673	310	147	827	231	479	1,688	143
March	6,316	61	2,535	273	103	960	227	481	1,524	152
April	5,490	20	2,081	202	84	968	202	464	1,330	144
May	4,730	20	1,699	119	66	977	158	447	1,106	138
June	3,797	5	1,533	68	30	778	43	404	853	83
July	3,005	5	1,174	65	8	756	20	265	634	78
August	2,809	5	756	62	145	696	15	119	869	142
September	3,193	3	560	69	205	669	20	49	1,485	131
October	3,796	3	697	83	205	671	13	58	1,889	177
November	4,643	30	1,239	177	205	660	13	124	2,015	180
December	5,687	50	2,175	235	205	636	33	290	1,866	197
Women, 16 years and over—										
January	5,222	.....	806	388	305	1,018	60	127	1,893	625
February	5,357	.....	761	392	280	1,151	72	128	1,914	659
March	5,347	.....	704	388	205	1,393	75	128	1,795	659
April	4,267	.....	431	316	84	1,480	74	128	1,155	599
May	3,737	.....	289	220	70	1,520	71	125	917	525
June	2,629	.....	178	25	20	1,421	55	114	626	190
July	2,206	.....	108	5	.....	1,307	50	100	461	175
August	2,371	.....	67	5	164	1,227	50	30	655	173
September	2,922	.....	67	15	375	1,143	54	5	1,068	195
October	4,197	.....	130	15	375	1,133	54	5	1,987	493
November	4,743	.....	341	299	375	1,034	54	36	2,106	498
December	5,266	.....	702	383	375	1,015	54	97	1,992	643
Children, under 16 years—										
January	1,472	.....	467	17	135	19	46	125	607	56
February	1,406	.....	477	23	120	22	57	124	527	56
March	1,269	.....	490	21	60	32	61	125	424	56
April	970	.....	373	19	40	38	59	122	266	53
May	818	.....	303	4	30	57	76	122	173	53
June	561	.....	204	4	20	108	6	71	113	35
July	416	.....	149	1	.....	90	.....	69	83	25
August	493	.....	90	.....	101	84	.....	27	166	25
September	550	.....	39	.....	160	33	5	2	281	30
October	874	.....	32	.....	177	16	5	2	586	56
November	1,025	.....	146	14	179	14	5	2	608	56
December	1,354	.....	396	15	180	9	5	92	602	55
Miscellaneous expenses:										
Total	$525,016	$648	$147,782	$14,220	$11,550	$141,173	$11,742	$28,916	$160,171	$8,814
Rent of works	$83,718	$40	$16,934	$6,625	$4,550	$8,497	$1,295	$1,025	$13,877	$875
Taxes, not including internal revenue	$65,711	$141	$19,643	$1,108	$1,150	$13,483	$638	$1,934	$25,886	$1,728
Rent of offices, interest, insurance, and all sundry expenses not hitherto included	$367,867	$467	$109,105	$6,487	$5,850	$116,193	$9,809	$25,657	$88,088	$6,211
Contract work	$7,720	.....	$2,100	.....	.....	$3,000	.....	$300	$2,320	.....
Materials used:										
Total cost	$14,198,349	$65,944	$4,025,464	$671,147	$635,910	$2,587,583	$502,733	$904,289	$4,453,205	$352,074
Principal materials	$14,047,426	$65,284	$3,969,497	$666,222	$631,950	$2,574,470	$500,006	$899,861	$4,392,257	$347,379
Purchased in raw state	$13,790,693	$65,184	$3,885,926	$650,482	$620,500	$2,544,204	$482,991	$889,154	$4,318,144	$334,108
Purchased in partially manufactured form (including "all other materials")	$256,733	$100	$83,571	$15,740	$11,450	$30,266	$17,015	$10,707	$74,113	$13,771

[1] Includes establishments distributed as follows: Florida, 1; Georgia, 1; Illinois, 1; Indiana, 1; Maryland, 2; South Carolina, 1; Wisconsin, 2.

TABLE 20.—TOBACCO, STEMMING AND REHANDLING, BY STATES AND TERRITORIES: 1900—Continued.

	United States.	Connecticut.	Kentucky.	New York.	North Carolina.	Ohio.	Pennsylvania.	Tennessee.	Virginia.	All other states.[1]
Materials used—Continued.										
Total cost—Continued.										
Fuel	$50,588	$100	$15,962	$485	$3,400	$4,434	$529	$2,715	$22,528	$435
Rent of power and heat	$3,693	$60	$985	$295	.....	$728	.....	$75	$1,550	.....
Mill supplies	$5,280	.....	$1,606	$45	$360	$205	.....	$65	$2,939	$60
Freight	$91,362	$500	$37,414	$4,100	$200	$7,746	$2,198	$1,573	$33,031	$3,700
Products:										
Total value	$19,099,032	$82,404	$5,467,360	$880,405	$759,000	$3,839,952	$625,394	$1,178,480	$5,726,859	$539,178
Comparison of products:										
Number of establishments reporting for both years	193	3	67	8	4	28	15	15	48	5
Value for census year	$15,706,219	$82,404	$4,521,482	$720,405	$540,000	$2,570,332	$413,926	$978,646	$5,448,659	$435,365
Value for preceding business year	$14,850,992	$78,000	$4,143,062	$760,416	$495,000	$2,481,165	$384,164	$1,160,000	$4,916,320	$432,865
Power:										
Number of establishments reporting	80	1	26	3	3	9	.....	3	32	3
Total horsepower	2,469	2	1,043	26	85	80	.....	32	1,109	92
Owned—										
Engines—										
Steam—										
Number	77	.....	29	.....	3	3	.....	3	36	3
Horsepower	2,309	.....	1,033	.....	85	28	.....	32	1,039	92
Gas or gasoline—										
Number	3	.....	.....	.....	.....	3	.....	.....	.....	.....
Horsepower	26	.....	.....	.....	.....	26	.....	.....	.....	.....
Electric motors—										
Number	3	.....	.....	.....	.....	.....	.....	.....	3	.....
Horsepower	10	.....	.....	.....	.....	.....	.....	.....	10	.....
Rented—										
Total horsepower	124	2	10	26	.....	26	.....	.....	60	.....
Electric	52	.....	.....	26	.....	26	.....	.....	.....	.....
Other kind	72	2	10	.....	.....	.....	.....	.....	60	.....
Furnished to other establishments, horsepower	7	.....	.....	.....	.....	.....	.....	.....	7	.....

[1] Includes establishments distributed as follows: Florida, 1; Georgia, 1; Illinois, 1; Indiana, 1; Maryland, 2; South Carolina, 1; Wisconsin, 2.

HISTORICAL AND DESCRIPTIVE.

The cultivation of tobacco and the use of its manufactures are of such antiquity that authentic history does not record their beginnings. The claims of certain European and Asiatic countries to an acquaintance with the plant prior to the discovery of America by Columbus are not supported by accepted history nor satisfactorily demonstrated by the researches of the antiquarian or the archæologist. It is fairly well settled that tobacco is indigenous to the Western Hemisphere, and that the aborigines practiced its cultivation and use from remotest times. Europeans learned its nature and effects from the American savage and spread the knowledge to the rest of the world. In November, 1492, two sailors sent by Columbus into the interior of Cuba returned with accounts of having seen the natives carrying firebrands and exhaling smoke from their mouths and nostrils. Investigation revealed that the firebrands were made from the leaves of tobacco, rolled and burned in a sheath of Indian corn, and that the smoke was inhaled for sensations of pleasure and exhilaration. The instrument used for inhaling the smoke was made from hollow cane forked in shape of the letter Y, the small ends being inserted into the nostrils and the large end applied to the burning leaves.[1] The habit of snuff taking among the natives was described first by Roman Pane, a Franciscan, who accompanied Columbus on his second voyage, and the practice of tobacco chewing was first observed by Spaniards on the coast of South America in 1502. Tobacco was consumed in one form or another by the aborigines from Canada to Patagonia, and, especially in the form of smoking, its use was an immemorial custom.

Tobacco was first taken to Europe by Hernandez de Toledo, who introduced it into Spain and Portugal from Santo Domingo in 1559. In the same year it was introduced into France from the Spanish Peninsula by Jean Nicot, the French ambassador at Lisbon.[2] It is said to have been used in Italy as early as 1560. In 1585 it was carried to England by Sir Francis Drake and his companions on a return voyage from Virginia, and Sir Walter Raleigh introduced among the Elizabethan courtiers the fashion of pipe smoking, which spread through England with great rapidity. In 1610 smoking is known to have been practiced as far east as Constantinople. Tobacco was cultivated in Holland in 1615, and in 1620 smoking was introduced into Germany. In 1631 the use of tobacco began in Austria, where it was carried by Swedish troops, and in 1653 it is known to have been used in Switzerland.[3] In a period of three hundred years tobacco has circled the earth on practically every parallel within the limits of civilization. It is known everywhere, except among a few barbaric peoples in inaccessible countries, and exceeds every other narcotic in the universality of its use. It is probably exceeded only by salt in width of distribution and cosmopolitan consumption. The adaptability of the plant to varying climatic conditions has

[1] Knickerbocker Magazine, Vol. LIV, 1859, page 148.

[2] Penny Magazine, London, Vol. I, 1832, page 148.

[3] Nile's Register, Vol. XV, page 110.

been an important factor in its dissemination. While it responds, to the extent of pronounced modifications, to the varying influences of soil, climate, and methods of cultivation, its essential characteristics will develop in the cold climate of Canada or on the arid plains of Java. Certain districts produce tobacco having distinct characteristics just as certain provinces produce varieties of grapes that make distinct types of wine. Great diversity of taste is also shown among the people of different nations, in their demand for the different types of tobacco grown in various parts of the world, and it is natural, therefore, that the commodity should become one of importance in international trade. In foreign countries its cultivation and manufacture are frequently made government monopolies, and in some its cultivation is prohibited.

