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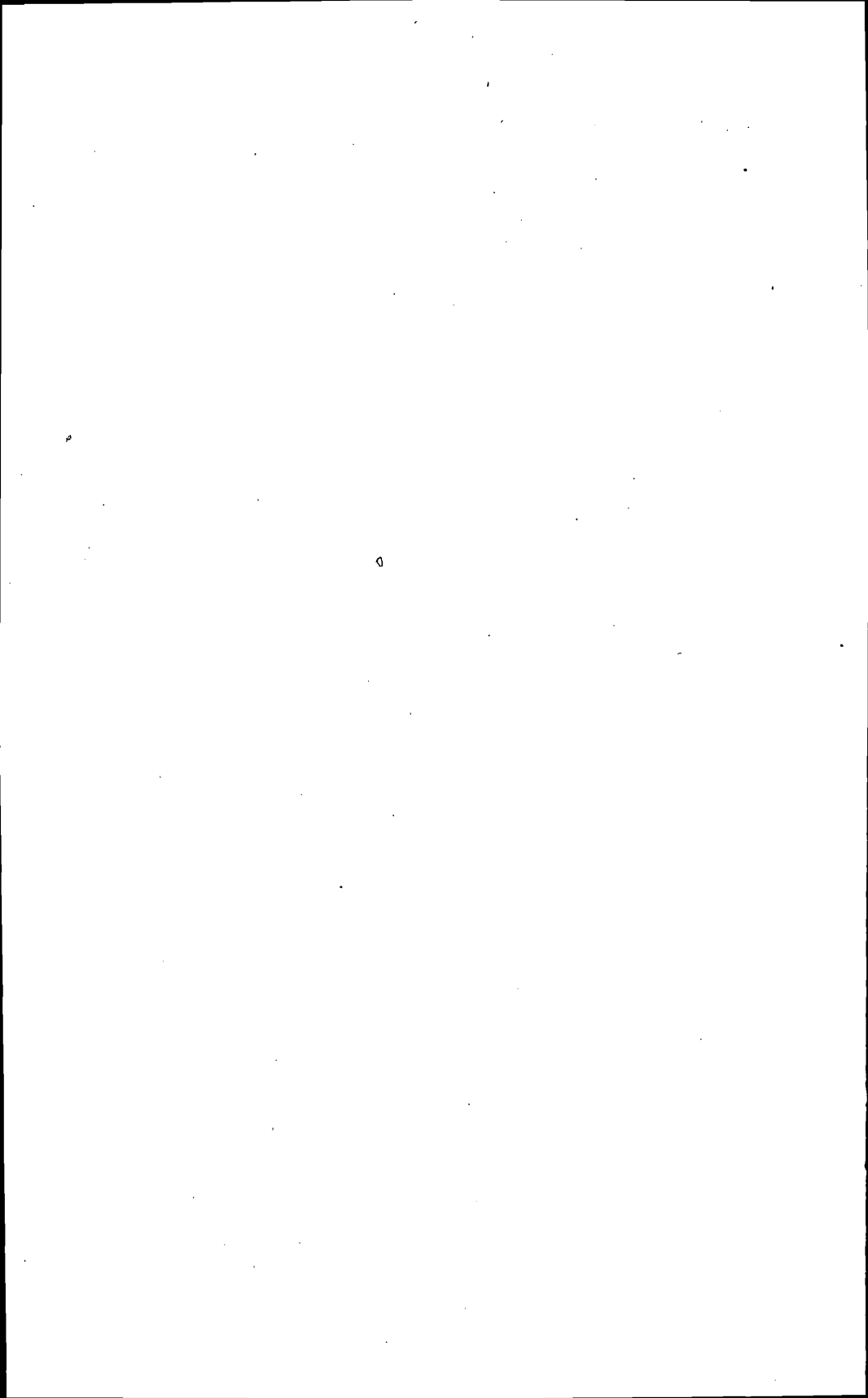
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Appendix B

Number of Persons in
Manufacturing Industries



Appendix B

Number of Persons in Manufacturing Industries

INTRODUCTORY NOTE

THIS appendix brings together the basic data on number of persons engaged in manufacturing industries during the Census years 1899-1939. The statistics are presented in the following tables:

- B-1 Number of Wage Earners in Manufacturing Industries: Individual Industries, Groups of Industries, and Total Manufacturing.
- B-2 Number of Salaried Workers in Manufacturing Industries: Groups of Industries and Total Manufacturing.
- B-3 Number of Proprietors and Firm Members in Manufacturing Industries: Groups of Industries and Total Manufacturing.
- B-4 Number of Nonfactory Personnel in Manufacturing Industries: Groups of Industries and Total Manufacturing.
- B-5 Aggregate Number of Personnel in Manufacturing Industries: Total Manufacturing.

The explanatory note accompanying each table should be consulted before the figures themselves are utilized.

Explanatory Note to Table B-1: Number of Wage Earners in Manufacturing Industries

This appendix table contains the basic data on the average number of wage earners employed in American factories in each Census year from 1899 to 1939 inclusive. The character of the average number calculated by the Census is discussed in Appendix A. The distinction between wage earners and salaried employees (given in Appendix Table B-2) does not rest on the manner in which compensation is paid. It is based, according to the Bureau of the Census, "primarily on the character of work done rather than on the unit of time which is the basis of compensation.

Wage earners are not confined to those who receive day wages, although most wage earners are paid on this basis. It will doubtless be found, for instance, that engineers and firemen in mills and pressmen in newspaper offices are often employed by the week or the month, but they should be classed as wage earners rather than as salaried employees. Timekeepers, messenger boys, etc., in printing plants, and the like, whose work is closely related to that of persons who would ordinarily be called clerks, stenographers, and salesmen, may be classed as salaried employees."¹

Of the three sections of the table presented here, the first shows in detail the average number of wage earners employed by each manufacturing industry. The industries are arranged in groups which proceed in the order previously established for major groups of manufacturing industries. Within the groups, the order of the individual industries is designed to bring closely related industries together for convenience in presentation. A second section assembles the group totals and shows the grand total for all manufacturing industries combined. The third section reconciles the grand total arrived at in the present study with the grand total given in each Census volume.² This reconciliation is necessary because the composition of total manufacturing in this study differs somewhat from that of the Census, as do also the composition and order of our major groups.

In order to obtain accurate and comparable data, we have had to take figures from many different Census volumes. Furthermore, we have sometimes combined series given in detail in the Census reports, and for this reason the reader may occasionally find it difficult to locate in the Census volumes certain figures presented by us. The industry titles used here are short titles; complete Census titles will be found in the index to *The Output of Manufacturing Industries, 1899-1937*.³

¹ Census of Distribution, Manufactures, and Mines and Quarries, 1929—Instructions for Preparing Distribution, Manufactures, and Mines and Quarries Reports—Cities Having 10,000 or More Inhabitants, Bureau of the Census (Washington, 1930), p. 36.

² The 1899 and 1904 Census totals were taken from the 1909 Census report.

³ Since publication of the volume cited we have made a few changes in the short titles. For example, *tobacco products, other* is now called *chewing and smoking tobacco*, and *chemicals, not elsewhere classified* is now called *chemicals, industrial*. None of the changes in title should cause the reader trouble in identifying the industries affected.

Footnotes explain pertinent changes in classification and coverage. Breaks or discontinuities in series have been indicated by footnote symbols at the point where the discontinuity occurs; and symbols are repeated in a series if breaks occur at more than one point. Whenever possible the continuity of a series has been preserved, at least in part, by the provision of two figures for the year in which a change in composition took place, one figure comparable with earlier years and the other comparable with later years.

The industrial classification in the 1939 Census was set up to conform to the standard classification system recommended by the Division of Statistical Standards of the Bureau of the Budget. For this reason it differs considerably from the classification followed in earlier Censuses. However, in all cases comparable 1937 figures were provided in the 1939 Census report and are given here. Because of their great number and the ready availability of information in the 1939 Census report, no attempt is made here to describe in detail the changes between 1937 and 1939.

The footnotes which give details concerning the various changes in the definition of certain industries are necessarily condensed. For example, footnote j, p. 183, reads: "Between 1909 and 1914 powdered milk and sugar of milk were transferred from *chemicals, industrial*, to *milk, canned*." In more precise terms, the statement means that up to and including 1909 establishments whose chief product was powdered milk or sugar of milk were classified under *chemicals, industrial*, whereas in 1914 and later years they were classified under *milk, canned*.

We use *n.e.c.* as the abbreviation for *not elsewhere classified*, *n.e.m.* for *not elsewhere made*, and *n.e.d.* for *not elsewhere done*. Italicized figures represent duplications (such as totals) of other figures in the same column, though not necessarily on the same page. Group totals are not italicized. The titles of industries are italicized in footnotes. The printed totals do not always agree exactly with the sum of the component items because decimals carried in the original calculations have been rounded off.