The first tobacco cultivated by a European within the present limits of the United States was grown by John Rolfe at Jamestown, Va., in 1612, five years after the settlement of the colony. As early as 1615 the fields, gardens, streets, and public squares of Jamestown were planted with tobacco. It was the one commodity which sustained the struggling settlement, because it readily commanded, in reciprocal trade with the mother country, the necessaries of life. It was the medium of exchange and the standard of value. In 1619, 20,000 pounds were shipped to England. The profits were so satisfactory to the growers that even the cultivation of food crops was neglected for that of tobacco, and it was restricted for a time by legislative enactment. In 1621, 60,000 pounds were grown, of which 55,000 pounds were exported to Holland, the shipments being diverted to that country because of the excise levied by England. In England the legislation of the Stuarts and that of Cromwell were alike in opposition to the use of tobacco, and it was almost completely stamped out by the Protectorate. With the Restoration, however, it reappeared, and its consumption has since increased steadily with every year.

In 1731 the combined exports of Virginia and Maryland were 36,000,000 pounds. From 1763 to 1770, the average annual exports from all the colonies amounted to 66,780,000 pounds, and for the four years immediately preceding the Revolution the average quantity annually exported was 100,000,000 pounds. During the Revolutionary struggle the exports dropped to an average of 12,000,000 pounds annually.

The settlers of a new country take with them the customs and pursuits of the old, and the Virginians who settled Kentucky early introduced into the new territory the cultivation of tobacco, which was grown as a commodity in parts of Kentucky and Tennessee as early as 1810 and, prior to 1833, was shipped by boat to New Orleans, where it was purchased for foreign consumption. As the production increased, factories were established for purchasing loose tobacco and stemming it for the English market. The first inspection warehouses in the United States had been established in Virginia in 1730. In 1839 similar warehouses were established at Louisville, Ky., and in 1845, at Clarksville, Tenn. With the introduction of such local markets the tobacco trade of the Mississippi Valley developed with considerable rapidity, but always with precision.[1]

In New England some tobacco was grown in the decade ending with 1650, but its cultivation was abandoned until the beginning of the Nineteenth century, when it gradually revived. By 1825 the crop was such as to encourage the establishment of a warehouse at Warehouse Point, Connecticut. About 1833 it was ascertained that a variety, possessing in remarkable degree the fineness of texture, strength of tissue, and smoothness of surface, so desirable for cigar wrappings, could be grown successfully in Connecticut, and the census returns since 1840 show an uninterrupted increase in its cultivation in that state, except at the census of 1890. This single interruption is explained by the influence of legislative enactments affecting the tariff on imported leaf suitable for cigar wrappers. The profits of the industry in Connecticut stimulated the cultivation of tobacco in eastern Pennsylvania, central New York, and later in the Miami Valley of Ohio, and in southern Wisconsin. In 1900 the combined production of Connecticut, Pennsylvania, New York, Ohio, and Wisconsin was 183,849,340 pounds.

Especially in the states of the North, every town of any considerable size has its local cigar factory supplying in part the local demand and extending its trade to neighboring villages and towns in proportion to the aggressiveness of the manufacturer and his ability to succeed against competition. The material used in these local factories consists of small lots of leaf tobacco varying in character, quality, and cost according to the quality of the cigars to be made and according as the material is intended for fillers, binders, or wrappers. Such material is usually purchased from importers, wholesalers, or rehandlers, and in such limited quantities as to be quickly worked up and realized on in the local marts. The live capital involved is, therefore, not necessarily large even in proportion to the magnitude of the business. The selection, preparation, and apportionment of the filler, the cutting of the binders and wrappers, and the binding and wrapping are all done by hand. After binding, the unfinished cigars are usually placed in forms or molds and left for some hours in hand presses until the desired shape has become fixed, when they are ready for wrapping. When wrapped, the cigars are assorted into lots having the same shade, and boxed for sale. The work is usually done in rented rooms, and no capital, as defined by the Census Office, is involved in land and buildings. A set of molds and a hand press constitute the principal equipment. In contradistinction

[1] Tobacco Leaf, Killebrew and Myrick, New York, 1897, pages 3–15.

to this class of establishments, is the large factory, representative of the purely commercial aspect of the industry, housed in a large building whose architecture is typical of the modern factory, located usually in a large city, equipped with modern and expensive machinery, employing thousands of wage-earners, and manufacturing millions of cigars and cigarettes annually.

The first cigars consumed in the United States were imported, but the exact date of the first importation is not known because it was included in miscellaneous merchandise. The separate tabulation of imported cigars was begun in 1804, in which year 4,001,000 were received, principally from the West Indies. The first cigar manufactories in the United States were established in Connecticut in 1810, but it is believed that the household manufacture of cigars had been carried on in the Connecticut Valley for several years prior to that date. After the first factories were established at East Windsor and Suffield, Conn., the industry gradually spread through the state and into the other states of the New England group. By 1856, 600 persons were employed in making cigars at various points from Springfield, Mass., to Middletown, Conn. In 1860 the Connecticut Valley had 45 factories, with capital approximating $400,000; 731 wage-earners, $274,911 for wages; $381,000 for cost of materials; and $1,000,000 for value of products. In 1870 Connecticut alone had 235 factories, whose products approximated $1,150,000 in value.[1]

Kentucky followed Connecticut in the establishment of cigar factories. As early as 1816 a factory is said to have been established at Maysville. The industry gradually diffused through the state and into Ohio and Tennessee. In 1825 comparatively small factories were found more or less widely scattered through New York and Pennsylvania, and by 1840 factories in considerable number were in operation in New York, Pennsylvania, Maryland, and Virginia. The first cigars made in the United States were almost exclusively the product of domestic leaf, but the importation of Cuban tobacco began early in the history of the industry, and by 1847 had assumed such proportions as to be tabulated in the customs returns. The early manufacturers in the United States had to contend against the importation of cheap cigars from Germany, where their manufacture and consumption date from 1796. The tariff acts of 1861, 1862, and 1864 prevented the importation of the German product, and in consequence the industry in the United States received such an impetus that it has continued in practically uninterrupted growth to the present time.[2] The first internal-revenue law laying a tax on cigars and other forms of manufactured tobacco, was passed to meet in part the exigencies of the Civil War, and took effect July 1, 1862. By this act the revenue tax on cigars varied from $1.50 to $3.50 per thousand, according to value. The organization of the Bureau of Internal Revenue for the collection of taxes under the elaborate system of excise, dates from the act of 1862, and statistics of all forms of tobacco since that time are more complete and reliable than formerly. No very large factories were in existence prior to 1870. In the decade ending with 1880, however, extraordinary prosperity attended the industry; the first large manufactories were then established and commercial cigar manufacture was outlined and became fixed.[2]

Within the last few years both the cigar and the cigarette manufacture have been revolutionized by machinery. As cigar making is widely diffused in the form of numerous small establishments in which the work is done by hand, the utilization of modern machinery in the manufacture of cigars is not as general as in that of cigarettes, which is concentrated in large factories. Four cities, namely, New York, N. Y.; Richmond, Va.; Durham, N. C.; and Rochester, N. Y., produce about 94 per cent of all the cigarettes manufactured in the United States, and practically all are machine made. Considering the large number of very small cigar factories in the United States, comparatively few establishments of this class are sufficiently large to make a complete equipment of modern machinery a paying investment. Taking the largest factories, however, as representative of the application of modern machinery to the industry, it is a fact that both cigar and cigarette manufacturers are utilizing some of the greatest contributions of genius to the lessening of the world's work. Everything, from the stemming of the leaf to the payment of wages to the employees of the factory, is done by machinery. In a modern cigarette factory the prepared tobacco and the sheets of paper used for wrappings are fed to machines which cut the paper into proper size for the wrapper, gum its edge, measure the exact quantity of tobacco needed for each cigarette, wrap it, make the edges of the wrapper adhere, cut the ends, and pack the cigarettes in boxes. In the manufacture of cigars, the prepared filler is placed in the hopper of a machine which apportions the quantity necessary for each cigar, places it in the binder spread to receive it by the operator of the machine, and rolls it. The wrapper is subsequently added by hand or by machinery.

In the last quarter-century the manufacture and consumption of cigarettes in the United States have grown with marvelous rapidity. In 1875, approximately 40 millions, and in 1900, 3,260 millions were consumed, an increase of more than eightyfold in twenty-five years. Much of the popularity of cigarette smoking has its origin in business and social conditions which evolve and govern habits of living. For many years there has been an increasing demand for tobacco in a form that

[1] United States Tobacco Journal, special century issue, 1900, pages 33–36.

[2] Ibid.

affords a short, inexpensive smoke, producing immediate effects. The cigarette is made from a specially mild tobacco, and the consumer almost invariably inhales the smoke, which comes in contact with the delicate membranes of the respiratory tract. In this way the active principle of the tobacco is quickly taken into the circulation, producing immediate physiological results. The tobacco selected is usually of a very light shade, which comes from the variety of the plant, the district in which it is grown, and methods of curing, or all these in combination. Secret processes of bleaching are said to be used by some manufacturers. Harshness may sometimes be subdued into desired mildness by dipping or soaking the tobacco in water slightly acidulated with hydrochloric acid. The selecting, blending, saucing, and general methods of treatment are in accordance with the secret formula of each establishment.

The crude hand manufacture of chewing and smoking tobacco and snuff from the natural and unflavored leaf has grown to the modern manufacture of a multitude of forms, which are the products of elaborate systems of selection, blending, fermentation, flavoring, and saucing, designed to satisfy the tastes of the various classes of consumers. As to form, there are two general classes of smoking tobacco put upon the market, namely, the granulated or flake, and the cut or shredded forms. The former is produced by granulating machines of different styles and varying capacity, in which the breaking and sifting principles predominate. The latter class is produced by feeding the prepared tobacco, flavored and gummed, into machines which first compress it and, in turn, feed it to rotating or vertically reciprocating knives, which shred it to any desired fineness; it is then dried and "bulked," after which it is packed in paper, foil, cloth, tin, or glass packages in a multitude of sizes and styles.

The cost of producing smoking tobacco has been greatly lessened within the last few years by the invention and introduction into the large factories of ingeniously constructed machinery to do the packing. The prepared tobacco and the sheet of paper in which it is to be wrapped are fed to a machine simultaneously; the result is a neatly wrapped package ready for the shelves of the retailers. Between thirty and forty thousand packages are turned out by a single machine in a day of ten hours. A form of smoking tobacco known as cut plug is popular with a large class of consumers. It is a form of shredded tobacco, but made more compact by greater pressure. After the leaf is prepared (sauced and gummed) it is pressed into cakes of desired thickness by hydraulic or steam power presses. The cakes are then cut into plugs of desired width by machines not unlike those used in paper mills for cutting paper. The plugs are next run through machines with vertically-reciprocating knives which cut them into transverse sections ready for packing in layers in tin boxes.

The manufacture of plug chewing tobacco is, compared with that of other forms, a simple process. After the preparation of the filler, it is pressed by hydraulic or steam power presses into cakes or plugs of varying width, length, thickness, and style, after which it is wrapped and boxed. Fine-cut chewing tobacco is made by machinery very similar to that employed in manufacturing smoking tobacco, the leaf being cut into much finer shreds and sauced or "cased" according to the different formulæ of different establishments.

The making of snuff is the most complicated of all the processes of tobacco manufacture. This article, as found on the market, may be roughly divided into two classes, namely, dry and moist, each of which varies greatly in quality. Snuff is sometimes manufactured in connection with cigars and chewing tobacco, as it affords an opportunity to utilize the parts of the leaf not consumed in those products. The material for dry snuffs is first dampened and put through cutting machines, which chop it finely. It is then subjected to a high temperature and rendered perfectly dry, when it is ready for grinding. The grinding machines preserve much of the principle governing the first manufacture of snuff, which was reduced to a rough powder by pounding or grating. The commonest form of grinding machine consists of a receptacle shaped like the frustum of a cone inverted. A set of rollers of corresponding inclination revolve close to the inner surface, grinding the tobacco between to a fine powder. The finished article is packed by machine packers into bladders, tin cans, earthenware jars, glass tumblers, etc. Scotch, Irish, and Welsh snuffs are the commonest forms of the dry class.

Moist snuffs are of infinite variety. The material used in their manufacture is moist when ground, and is not reduced to a fine powder like the dry snuffs. After grinding, the "flour" is subjected to as many different processes and manipulations as there are manufacturers. Many of these involve frequent handling and bulking to control the different stages of sweating or fermentation which gives character to the finished article, darkening it and developing its peculiar flavor. In addition to saucing, fermentation, and manipulation, ingredients are added to flavor and perfume.

The largest tobacco factories are gathering under one roof the manufacture of practically everything that contributes to the tobacco industry. Factories are now fully equipped for manufacturing the tin, paper, cloth, and other packages in which the products are packed for market, as well as boxes or cases in which they are shipped. Equipment for printing and lithographing labels and advertising posters is also an adjunct of a modern factory, so that there is little demand to be supplied by outside establishments.

Twelfth Census of the United States.

CENSUS BULLETIN.

No. 198. WASHINGTON, D. C. JUNE 20, 1902.

MANUFACTURES.

STARCH

Hon. WILLIAM R. MERRIAM,
Director of the Census.

SIR: I transmit herewith, for publication in bulletin form, the statistics of the manufacture of starch for the census year, compiled under my direction by Dr. H. W. Wiley, chief of the Bureau of Chemistry, Department of Agriculture.

The statistics are presented in 7 tables: Table 1 is a comparative summary, 1850 to 1900, with per cent of increase for each decade; Table 2 is a comparative summary, by states, 1890 and 1900; Table 3 gives the number of establishments, 1890 and 1900, with increase during the decade; Table 4 shows the capital by kinds, 1890 and 1900, and percentage each is of the total; Table 5 is a summary for 1900 for starch, other than that made from potatoes; Table 6 is a summary for 1900 for potato starch; and Table 7 is a detailed summary for the entire starch manufacture, 1900.

In drafting the schedules of inquiry for the census of 1900 care was taken to preserve the basis of comparison with prior censuses. Comparison may be made safely with respect to all the items of inquiry except those relating to capital, salaried officials, clerks, etc., and their salaries, the average number of employees, and the total amount of wages paid. Live capital, that is, cash on hand, bills receivable, unsettled ledger accounts, raw materials, stock in process of manufacture, finished products on hand, and other sundries, was first called for at the census of 1890. No definite attempt was made, prior to the census of 1890, to secure a return of live capital invested.

Changes were made in the inquiries relating to employees and wages in order to eliminate defects found to exist in the form of inquiry adopted in 1890. At the census of 1890 the average number of persons employed during the entire year was called for, and also the average number employed at stated weekly rates of pay, and the average number was computed for the actual time the establishments were reported as being in operation. At the census of 1900 the greatest and least numbers of employees were reported, and also the average number employed during each month of the year. The average number of wage-earners (men, women, and children) employed during the entire year was ascertained by using 12, the number of calendar months, as a divisor into the total of the average numbers reported for each month. This difference in the method of ascertaining the average number of wage-earners during the entire year may have resulted in a variation in the number, and should be considered in making comparisons.

At the census of 1890 the number and salaries of proprietors and firm members actively engaged in the business or in supervision were reported, combined with clerks and other officials. In cases where proprietors and firm members were reported without salaries, the amount that would ordinarily be paid for similar services was estimated. At the census of 1900 only the number of proprietors and firm members actively engaged in the industry or in supervision was ascertained, and no salaries were reported for this class. It is therefore impossible to compare the number and

salaries of salaried officials of any character for the two censuses.

Furthermore, the schedules for 1890 included in the wage-earning class, overseers, foremen, and superintendents (not general superintendents or managers), while the census of 1900 separates from the wage-earning class such salaried employees as general superintendents, clerks, and salesmen. It is possible and probable that this change in the form of the question has resulted in eliminating from the wage-earners, as reported by the present census, many high-salaried employees included in that group for the census of 1890.

In some instances, the number of proprietors and firm members, shown in the accompanying tables, falls short of the number of establishments reported. This is accounted for by the fact that no proprietors or firm members are reported for corporations or cooperative establishments. The number of salaried officials, clerks, etc., is the greatest number reported employed at any one time during the year.

The reports show a capital of $11,671,567 invested in the manufacture of starch. This sum represents the value of land, buildings, machinery, tools, and implements, and the live capital utilized, but does not include the capital stock of any of the manufacturing corporations engaged in this industry. The value of the products is returned at $9,232,984, to produce which involved an outlay of $451,334 for salaries of officials, clerks, etc.; $1,099,696 for wages; $700,277 for miscellaneous expenses, including rent, taxes, etc.; and $5,806,422 for materials used, mill supplies, freight, and fuel. It is not to be assumed, however, that the difference between the aggregate of these sums and the value of the products is, in any sense, indicative of the profits in the manufacture of the products during the census year. The census schedule takes no cognizance of the cost of selling manufactured articles, or of interest on capital invested, or of the mercantile losses incurred in the business, or of depreciation in plant. The value of the product given is the value as obtained or fixed at the shop or factory. This statement is necessary in order to avoid erroneous conclusions from the figures presented.

Very respectfully,

S. N. D. North

Chief Statistician for Manufactures.

STARCH MANUFACTURE.

By Dr. H. W. Wiley.

A comparative summary of the starch manufacture of the United States from 1850 to 1900, inclusive, with percentages of increase for each decade, is given in Table 1.

Table 1.—COMPARATIVE SUMMARY, 1850 TO 1900, WITH PER CENT OF INCREASE FOR EACH DECADE.

	Date of census.						Per cent of increase.				
	1900	1890	1880	1870	1860	1850	1890 to 1900	1880 to 1890	1870 to 1880	1860 to 1870	1850 to 1860
Number of establishments	124	80	139	195	167	146	55.0	[1]42.4	[1]28.7	16.8	14.4
Capital	$11,671,567	$4,929,155	$5,328,256	$2,741,675	$2,051,710	$692,675	136.8	[1]7.5	94.3	33.6	196.2
Salaried officials, clerks, etc., number	406	[2]218	(3)	(3)	(3)	(3)	86.2	.....	.....	.....	.....
Salaries	$451,334	[2]$229,909	(3)	(3)	(3)	(3)	96.3	.....	.....	.....	.....
Wage-earners, average number	2,655	2,903	3,119	2,072	1,073	694	[1]8.5	[1]6.9	50.5	93.1	54.6
Total wages	$1,099,696	$959,108	$919,197	$900,719	$298,526	$193,224	14.7	4.3	2.1	201.7	54.5
Men, 16 years and over	2,088	2,307	2,710	1,712	1,063	686	[1]9.5	[1]14.9	58.3	61.1	55.0
Wages	$986,852	$840,780	(3)	(3)	(3)	(3)	17.4	.....	.....	.....	.....
Women, 16 years and over	535	484	301	317	10	8	10.5	60.8	[1]5.0	3,070.0	25.0
Wages	$107,720	$105,362	(3)	(3)	(3)	(3)	2.2	.....	.....	.....	.....
Children, under 16 years	32	112	108	43	.....	.....	[1]71.4	3.7	151.2	.....	.....
Wages	$5,124	$12,966	(3)	(3)	.....	.....	[1]60.5	.....	.....	.....	.....
Miscellaneous expenses	$700,277	$1,108,135	(4)	(4)	(4)	(4)	[1]36.8	.....	.....	.....	.....
Cost of materials used	$5,806,422	$5,153,677	$4,911,060	$3,884,909	$1,380,000	$799,459	12.7	4.9	26.4	181.5	72.6
Value of products	$9,232,984	$8,934,517	$7,477,742	$5,994,422	$2,823,258	$1,261,468	3.3	19.5	24.7	112.3	123.8

[1] Decrease.
[2] Includes proprietors and firm members, with their salaries; number only reported in 1900, but not included in this table. (See Table 7.)
[3] Not reported separately.
[4] Not reported.

The data of this table show that the amount of capital increased in fifty years from $692,675, invested in 146 establishments, to $11,671,567 invested in 124 establishments, an increase of $10,978,892; wages from $193,224 to $1,099,696, an increase of $906,472. The smaller increase in wages is due in part to the fact that the technical operations in starch making have been greatly improved, requiring a smaller proportion of labor. The total cost of the materials used increased from $799,459 to $5,806,422, or $5,006,963; the value of products from $1,261,468 to $9,232,984, or $7,971,516.

Table 2 is a comparative summary, by states, for 1890 and 1900.

Table 2.—COMPARATIVE SUMMARY, BY STATES: 1890 AND 1900.