TABLE B-1
Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
Meat packing*	68.9	74.6	88.2	98.9	161.0	161.0	117.0	132.8	120.4	119.1	122.5	106.7	113.2	116.6	127.5	120.5				
Sausage, n.e.m.	0.88	1.3	1.9	2.6	3.5	3.4	3.9	4.6	4.9	5.0	5.9	6.2	7.8	9.2	10.2	12.3				
Oleomargarine, n.e.m.	1.1	0.52	0.61	0.92	2.9	2.9	2.0	1.5	1.6	1.5	1.5	1.0	0.84	1.2	1.2	0.98				
Shortenings			b	1.8	2.4	2.4	1.1	1.7	2.0 ^a	2.7	3.0	3.7	3.7	4.8	4.9	4.7				
Flour	32.2	39.1	39.5	39.7	45.5	45.3	35.4	35.2	32.0 ^a	30.0	27.0	22.8	23.2	26.5	26.4	24.8				
Cereals			b	5.2	7.6	7.6	5.7	6.4	6.2	6.0	6.5	7.0	7.1	7.9	8.1	7.8				
Feeds	8.2	11.3 ^a	{ 1.8	2.5 ^b	4.4	4.4	3.3	3.4	4.5 ^a	7.6	10.2	8.4	8.8	11.6	14.4	15.4				
Food, n.e.c.			{ 13.2	77.4	6.9	11.3	8.9	10.7	11.6	10.3 ^a	10.6	8.9	10.7	14.1	16.8	15.5				
Rice	0.65	1.5	1.2	1.3	2.1	2.1	1.9	1.8	1.3	1.5	1.6	1.5	1.6	2.0	2.2	2.3				
Macaroni			b	3.5	4.5	4.5	3.9	4.1	4.6	4.6	5.1	4.8	5.5	6.0	6.5	6.0				
Biscuits and crackers			{ 25.0	34.3	34.1	31.5	35.1	32.4	33.0	33.9	28.4	27.2	29.2	28.8	29.2	28.8				
Bread and cake			{ 100.2	99.0	107.3	106.4	117.0	127.5	128.0	139.0	167.0	154.8	155.2	189.2	210.6	201.5				
Fish, canned	12.6 ^a	8.4	9.9	11.2	12.4	12.4	7.9	9.1	10.5	12.6	13.6	8.6	10.0	13.3	18.2	17.6				
Fruits and vegetables, canned	44.4 ^b	48.5 ^b	50.0	62.9	77.5	76.3	51.7	72.5	85.9	80.9	98.9	80.2	84.3	116.3	137.1	116.8				
Vinegar and cider	1.6	1.5	1.5	1.2	2.0	1.9	1.5	1.3	1.2	1.1	0.98	0.85	0.84	1.0	0.97	1.1				
Butter		{ 9.5	11.6	14.1	17.6	17.6	18.5	20.3	17.8	20.1	19.1	15.7	16.5	18.4	19.4	18.0				
Cheese		{ 2.7	2.7	2.9	4.0	4.0	3.5	4.3	3.4	3.5	3.4	3.0	3.1 ^a	4.3	4.5	5.0				
Milk, canned		{ 3.4	4.2 ^b	6.0	13.7	13.7	9.5	8.3	7.1	7.4	7.1	6.1	6.3	8.5	9.0	9.7				
Ice cream		{ 10.4	19.2	10.4	19.2	19.0	20.2	23.1	23.0	21.9	22.4	17.8	14.4	17.3	18.7	15.7				
Beet sugar ¹	2.0	4.0	7.2	8.0	11.8	11.8	13.6	7.6	8.9	7.4	7.5	6.2	10.7	9.2	9.4	10.4				
Cane sugar, n.e.m. ¹		{ 4.1	3.6	6.1	6.1	6.1	2.7	2.8	2.1	0.97	2.3	2.0	2.4	2.9	4.2	4.2				
Cane-sugar refining	14.1	13.5 ^a	{ 9.4	11.3	18.2	18.2	15.5	15.3	14.5	14.0	13.9	11.9	11.5	13.8	14.0	14.1				