		United States.	Connecticut.	Florida.	Illinois.	Indiana.	Iowa.	Maine.	Massachusetts.
Number of establishments	1900	124	8	(1)	3	4	4	45	5
	1890	80	7	3	(2)	8	4	18	5
Capital:									
Total	1900	$11,671,567	$377,400	(1)	$169,210	$2,872,833	$700,064	$344,349	$344,999
	1890	$4,929,155	$94,879	$675	(2)	$894,800	$181,890	$117,350	$415,900
Land	1900	$2,464,141	$19,900	(1)	$2,600	$806,500	$30,000	$23,530	$29,320
	1890	$324,011	$6,600	$45	(2)	$64,000	$6,000	$5,300	$22,000
Buildings	1900	$3,287,110	$21,950	(1)	$30,000	$493,925	$225,000	$150,750	$67,300
	1890	$1,377,608	$6,100	$130	(2)	$310,000	$27,000	$63,700	$31,000
Machinery, tools, and implements	1900	$3,119,703	$157,845	(1)	$103,600	$1,294,034	$205,234	$71,365	$53,271
	1890	$1,046,036	$9,400	$355	(2)	$226,500	$21,175	$48,350	$203,700
Cash and sundries	1900	$2,800,613	$177,705	(1)	$33,010	$278,374	$239,830	$98,704	$195,108
	1890	$2,181,500	$72,779	$145	(2)	$294,300	$127,715	.....	$159,200
Salaried officials, clerks, etc., number	1900	406	92	(1)	6	7	35	17	21
	[3]1890	218	17	5	(2)	32	22	15	10
Salaries	1900	$451,334	$57,180	(1)	$7,400	$7,871	$37,842	$3,475	$23,788
	[3]1890	$229,909	$13,815	$1,590	(2)	$38,045	$21,937	$2,690	$10,064

[1] Reported in "all other states" in 1900.
[2] Reported in "all other states" in 1890.
[3] Includes proprietors and firm members, with their salaries; number only reported in 1900. (See Table 7.)

TABLE 2.—COMPARATIVE SUMMARY, BY STATES: 1890 AND 1900—Continued.

		United States.	Connecticut.	Florida.	Illinois.	Indiana.	Iowa.	Maine.	Massachusetts.
Wage-earners, average number	1900	2,655	113	(1)	86	210	327	111	65
	1890	2,903	43	1	(2)	658	106	309	47
Total wages	1900	$1,099,696	$40,128	(1)	$52,600	$89,200	$114,881	$34,824	$34,736
	1890	$959,108	$13,968	$60	(2)	$218,695	$35,074	$32,165	$26,508
Men, 16 years and over	1900	2,088	106	(1)	64	174	248	111	58
	1890	2,307	34	.....	(2)	524	57	302	47
Wages	1900	$986,852	$37,838	(1)	$46,100	$82,735	$97,050	$34,824	$32,736
	1890	$840,780	$12,220	.....	(2)	$190,864	$25,650	$31,885	$26,508
Women, 16 years and over	1900	535	5	(1)	17	36	77	.....	7
	1890	484	9	.....	(2)	112	34	7	.....
Wages	1900	$107,720	$1,990	(1)	$5,000	$6,465	$17,331	.....	$2,000
	1890	$105,862	$1,748	.....	(2)	$25,900	$7,174	$280	.....
Children, under 16 years	1900	32	2	(1)	5	.....	2	.....	.....
	1890	112	.....	1	(2)	22	15	.....	.....
Wages	1900	$5,124	$300	(1)	$1,500	.....	$500	.....	.....
	1890	$12,966	.....	$60	(2)	$1,931	$2,250	.....	.....
Miscellaneous expenses	1900	$700,277	$57,366	(1)	$22,528	$22,676	$59,192	$9,176	$28,703
	1890	$1,108,135	$18,549	$10	(2)	$71,732	$50,985	$19,579	$5,003
Cost of materials used	1900	$5,806,422	$285,830	(1)	$345,324	$549,830	$623,814	$358,716	$259,652
	1890	$5,153,677	$147,739	$530	(2)	$1,062,221	$166,453	$222,417	$160,659
Value of products	1900	$9,232,984	$591,000	(1)	$542,190	$989,639	$896,831	$555,576	$390,161
	1890	$8,934,517	$299,625	$2,816	(2)	$1,580,543	$355,150	$315,225	$214,000

		Michigan.	Minnesota.	Missouri.	New Hampshire.	New York.	Ohio.	Wisconsin.	All other states.[3]
Number of establishments	1900	4	8	3	4	15	5	6	10
	1890	(4)	6	(4)	(2)	16	3	(2)	10
Capital:									
Total	1900	$408,921	$209,274	$24,700	$8,100	$3,547,805	$2,073,209	$93,250	$497,953
	1890	(4)	$94,250	(4)	(2)	$2,189,934	$710,825	(2)	$228,652
Land	1900	$74,911	$6,975	.....	$925	$717,180	$705,000	$10,450	$36,850
	1890	(4)	$4,600	(4)	(2)	$140,000	$52,566	(2)	$22,900
Buildings	1900	$102,188	$55,000	.....	$5,000	$1,072,223	$875,000	$22,000	$166,774
	1890	(4)	$41,100	(4)	(2)	$482,200	$340,028	(2)	$76,350
Machinery, tools, and implements	1900	$132,050	$59,825	$8,700	$1,725	$606,892	$269,703	$36,750	$33,709
	1890	(4)	$29,500	(4)	(2)	$317,300	$122,006	(2)	$67,750
Cash and sundries	1900	$99,772	$87,474	$21,000	$450	$1,061,010	$223,506	$24,050	$260,620
	1890	(4)	$19,050	(4)	(2)	$1,250,434	$196,225	(2)	$61,652
Salaried officials, clerks, etc., number	1900	35	5	25	.....	79	31	7	46
	[5]1890	(4)	10	(4)	(2)	66	22	(2)	19
Salaries	1900	$35,730	$2,780	$33,600	.....	$149,169	$39,815	$4,020	$48,664
	[5]1890	(4)	$7,843	(4)	(2)	$105,231	$22,370	(2)	$11,324
Wage-earners, average number	1900	83	57	70	4	996	199	34	300
	1890	(4)	73	(4)	(2)	1,175	341	(2)	150
Total wages	1900	$30,166	$23,287	$19,475	$1,465	$471,662	$78,159	$15,267	$93,846
	1890	(4)	$26,380	(4)	(2)	$436,887	$121,405	(2)	$47,966
Men, 16 years and over	1900	51	57	19	4	804	157	30	205
	1890	(4)	78	(4)	(2)	889	266	(2)	115
Wages	1900	$25,166	$23,287	$10,430	$1,465	$437,322	$67,949	$14,467	$75,483
	1890	(4)	$26,380	(4)	(2)	$382,576	$103,075	(2)	$41,622
Women, 16 years and over	1900	32	.....	51	.....	174	39	4	93
	1890	(4)	.....	(4)	(2)	224	65	(2)	33
Wages	1900	$5,000	.....	$9,045	.....	$32,130	$9,850	$800	$18,109
	1890	(4)	.....	(4)	(2)	$47,266	$16,770	(2)	$6,224
Children, under 16 years	1900	.....	.....	.....	.....	18	3	.....	2
	1890	(4)	.....	(4)	(2)	62	10	(2)	2
Wages	1900	.....	.....	.....	.....	$2,210	$360	.....	$254
	1890	(4)	.....	(4)	(2)	$7,045	$1,560	(2)	$120
Miscellaneous expenses	1900	$54,056	$10,570	$12,020	$425	$303,643	$84,396	$9,999	$25,522
	1890	(4)	$10,631	(4)	(2)	$822,659	$95,179	(2)	$13,808
Cost of materials used	1900	$161,089	$250,594	$126,610	$14,387	$1,704,054	$572,168	$100,719	$453,635
	1890	(4)	$210,586	(4)	(2)	$2,183,667	$677,999	(2)	$321,456
Value of products	1900	$330,183	$329,566	$230,000	$18,500	$2,589,903	$940,511	$154,030	$674,894
	1890	(4)	$350,026	(4)	(2)	$4,016,181	$1,109,026	(2)	$691,925

[1] Reported in "all other states" in 1900.
[2] Reported in "all other states" in 1890.
[3] Includes establishments distributed as follows in 1900: California, 2; Florida, 2; Maryland, 1; Nebraska, 2; New Jersey, 1; North Dakota, 1; Pennsylvania, 1. In 1890: Illinois, 1; Kansas, 1; Nebraska, 1; New Hampshire, 1; Pennsylvania, 1; Rhode Island, 1; Vermont, 2; Wisconsin, 2. Kansas, Rhode Island, and Vermont not reported in 1900.
[4] Not reported in 1890.
[5] Includes proprietors and firm members, with their salaries; number only reported in 1900. (See Table 7.)

While the value of products as a whole increased 3.3 per cent during the decade, 1890 to 1900, a decrease is shown for a number of states. This is particularly noticeable in New York, where it was 35.5 per cent; in Indiana, 37.4 per cent; and in Ohio, 15.2 per cent. This may be in part attributed to changes in the location of the manufacture, owing to an industrial combination.

New York was first in rank, Indiana second, and Ohio third; the same positions they held in 1890.

Table 3 shows the distribution of establishments, 1890 and 1900, by states geographically arranged, with increase for the decade.

TABLE 3.—NUMBER OF ESTABLISHMENTS, 1890 AND 1900, WITH INCREASE DURING THE DECADE, BY STATES, ARRANGED GEOGRAPHICALLY.

	1900	1890	Increase.
United States	124	80	44
New England states	62	34	28
Maine	45	18	27
New Hampshire	4	1	3
Vermont	.....	2	[1]2
Massachusetts	5	5	.....
Rhode Island	.....	1	[1]1
Connecticut	8	7	1
Middle states	18	17	1
New York	15	16	[1]1
New Jersey	1	.....	1
Pennsylvania	1	1	.....
Maryland	1	.....	1
Southern states	2	3	[1]1
Florida	2	3	[1]1
Central states	37	24	13
Ohio	5	3	2
Michigan	4	.....	4
Indiana	4	8	[1]4
Illinois	3	1	2
Wisconsin	6	2	4
Minnesota	8	6	2
Iowa	4	4	.....
Missouri	3	.....	3
Western states	3	2	1
North Dakota	1	.....	1
Nebraska	2	1	1
Kansas	.....	1	[1]1
Pacific states	2	.....	2
California	2	.....	2

[1] Decrease.

The greatest increase in number of establishments, 28, was in the New England states, but they were mainly small factories. The Central states show the next greatest increase, 13, the Western states having an increase of 1 and the Middle states of 1.

Table 4 shows the capital invested in 1890 and 1900, with percentages of the total for each decade.

TABLE 4.—CAPITAL: 1890 AND 1900.

	1900		1890		Per cent of increase.
	Amount.	Per cent of total.	Amount.	Per cent of total.	
Total	$11,671,567	100.0	$4,929,155	100.0	136.8
Land	2,464,141	21.1	324,011	6.6	660.5
Buildings	3,287,110	28.2	1,377,608	27.9	138.6
Machinery, tools, and implements	3,119,703	26.7	1,046,036	21.2	198.2
Cash and sundries	2,800,613	24.0	2,181,500	44.3	28.4

The data in this table show that the percentage of capital invested in land has increased from 6.6 to 21 during the ten years. This discloses the urban location of many of the plants. Capital invested in buildings increased 138.6 per cent, and in machinery, tools, and implements 198.2 per cent.

Of the miscellaneous expenses 1.2 per cent was for rent of works, 5.7 per cent for taxes, not including internal revenue, 92.7 per cent for rent of offices, insurance, interest, advertising, and other sundries, and four-tenths of 1 per cent for contract work.

The quantity of materials used in a geographical subdivision is governed by the extent of the manufacture there located. The Central states produced the most starch in 1900, and therefore used the most material, or 47 per cent of the total value. The Middle states used 31.9 per cent, and the New England states 15.8 per cent. The remainder, 5.3 per cent, was divided between the Western states and "all other states." The cost of indian corn was 46.9 per cent of the total materials, and of potatoes 12.1 per cent. These are the chief materials of the manufacture.

Of the value of products 13 per cent comprises by-products, including cattle food. (See Table 7.) Of the starch made 76.3 per cent was corn starch, and 14 per cent potato starch. The 9.7 per cent remaining was divided between wheat and root starch.

The total quantity of starch manufactured was 297,803,139 pounds. Of this total, 247,051,744 pounds were made from indian corn, and 50,751,395 pounds from all other materials. The average value per pound of indian corn starch was 2.5 cents, and the average value of all other starches was 3.8 cents per pound.

The reason of the increased value of starches from other sources than indian corn is due to the peculiar properties which these bodies have for special purposes. This is illustrated by the fact that for use in the textile industries potato starch is preferred to that made from indian corn, and a higher price is paid therefor by the manufacturers. Starches from which

tapioca and similar bodies are made bring a higher price on account of the particular uses to which they are put. For laundry purposes, for the manufacture of glucose, and largely for edible purposes the indian corn starch is cheaper and is in almost universal use in the United States.

Excluding glucose, which can not be regarded as a by-product in the manufacture of starch, cattle foods are the principal by-products. The refuse coming from the manufacture of starch from potatoes is of less value than that coming from indian corn, and hence in Maine, which is the principal state for the manufacture of potato starch, there is no by-product mentioned which is used for cattle foods. Observations of the starch factories in Maine bear out this statement. In a large number of them it was found that the pulp was not used for any purpose whatever. The same statement may be made regarding Minnesota, where no cattle food was reported as a by-product.

Table 5 is a summary for starch made from materials other than potatoes, 1900, arranged by states according to rank.

TABLE 5.—STARCH, OTHER THAN POTATO: SUMMARY, BY STATES, 1900.

STATES.	Rank by value of products.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		WAGE-EARNERS.		Miscellaneous expenses.	Cost of materials used.	PRODUCTS.		
				Number.	Salaries.	Average number.	Wages.			Total value.	Starch, value.	All other products, value.
United States	.....	51	$10,830,973	371	$433,869	2,411	$1,007,501	$667,701	$5,034,964	$8,091,539	$6,908,836	$1,182,703
New York	1	7	3,528,605	79	149,169	992	470,090	303,261	1,698,639	2,580,968	1,961,766	619,202
Indiana	2	4	2,872,833	7	7,871	210	89,200	22,676	549,830	989,639	892,330	97,309
Ohio	3	5	2,073,209	31	39,815	199	78,159	84,396	572,168	940,511	858,776	81,735
Iowa	4	4	700,064	35	37,842	327	114,881	50,192	623,814	896,831	818,271	78,560
Connecticut	5	8	377,400	92	57,180	113	40,128	57,366	285,830	591,000	581,000	10,000
Illinois	6	3	169,210	6	7,400	86	52,600	22,528	345,324	542,190	389,590	152,600
Massachusetts	7	5	344,999	21	23,788	65	34,736	28,708	259,652	390,161	389,815	346
Michigan	8	3	252,000	29	28,540	50	15,166	52,181	129,112	267,345	154,428	112,917
Missouri	9	3	24,700	25	33,600	70	19,475	12,020	126,610	230,000	230,000	.....
All other states[1]	.....	9	487,953	46	48,664	299	93,066	25,378	443,985	662,894	632,860	30,034

[1] Includes establishments distributed as follows: California, 2; Florida, 2; Maryland, 1; Nebraska, 2; New Jersey, 1; Pennsylvania, 1.

Table 6 is a summary for potato starch, 1900, arranged by states according to rank.

TABLE 6.—POTATO STARCH: SUMMARY, BY STATES, 1900.

STATES.	Rank by value of products.	Number of establishments.	Capital.	SALARIED OFFICIALS, CLERKS, ETC.		WAGE-EARNERS.		Miscellaneous expenses.	MATERIALS USED.				PRODUCTS.			
				Number.	Salaries.	Average number.	Wages.		Total cost.	Potatoes.		All other materials, cost.	Total value.	Potato starch.		All other products, value.
										Pounds.	Cost.			Pounds.	Value.	
United States	.....	73	$840,594	35	$17,465	244	$92,195	$32,576	$771,458	237,141,445	$699,808	$71,650	$1,141,445	33,941,826	$1,129,129	$12,316
Maine	1	45	344,349	17	3,475	111	34,824	9,176	358,716	101,875,200	339,584	19,132	555,576	15,273,633	544,760	10,816
Minnesota	2	8	209,274	5	2,780	57	23,287	10,570	250,594	84,617,200	221,779	28,815	329,566	10,882,333	329,566	.....
Wisconsin	3	6	93,250	7	4,020	34	15,267	9,999	100,719	35,441,765	88,250	12,469	154,030	5,043,060	154,030	.....
New Hampshire	4	4	8,100	.....	.....	4	1,465	425	14,387	3,380,080	13,422	965	18,500	520,000	18,500	.....
All other states[1]	.....	10	185,621	6	7,190	38	17,352	2,406	47,042	11,827,200	36,773	10,269	83,773	2,222,800	82,278	1,500

[1] Includes establishments distributed as follows: Michigan, 1; New York, 8; North Dakota, 1.

HISTORICAL AND DESCRIPTIVE.

Starch is one of the principal components of all cereal grains, and of certain root crops, such as the potato, the sweet potato, the cassava, and others. The most important uses of starch are, first, in the laundry; second, for the manufacture of glucose; third, for edible purposes; and fourth, for use in the textile industries. The principal commercial sources of starch are the cereals and potatoes. In the United States indian corn is the principal cereal employed in making starch for commercial purposes. The only other cereal which is used to any extent is wheat, and the use of this cereal is extremely limited. A large number of establishments in the United States also produce starch from potatoes, but in a very small way. Practically five-sixths of the commercial starch of the United States is derived from indian corn. In Europe the principal source of starch is the potato, and this tuber is used very extensively both on the Continent and in England for this purpose. In tropical countries considerable quantities of starch are made from the different varieties of the cassava, and this industry has lately been introduced into the United States, since cassava grows

well in Florida and some other southern parts of the United States. The starch made from the varieties of the cassava is used either as indicated above or for the manufacture of the food product known as tapioca.

The methods of manufacturing starch used either for pure starch, on the one hand, or the manufacture of glucose on the other, is as follows: Grades of indian corn numbers 2, 3, and 4, and grains of no grades are used, but chiefly number 2. The corn is bought shelled in the open market. Cobs and leaves are removed by means of an inclined mechanically shaken sieve through which the grain passes; dirt and fine dust are removed by fans; and nails and other iron scraps are removed by magnets. Large tanks made of wood, iron, or copper, with a capacity of about 1,000 bushels, are used for steeping or softening the corn. Water charged with three-tenths of 1 per cent of SO_2 (sulphurous acid) and heated to 125° F. is used for the softening of the grain; the water is circulated from the bottom to the top by means of a steam injector, and from twenty-four to thirty-six hours are required to complete the steeping. The soft, warm grains are ground or "cracked" with ordinary 4½-foot French burr mills; the grinding being only carried far enough to loosen the germ, and not break it. The "cracked" mass is threshed three times in order to complete the loosening of the germ. The thresher is a box containing 2 circular shafts, fitted with blunt steel arms, making from 1,500 to 2,000 revolutions per minute. The threshed mass is passed between rubber-faced rolls, and the excess of starch liquor is removed from the germ, etc. The wringer is an ordinary five-roller laundry wringer carrying an endless steel gauge belt between the rolls. Technically they are known as "slop machines."

The semidried mass is fed into the "germ separators," where, in consequence of the difference in specific gravity between the germ and shells, the germ floats and the shells sink in a starch solution of 8.5° Baumé. The germ and some starch liquor overflow at one end and at the top of the separator, and the shells and a little more starch liquor are removed from the bottom by a motor pump. To facilitate the removal of the germ, paddles or sweeps drag the germs to the point of overflow and a screw-conveyor form of agitator in the bottom of the separator does the same for the shells. The separator is much like a masse-cuite mixer. It is filled and kept filled with 8.5° Baumé starch liquor.