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Chewing gum	26.9	36.2	44.6	2.0	3.2	2.0	2.1	2.2	2.5	2.3	2.1	2.3	2.3	2.4	2.6
Confectionery				51.6	76.5	61.0	63.5	63.6 ^m	63.2	63.5	51.3	50.6	52.1 ^m	53.7	49.7
Chocolate	1.3	2.1	2.8	4.2	9.1	6.7	6.9	7.1 ^m	6.4	6.2	5.7	6.5	8.3 ^m	7.4	6.5
Corn products	5.9	4.7	4.8	4.5	7.8	6.1	6.5	6.7	7.6	6.7	7.6	7.3	7.0	6.8	6.8
Flavorings	1.6	2.2	2.3	2.4	3.6	3.5	3.6	3.9	5.0	5.0 ^a	5.2 ^o	2.3	2.9	4.2	3.6
Baking powder	1.9	2.4	2.2	2.3	3.3	3.6	3.5	2.9	3.0	3.0	2.9	2.7	2.7	2.4	2.3
Ice ^p	6.9	10.1	16.1	23.0	30.2	29.9	24.1	26.9	24.9	22.1	32.2	25.2	21.3	19.0	18.7
TOTAL	304.2	358.9	420.1	498.6	699.1	583.1	642.2	635.0	639.5	702.9	605.7	618.0	718.3	788.8	741.0

^a For 1899-1919 meat packing includes *lard, not made in meat packing establishments*. After 1919 *lard* was not treated as a separate industry.

^b Prior to 1914 *cereals, macaroni, and shortenings* were combined with *food, n.e.c.*

^c Between 1925 and 1927 vegetable cooking oils were transferred from *oils, n.e.c.*, and other classifications to *shortenings*.

^d Between 1925 and 1927 grain ground for prepared feeds was transferred from *flour to feeds*. The comparability of the figures for the latter industry appears to have been seriously affected by this shift.

^e Between 1904 and 1909 some establishments compounding sirups were transferred from *cane-sugar refining to food, n.e.c.*

^f Between 1927 and 1929 canned poultry products were transferred from *food, n.e.c.*, to *poultry products*. The latter we do not consider to be a manufacturing industry.

^g The 1899 figure for *fish, canned*, appears to be seriously erroneous because of the inclusion of some of the fishermen engaged in catching the fish or of some of the laborers engaged on contract work.

^h Packing and shipping houses that handled dried fruits completely processed on fruit farms were included in *canned fruits and vegetables* in 1904 only.

ⁱ The 1933 Census of this industry is considered by the Bureau of the Census to be somewhat incomplete.

^j Between 1909 and 1914 powdered milk and sugar of milk were transferred from *chemicals, industrial to milk, canned*.

^k Prior to 1914 *ice cream* was not considered a manufacturing industry and was not canvassed.

^l Figures for 1931-39 for *beet sugar* and *cane sugar, n.e.m.*, were requested by the U. S. Bureau of the Census for the seasons beginning in the respective Census years, and for earlier Census years for the seasons ending in those years. Thus the figure given for 1931 applies to the season 1931-32, whereas the figure for 1921 refers to the season 1920-21. In 1925, 1927 and 1929, however, most of the establishments in *cane sugar, n.e.m.*, and a few of the establishments in *beet sugar*, reported for the seasons 1925-26, 1927-28 and 1929-30, instead of 1924-25, 1926-27 and 1928-29.

^m Chocolate departments operated by confectionery manufacturers are classified under *chocolate*. In 1935 and prior to 1927 some confectionery manufacturers failed to make separate returns for their chocolate departments, which were consequently included in the statistics on *confectionery*. Only 5 establishments failed to make separate reports in 1935.

ⁿ Between 1929 and 1931 *dairyman's supplies* was abandoned as a separate classification, and the products were divided among *flavorings* and other classifications.

^o Between 1931 and 1933 malt extracts and sirups were transferred from *flavoring to liquors, malt*.