From the separators the germ and the starch liquor are fed upon a great many copper sieves or "shakers," where the starch liquor is removed from the germs and the germ is freed from adhering starch by washing with water. The shakers are set at a slight angle and are given about 400 lateral throws of 1½ inches per minute. The shaker bottom is covered with a perforated sheet of copper. The washing water comes from small V-shaped troughs running crosswise of the shakers and having their sides perforated.

The germ is put into large sacks or cloths of coarse mesh and subjected to a pressure from a hydraulic press. From this press the germ enters a revolving steam-heated dryer, much like a sugar granulator, and all but 3 per cent of the moisture is removed. A suction fan removes any dust or light particles. The dried germ is run into aspirators, where the shell and points of the germ are removed by fans and screens, and after cooling it is fed to a five-roller shell mill, where it is ground to a fine meal. The mills are of the regular linseed-mill pattern, with one roll set over the other. After grinding, the germ or meal is fed into a double-bottom steam heater or cooker, and from this into another, and at the same time a small jet of steam plays on it as it is moved about by the agitators, in order to supply the required moisture. The meal is heated until it is just bearable to the hand.

The heated meal is fed from the bottom of the cooker into a form; this form in turn drops the meal on a cotton cloth, and the attendant folds over the ends of the cloth, and by means of a piston driven by steam, forms and compresses the cake. The formed cake is slipped between the plates of a regular oil press holding 16 cakes. A hydraulic pressure of 4,000 pounds to the square inch removes 90 per cent of the oil. The oil is filter-pressed through cloth or paper and allowed to settle in large iron tanks for several days. After this it is barreled and is sold in this form of package. The oil cake containing 10 per cent of oil is sold as a cattle food, principally in Europe.

The shells and other unground parts that are removed from the bottom of the germ separator are called the "first grind." From the separators this is fed upon rapidly oscillating silk sieves or shakers. Here the mass is drained, the starch liquor passing through the silk and going to the starch supply tank. The drained first grind is fed into a second net of burr mills, when the starch adhering to the shells is removed as far as practicable.

The feed or second grind is fed upon silk sieves or shakers. The first half of the shake simply drains the starch from the second grind without any washing. These drainings are also sent to the starch-supply tank and are washed five times in passing over the second or last half of the shakers in order to remove all adhering starch. The feed passes through a set of wringers for the final removal of any free starch. It is then mixed with the solids from the "steep water," and the gluten is pumped into large presses, where 45 per cent of the adhering moisture is removed. These presses are very large, carrying 100 plates, and are operated by hydraulic pressure.

The feed after being broken by threshers is carried into large steam dryers, where the moisture is reduced to 20 per cent. After again passing through threshers it is conveyed into the finishing dryers, where all but about 10 per cent of moisture is removed. It is then ground

to a fine meal by food attrition mills, which have two flat disks revolving in opposite directions at a speed of 2,000 revolutions per minute. The disks have little square pockets, one-fourth by 1 inch and one-fourth inch deep, giving an enormous cutting surface. The feed is sold as gluten, buffalo-maize, and golden feed, and is one of the well-known concentrated cattle feeds in the market.

The washings of the second grind on the second shakers that are very dilute are run into cone settlers, where the excess of water is removed and the concentrated starch liquor is sent to the starch-supply tank. These cone settlers are circular iron tanks, with cone bottoms, and are about 12 feet deep. The starch enters a 10-inch pipe, extending from the top to within 36 inches of the bottom. The point of the cone has a one-half-inch outlet for removing the starch. The water overflows at the top of the tank. By this arrangement the settling and drawing off of the water and starch are continuous. The accumulated starch liquors are collected in the supply tank from all parts of the house, after being run upon a set of silk shakers carrying a very fine mesh silk, known as No. 20. These shakers remove the finer particles of feed, etc.

From the shakers the starch is fed in small streams to the starch tables, where the starch settles and the gluten runs off at the end of the table. The tables are long gutters, 20 inches wide, 9 inches deep, and 100 feet long, with a fall of about 4 inches in that length. When the tables are filled sufficiently the starch is scraped with rubber-edged scrapers and is shoveled upon carriers. These carriers empty into large 12-foot tubs or "breakers," where the starch is mixed with enough water to make a solution weighing either 24° Baume', or 6° Baumé. The 6° starch is again passed over No. 20 shakers and is then run on another set of tables to remove any adhering gluten or other impurities carried off by the water. After scraping, or rubbing and draining, the starch is removed from the tables by carriers.

From the carriers the starch is fed into breakers or threshers, and, after being broken into pieces the size of a hen's egg, it is loaded into shallow canvas-bottom trays. These trays are put on a wagon and the wagon run into kilns. These wagons are run on tracks, and are fitted with racks to hold 14 trays equaling 1 bag of starch, or 300 pounds. The starch remains in the kiln twelve hours, and is gradually moved from the air outlet end of the kiln to the hot air inlet end. These kilns are narrow tunnels holding 16 cars; a temperature of 140° is maintained, and the heated air enters at one end and is drawn out at the other. The starch, containing about 10 per cent of moisture, is powdered either by rolls or beaters and then passed through silk-bolting machines. Pearl starch is that which is not milled after drying but is sold in small masses of a pseudo-crystalline structure. The starch before sending to market is either sacked or barreled.

Twenty-four Degree or Glucose Starch.—The 24° Baumé starch is pumped into the refinery breakers, where it is mixed with one-fourth of 1 per cent concentrated muriatic acid, and is pumped into the converters. The converters are horizontal copper cylinders, 6 by 20 feet, holding 2,000 gallons of starch liquor. A perforated steam coil is in the bottom of the converter and a similar perforated pipe in the top is the inlet for the starch. Before pumping in the starch the steam coil is covered with an acidified water which is brought to a boil. The starch is pumped in, just fast enough not to cool the water below the boiling point, under a pressure of 20 pounds to the square inch. When all of the starch is in the converter the pressure is raised to 35 pounds, and is held at this for twelve minutes, or until the desired sodine test for glucose containing 55 per cent of dextrose is obtained. For acme sugar containing 85 per cent of dextrose the starch is diluted to 14° Baumé and held at a pressure of 45 pounds for forty-five minutes. For brewing sugar containing 93 per cent of dextrose the starch is diluted to 18° Baumé and held at a pressure of 40 pounds for twenty minutes.

The conversions are forced into blow-up tubs, which are large open tubs for relieving the pressure on the converters. From these tubs it flows into neutralizers, where all but 0.015 per cent of the acidity is neutralized with soda ash. From the neutralizers the liquor enters settling tanks for the removal of the coagulated gluten and fibrous matter or it is pumped into regular sugar presses at once.

The liquors from the presses are passed over or through boneblack until all of the color is removed. These filters are horizontal cylinders, 20 by 6 feet, filled with animal black. The liquor enters at the top and is drawn out at the bottom. The filters will usually run from fifteen to eighteen hours. From the filters the liquor is drawn into vacuum pans and is evaporated under 27° to 30° Baumé. From the vacuum pans the liquor is passed through another set of black filters to remove the color that has been generated in the evaporation. These filters are like the first filters, but contain freshly burned black and are only run four hours. After this liquor has exhausted the black it is used for light liquors. From the filters the liquor is drawn into the finishing pan and evaporated to the required density. For glucose either 41°, 42°, 43°, 44°, or 45° Baumé are required. For 70 sugar 41° and for acme or 80 sugar 45° Baumé are required. All weighings are made at 100° F. The pans are regular sugar vacuum pans holding about 63 pounds of glucose.

The glucose from the pans is run into cone-bottom iron tanks fitted with cooling pipes. After cooling the glucose to 100° F., a little bisulphite of soda is added to prevent fermentation, and a little aniline violet to neutralize any tinge of yellow. The glucose is drawn into barrels, and sold at 1 to 1½ cents per pound.

The sugar from the vacuum pans in the case of 70 sugar is drawn into a cooler, and to it are added several buckets of previously crystallized sugar. In this way crystallization is induced. The sugar is then drawn into barrels or pans, where it crystallizes and becomes solid in eighteen hours at normal temperature. The acme is handled in the same manner, but is all crystallized in pans in a room heated to 115° F. Thirty-six hours are required for the acme crystallization, and then thirty-six hours more in a cold room for curing. The panned sugar is chopped and sold in bags. Anhydrous sugar is handled much in the same way as the other, only that the starch is diluted to 1½° Baumé and the plextrose is carried to the maximum. The crystallization is done in cones or forms in a hot room. The cones are made to fit a centrifugal, in which the sugar is freed from adhering sirup. The sugar is shaved and air-dried for several days, and is sold in barrels at 4½ to 5½ cents per pound.

The so-called gluten drawn from the tabled starch is first settled for five hours in wooden tubs, and then the concentrated mass is further concentrated in cone settlers. It is then mixed with the feed and sent to the presses. The steep water from the steeps is first acidified with sulphuric acid to remove the sulphurous acid. It is evaporated to 10° Baumé and neutralized with milk of lime. The precipitate formed is removed by filter presses. The liquor is then evaporated to 30° Baumé and again mixed with the lime precipitate. It is then mixed with the pressed feed.

In the above description no attempt has been made to go into the details of the manufacture, but simply to give the general principles which are followed. In different factories different details of manufacture would be found, but in general the large factories making indian corn starch follow essentially the methods given above.

Starch from Potatoes.—The principles underlying the manufacture of starch from the potato are very simple in their mechanical application. The problem is very much less complicated than in the case of indian corn, since there are no by-products which are worth saving except the pulp, hence no apparatus is necessary for the removal of the outer hull or of the germ. Potatoes of all sizes are used, but chiefly what is known as the culls or immature tubers, or those which are injured in digging and are unsuitable for sending to the market for food purposes. The state of the markets is usually such that there is more profit in selling well-formed and mature potatoes of good size for direct consumption than there is in sending them to the starch factories.

Usually when the price of good, marketable potatoes approaches $1 per barrel, farmers find it more profitable to sell for direct consumption. In a personal inspection of the potato-starch industry in Aroostook county, Maine, made by the author in 1899, potatoes fit for consumption on the table were selling for a dollar a bushel, while the starch manufacturers were paying only from 30 cents to 60 cents per bushel for potatoes used in the manufacture of starch. It is evident that the quantity of starch in such potatoes is very much inferior to that in the merchantable potatoes sold at a higher price. The yield of commercial starch varies from 10 to 16 per cent of the weight of the potatoes used, according to the character and grade of the raw material employed. In Germany potatoes particularly rich in starch are grown especially for starch making. It is not a matter of wonder, therefore, that the yield of starch from the American factories is lower than from the German factories for the same weight of potatoes.

The process of manufacture of potato starch is very simple; in fact the housewife can make a very good potato starch by rasping the potato on a piece of sheet iron punctured with numerous holes by an ordinary awl, throwing the pulp upon a fine cloth and washing the starch through with a stream of water.

A complete study of the potato as a source of starch making, and the details of manufacture, are discussed in Bulletin No. 58 of the United States Department of Agriculture, Bureau of Chemistry.

Table 7 is a detailed summary for the entire starch manufacture, 1900, by states.

TABLE 7.—STARCH: DETAILED

		United States.	Connecticut.	Illinois.	Indiana.	Iowa.	Maine.
1	Number of establishments	124	8	3	4	4	45
	Character of organization:						
2	Individual	50	4	1	1	.....	30
3	Firm and limited partnership	29	1	.....	1	.....	11
4	Incorporated company	45	3	2	2	4	4
	Capital:						
5	Total	$11,671,567	$377,400	$169,210	$2,872,833	$700,064	$344,349
6	Land	$2,464,141	$19,900	$2,600	$806,500	$30,000	$23,530
7	Buildings	$3,287,110	$21,950	$30,000	$493,925	$225,000	$150,750
8	Machinery, tools, and implements	$3,119,703	$157,845	$103,600	$1,294,034	$205,234	$71,365
9	Cash and sundries	$2,800,613	$177,705	$33,010	$278,374	$239,830	$98,704
10	Proprietors and firm members	109	7	1	2	.....	46
	Salaried officials, clerks, etc.:						
11	Total number	406	92	6	7	35	17
12	Total salaries	$451,334	$57,180	$7,400	$7,871	$37,842	$3,475
	Officers of corporations—						
13	Number	44	4	3	2	4	1
14	Salaries	$104,589	$4,000	$5,800	$5,664	$6,394	$750
	General superintendents, managers, clerks, etc.—						
15	Total number	362	88	3	5	31	16
16	Total salaries	$346,745	$53,180	$1,600	$2,207	$31,448	$2,725
	Men—						
17	Number	318	87	2	4	27	16
18	Salaries	$329,684	$52,580	$1,200	$2,087	$29,683	$2,725
	Women—						
19	Number	44	1	1	1	4	.....
20	Salaries	$17,061	$600	$400	$120	$1,765	.....
	Wage-earners, including pieceworkers, and total wages:						
21	Greatest number employed at any one time during the year	3,667	136	128	239	364	506
22	Least number employed at any one time during the year	2,648	107	56	192	300	452
23	Average number	2,655	113	86	210	327	111
24	Wages	$1,099,696	$40,128	$52,600	$89,200	$114,881	$34,824
	Men, 16 years and over—						
25	Average number	2,088	106	64	174	248	111
26	Wages	$986,852	$37,838	$46,100	$82,735	$97,050	$34,824
	Women, 16 years and over—						
27	Average number	535	5	17	36	77	.....
28	Wages	$107,720	$1,990	$5,000	$6,465	$17,331	.....
	Children, under 16 years—						
29	Average number	32	2	5	.....	2	.....
30	Wages	$5,124	$300	$1,500	.....	$500	.....
	Average number of wage-earners, including pieceworkers, employed during each month:[1]						
	Men, 16 years and over—						
31	January	1,820	98	2	162	240	22
32	February	1,864	97	2	168	245	33
33	March	2,020	99	102	178	236	33
34	April	2,110	100	102	177	246	21
35	May	2,102	99	102	177	242	20
36	June	1,888	101	102	166	237	20
37	July	1,851	118	32	170	257	16
38	August	1,868	114	42	171	261	5
39	September	2,533	112	62	173	257	455
40	October	2,628	110	72	176	253	480
41	November	2,371	115	76	182	254	222
42	December	2,001	109	72	188	248	9
	Women, 16 years and over—						
43	January	554	5	.....	35	85	.....
44	February	543	5	.....	34	73	.....
45	March	560	5	20	35	80	.....
46	April	554	5	20	33	79	.....
47	May	549	5	20	34	81	.....
48	June	561	5	20	38	74	.....
49	July	523	5	20	36	76	.....
50	August	521	5	20	34	79	.....
51	September	597	5	20	37	77	.....
52	October	475	5	20	39	74	.....
53	November	464	5	20	39	75	.....
54	December	519	5	24	39	75	.....
	Miscellaneous expenses:						
55	Total	$700,277	$57,366	$22,528	$22,676	$59,192	$9,176
56	Rent of works	$8,362	$1,180	$360	$132	$180	$300
57	Taxes, not including internal revenue	$40,145	$1,576	$268	$3,004	$2,375	$2,216
58	Rent of offices, insurance, interest, and all sundry expenses not hitherto included.	$649,382	$52,222	$21,900	$19,540	$56,637	$6,660
59	Contract work	$2,388	$2,388	.....	.....	.....	.....
	Materials used:						
60	Aggregate cost	$5,806,422	$285,830	$345,324	$549,830	$623,814	$358,716
	Principal materials—						
61	Total cost	$4,403,650	$227,390	$330,200	$445,883	$418,621	$339,584
62	Corn, pounds	462,213,456	.....	45,660,000	72,676,464	89,266,016	.....
63	Cost	$2,723,241	.....	$324,000	$442,689	$396,452	.....
64	Wheat, pounds	667,620	.....	480,000	.....	.....	.....
65	Cost	$6,702	.....	$4,500	.....	.....	.....
66	Potatoes, pounds	237,141,445	.....	.....	.....	.....	101,875,200
67	Cost	$699,808	.....	.....	.....	.....	$339,584
68	Roots, pounds	1,092,000	.....	.....	.....	.....	.....
69	Cost	$2,700	.....	.....	.....	.....	.....
70	Corn starch, pounds	28,549,150	10,497,848	85,000	149,162	658,000	.....
71	Cost	$527,378	$221,334	$1,700	$3,194	$16,360	.....
72	Wheat flour, pounds	26,201,896	.....	.....	.....	.....	.....
73	Cost	$417,804	.....	.....	.....	.....	.....
74	Borax, pounds	162,935	66,479	.....	.....	170	.....
75	Cost	$12,325	$5,120	.....	.....	$15	.....
76	Gum, pounds	32,163	3,422	.....	.....	170	.....
77	Cost	$1,823	$802	.....	.....	$21	.....
78	Soda, pounds	696,140	4,890	.....	.....	305,523	.....
79	Cost	$11,859	$134	.....	.....	$5,773	.....
80	Fuel	$200,912	$696	$4,000	$21,703	$37,176	$8,286
81	Rent of power and heat	$21,455	$684	$24	$215	$8	$250
82	Mill supplies	$66,300	$200	$10,005	$1,149	$3,090	$2,118
83	All other materials	$1,011,447	$35,601	$1,095	$80,874	$115,960	$8,457
84	Freight	$102,658	$21,259	.....	$6	$48,959	$21

[1] The average number of children, under 16 years, employed during each month, is not included in the table, because of the small number reported.

SUMMARY, BY STATES, 1900.

Massachusetts.	Michigan.	Minnesota.	Missouri.	New Hampshire.	New York.	Ohio.	Wisconsin.	All other states.[1]	
5	4	8	3	4	15	5	6	10	1
.....	.....	.....	1	2	6	.....	.....	5	2
3	.....	2	1	2	5	.....	2	1	3
2	4	6	1	.....	4	5	4	4	4
$314,999	$408,921	$209,274	$24,700	$8,100	$3,547,305	$2,073,209	$93,250	$497,953	5
$29,320	$74,911	$6,975	.....	$925	$717,180	$705,000	$10,450	$36,850	6
$67,300	$102,188	$55,000	.....	$5,000	$1,072,223	$875,000	$22,000	$166,774	7
$53,271	$132,050	$59,825	$3,700	$1,725	$696,892	$269,703	$36,750	$33,709	8
$195,108	$99,772	$87,474	$21,000	$450	$1,061,010	$223,506	$24,050	$260,620	9
9	.....	6	3	7	17	.....	4	7	10
21	35	5	25	.....	79	31	7	46	11
$23,788	$35,730	$2,780	$33,600	.....	$149,169	$39,815	$4,020	$48,664	12
5	7	1	2	.....	8	2	.....	5	13
$8,200	$10,800	$464	$3,000	.....	$37,948	$4,700	.....	$16,869	14
16	28	4	23	.....	71	29	7	41	15
$15,588	$24,930	$2,316	$30,600	.....	$111,221	$35,115	$4,020	$31,795	16
14	19	4	23	.....	69	26	7	20	17
$14,948	$23,080	$2,316	$30,600	.....	$110,149	$33,501	$4,020	$22,795	18
2	9	.....	.....	.....	2	3	.....	21	19
$640	$1,850	.....	.....	.....	$1,072	$1,614	.....	$9,000	20
73	145	156	102	19	1,144	205	82	368	21
59	30	85	65	18	811	189	73	211	22
65	83	57	70	4	996	199	34	300	23
$34,736	$30,166	$23,287	$19,475	$1,465	$471,662	$78,159	$15,267	$93,846	24
58	51	57	19	4	804	157	30	205	25
$32,736	$25,166	$23,287	$10,430	$1,465	$437,322	$67,949	$14,467	$75,483	26
7	32	.....	51	.....	174	39	4	93	27
$2,000	$5,000	.....	$9,045	.....	$32,130	$9,850	$800	$18,109	28
.....	.....	.....	.....	.....	18	3	.....	2	29
.....	.....	.....	.....	.....	$2,210	$360	.....	$254	30
60	32	.....	18	.....	815	159	2	210	31
61	33	.....	18	.....	841	158	2	206	32
58	93	3	19	.....	806	158	13	222	33
58	95	73	19	.....	803	158	46	212	34
58	95	73	19	.....	797	154	46	220	35
58	18	7	19	.....	784	156	2	218	36
53	10	7	18	.....	818	157	.....	195	37
50	10	67	19	.....	826	157	.....	146	38
61	24	150	22	10	819	158	42	188	39
61	88	149	18	19	767	157	64	214	40
61	89	136	18	19	752	151	75	221	41
61	30	15	18	.....	826	155	63	207	42
8	50	.....	40	.....	188	32	6	105	43
8	50	.....	40	.....	189	32	6	106	44
6	50	.....	40	.....	185	32	6	101	45
6	50	.....	40	.....	187	37	6	91	46
6	50	.....	55	.....	172	37	6	83	47
8	50	.....	55	.....	177	37	6	91	48
7	10	.....	55	.....	186	43	.....	85	49
7	10	.....	80	.....	189	43	.....	54	50
8	50	.....	80	.....	188	43	.....	89	51
8	3	.....	46	.....	125	43	6	106	52
5	3	.....	40	.....	122	44	6	105	53
9	9	.....	40	.....	175	43	6	98	54
$28,708	$54,056	$10,570	$12,020	$425	$303,643	$84,396	$9,999	$25,522	55
$300	.....	.....	$1,620	.....	$240	$1,930	$420	$1,700	56
$1,996	$768	$1,057	.....	$60	$18,177	$5,488	$889	$2,271	57
$26,412	$53,288	$9,513	$10,400	$365	$285,226	$76,978	$8,690	$21,551	58
.....	.....	.....	.....	.....	.....	.....	.....	.....	59
$259,652	$161,089	$250,594	$126,610	$14,387	$1,704,054	$572,168	$100,719	$453,635	60
$244,854	$89,302	$221,779	$111,800	$13,422	$1,077,791	$480,212	$88,250	$314,562	61
.....	.....	.....	.....	.....	162,456,728	59,940,608	.....	32,213,640	62
.....	.....	.....	.....	.....	$1,040,546	$369,314	.....	$150,240	63
.....	187,620	.....	.....	.....	.....	.....	.....	.....	64
.....	$2,202	.....	.....	.....	.....	.....	.....	.....	65
.....	7,080,000	84,617,200	.....	3,380,080	1,747,200	.....	35,441,765	3,000,000	66
.....	$23,000	$221,779	.....	$13,422	$4,773	.....	$88,250	$9,000	67
.....	.....	.....	.....	.....	.....	.....	.....	1,092,000	68
.....	.....	.....	.....	.....	.....	.....	.....	$2,700	69
380,000	800,000	.....	6,187,140	.....	350,000	4,544,000	.....	4,898,000	70
$6,000	$11,000	.....	$107,300	.....	$10,490	$78,000	.....	$72,000	71
13,939,464	2,822,400	.....	.....	.....	1,336,340	2,825,732	.....	5,277,960	72
$237,654	$53,100	.....	.....	.....	$16,765	$32,898	.....	$77,387	73
10,000	.....	.....	49,286	.....	.....	.....	.....	37,000	74
$700	.....	.....	$3,500	.....	.....	.....	.....	$3,000	75
.....	.....	.....	28,571	.....	.....	.....	.....	.....	76
.....	.....	.....	$1,000	.....	.....	.....	.....	.....	77
43,478	.....	.....	.....	.....	326,000	.....	.....	16,249	78
$500	.....	.....	.....	.....	$5,217	.....	.....	$235	79
$7,089	$6,011	$8,944	$300	$340	$67,591	$13,900	$2,649	$22,227	80
.....	.....	.....	$60	.....	$19,904	$130	.....	180	81
$1,040	$4,266	$2,343	$60	$105	$30,320	$4,477	$610	$6,517	82
$6,669	$61,510	$17,324	$14,390	$520	$495,872	$72,449	$8,300	$92,426	83
.....	.....	$204	.....	.....	$12,576	$1,000	$910	$17,723	84

[1] Includes establishments distributed as follows: California, 2; Florida, 2; Maryland, 1; Nebraska, 2; New Jersey, 1; North Dakota, 1; Pennsylvania, 1.

TABLE 7.—STARCH: DETAILED

		United States.	Connecticut.	Illinois.	Indiana.	Iowa.	Maine.
	Products:						
85	Aggregate value	$9,232,984	$591,000	$542,190	$989,639	$896,831	$555,576
	Starch—						
86	Total number of pounds	297,803,139	11,337,368	24,874,000	43,979,000	39,325,047	15,273,633
87	Total value	$8,037,965	$581,000	$389,590	$892,330	$818,271	$544,760
88	Corn starch, pounds	247,051,744	11,337,368	24,470,800	43,979,000	39,325,047	.....
89	Value	$6,133,001	$581,000	$369,390	$892,330	$818,271	.....
90	Wheat starch, pounds	16,064,569	.....	403,200	.....	.....	.....
91	Value	$749,755	.....	$20,200	.....	.....	.....
92	Potato starch, pounds	33,941,826	.....	.....	.....	.....	15,273,633
93	Value	$1,129,129	.....	.....	.....	.....	$544,760
94	Root starch, pounds	745,000	.....	.....	.....	.....	.....
95	Value	$26,080	.....	.....	.....	.....	.....
96	Cattle food, pounds	68,745,819	.....	10,400,000	25,000,000	2,500,000	.....
97	Value	$258,023	.....	$104,000	$58,385	$5,559	.....
98	All other products	$936,996	$10,000	$48,600	$38,924	$73,001	$10,816
	Comparison of products:						
99	Number of establishments reporting for both years	76	7	2	1	3	28
100	Value for census year	$5,497,600	$451,000	$43,440	$973,089	$894,581	$398,810
101	Value for preceding business year	$4,870,205	$472,469	$30,000	$950,000	$824,546	$311,536
	Power:						
102	Number of establishments reporting	114	6	2	3	3	45
103	Total horsepower	11,985	71	851	941	840	1,517
	Owned—						
	Engines—						
104	Steam, number	171	2	7	14	13	48
105	Horsepower	9,810	55	650	933	832	1,414
106	Gas or gasoline, number	2	.....	.....	.....	.....	.....
107	Horsepower	10	.....	.....	.....	.....	.....
108	Water wheels, number	16	.....	.....	.....	.....	2
109	Horsepower	1,595	.....	.....	.....	.....	65
110	Electric motors, number	10	.....	3	.....	1	.....
111	Horsepower	323	.....	200	.....	4	.....
112	Other power, number	11	.....	.....	.....	.....	.....
113	Horsepower	165	.....	.....	.....	.....	.....
114	Rented, horsepower	82	16	1	8	4	38
	Establishments classified by number of persons employed, not including proprietors and firm members:						
115	Total number of establishments	124	8	3	4	4	45
116	No employees	1	.....	.....	.....	.....	.....
117	Under 5	14	3	1	1	1	.....
118	5 to 20	82	2	1	2	1	45
119	21 to 50	11	1	.....	.....	.....	.....
120	51 to 100	7	2	.....	.....	.....	.....
121	101 to 250	6	.....	1	1	1	.....
122	251 to 500	3	.....	.....	.....	1	.....

SUMMARY, BY STATES, 1900—Continued.

Massachusetts.	Michigan.	Minnesota.	Missouri.	New Hampshire.	New York.	Ohio.	Wisconsin.	All other states.[1]	
$390,161	$330,183	$329,566	$230,000	$18,500	$2,589,903	$940,511	$154,030	$674,894	85
8,042,151	4,945,680	10,882,333	6,700,000	520,000	67,652,609	36,301,525	5,043,060	22,926,733	86
$389,815	$215,766	$329,566	$230,000	$18,500	$1,970,701	$858,776	$154,030	$644,860	87
585,960	.....	.....	6,700,000	.....	66,170,869	34,412,450	.....	20,070,250	88
$46,391	.....	.....	$230,000	.....	$1,915,766	$783,213	.....	$496,640	89
7,456,191	3,287,880	.....	.....	.....	616,740	1,389,075	.....	2,411,483	90
$343,424	$154,428	.....	.....	.....	$25,000	$75,563	.....	$131,140	91
.....	1,657,800	10,882,333	.....	520,000	265,000	.....	5,043,060	300,000	92
.....	$61,338	$329,566	.....	$18,500	$8,935	.....	$154,030	$12,000	93
.....	.....	.....	.....	.....	600,000	.....	.....	145,000	94
.....	.....	.....	.....	.....	$21,000	.....	.....	$5,080	95
.....	1,800,000	.....	.....	.....	29,045,819	.....	.....	.....	96
.....	$1,800	.....	.....	.....	$88,279	.....	.....	.....	97
$346	$112,617	.....	.....	.....	$530,923	$81,735	.....	$30,034	98
5	.....	6	1	4	9	3	.....	7	99
$390,161	.....	$235,966	$115,000	$18,500	$1,126,005	$183,664	.....	$667,384	100
$365,216	.....	$180,827	$105,000	$11,100	$867,862	$152,000	.....	$599,650	101
4	4	8	3	4	14	4	5	9	102
65	719	461	82	49	4,435	1,063	290	601	103
4	8	12	3	3	28	10	5	14	104
65	675	461	72	39	2,825	910	290	589	105
.....	.....	.....	.....	.....	.....	.....	.....	2	106
.....	.....	.....	.....	.....	.....	.....	.....	10	107
.....	.....	.....	.....	1	13	.....	.....	.....	108
.....	.....	.....	.....	10	1,520	.....	.....	.....	109
.....	5	.....	.....	.....	1	.....	.....	.....	110
.....	44	.....	.....	.....	75	.....	.....	.....	111
.....	.....	.....	.....	.....	1	10	.....	.....	112
.....	.....	.....	.....	.....	15	150	.....	.....	113
.....	.....	.....	10	.....	.....	3	.....	2	114
5	4	8	3	4	15	5	6	10	115
.....	.....	.....	.....	.....	1	.....	.....	.....	116
.....	.....	.....	.....	2	6	.....	.....	.....	117
4	2	6	1	2	3	1	5	7	118
1	.....	2	1	.....	1	2	1	2	119
.....	2	.....	1	.....	.....	2	.....	.....	120
.....	.....	.....	.....	.....	2	.....	.....	1	121
.....	.....	.....	.....	.....	2	.....	.....	.....	122

[1] Includes establishments distributed as follows: California, 2; Florida, 2; Maryland, 1; Nebraska, 2; New Jersey, 1; North Dakota, 1; Pennsylvania, 1.

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