^p Incomparabilities mar the series for *ice* because of the erroneous inclusion, in varying degree, of some wage earners employed in delivery service.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

BEVERAGES	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
<i>Industry</i>																
Beverages, non-alcoholic	8.8	10.9	13.1	15.5	17.4	16.5	14.7	29.3	27.4	27.0	28.3	23.9	15.1	16.8	28.0	21.3
Excl. near beer																
Incl. near beer	39.5	48.1	54.6	62.1	34.3	34.3	18.6						23.5 ^b	39.2	47.0	36.1
Liquors, malt																
Incl. near beer	2.0	2.1	1.8	2.0	1.4	1.4	0.62	0.49	0.57	0.50	0.59	0.54	0.85 ^b	1.4	1.6	1.5
Excl. near beer	1.2	1.9	1.9	2.3	1.0	0.98	0.42	0.52	0.26	0.15	0.19	0.096	1.3	2.3	3.0	2.1
Malt	3.7	5.4	6.4	6.3	1.4	1.4	1.1	1.1	1.4	1.2	1.5	1.0	2.5 ^{c,d}	7.7	8.2	4.1
Liquors, vinous																
Liquors, distilled	55.1	68.3	77.8	88.2	55.4	54.5	35.4	31.3	29.6	28.8	30.5	25.5	43.2	67.9	85.9	65.0
TOTAL													42.4			

^a Between 1931 and 1933 malt extracts and sirups were transferred from *flavorings to liquors, malt*.

^b Between 1933 and 1935 maltheouses were transferred from *liquors, malt*, to *malt*.

^c The 1933 Census of this industry is considered by the Bureau of the Census to be somewhat incomplete.

^d Between 1933 and 1935 ethyl alcohol was transferred from *liquors, distilled*, to *chemicals, industrial*. Overlapping figures are provided for 1933 by the Bureau of the Census.

TOBACCO PRODUCTS	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Cigarettes ^a	103.4	4.5	8.3	11.8	22.9	22.6	21.5	21.2	117.1	21.6	21.1	20.1	22.5	24.4	26.1	27.4
Cigars ^a		130.9	131.3	141.0	115.8	114.1	111.9	108.8								
Chewing and smoking tobacco	29.2	24.0	27.2	26.0	18.3	18.3	16.6	16.3	15.0	13.1	10.8	11.4	10.2	10.1	9.2	87.5
TOTAL	132.5	159.4	166.8	178.9	157.1	155.0	150.0	146.3	132.1	129.3	116.1	99.8	99.7	90.5	92.2	87.5

^a For the years 1909, 1914 and 1919 the Census gives figures for a small industry, *cigars and cigarettes*. The average number of wage earners in this industry was distributed between the industries *cigars and cigarettes* in proportion to the average number of wage earners in the two industries. The average number of wage earners in the *cigars and cigarettes* industry in 1921 and 1923 was combined by the Census with the average number of wage earners in *cigarettes* to avoid disclosure of the figures for individual establishments.

^b In 1933 the coverage of *cigars* was incomplete. On the basis of U.S. Bureau of Internal Revenue data the coverage may be estimated as about 81.5 percent; the wage-earner figure for this year has been raised accordingly.

TEXTILE PRODUCTS	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Cotton goods	297.9	310.5	371.2 ^a	379.4	431.0	430.9 ^b	412.1	471.5	445.2	467.6	424.9	330.0	379.4 ^{a,d}	369.1	422.3	396.0
Cotton small wares	4.9	5.4	7.7 ^a	6.6	9.4	9.4	7.4 ^f	16.4	16.2	15.0	15.3	12.8	13.2 ^{g,h}	13.5 ^b	12.6	13.3
Lace goods						6.5	6.4	7.3	7.0	6.5	6.9	6.0	5.9	7.9	8.1	7.3
Woolen and worsted goods ¹															759.0	149.2
Wool scouring	0.72	0.78 ¹	1.1	1.1	2.2	2.2	1.5	1.5	1.1	1.4	1.3	1.4	1.4	1.5	1.3	1
Woolen goods	68.9	72.7	52.2	49.2	63.0	62.9	56.4	72.4	67.1	61.8	58.5	42.9	48.5 ^{d,k}	69.1 ¹	67.3	1
Worsteds goods	57.0	69.3	111.0	109.5	103.8	103.8	105.9	122.1	98.2	92.6	88.5	76.7	78.7 ^d	93.2	90.8	1
Haircloth	3.1	2.9	0.54	0.60	0.42	0.42	0.30	0.50	0.36	0.38	0.45	0.40	0.60	0.59	1	1
Upholstering materials, n.e.c.						1.5	0.74	1.2	1.2	1.1	1.4	0.90	0.68 ^d	3.2	4.6	4.5
Wool pulling	0.48	0.68	0.63	0.71	0.70	0.70	0.55	0.70	0.57	0.52	0.60	0.64	0.68	0.87	0.79	0.84
Silk and rayon goods	65.4	79.6	99.0 ^m	108.2	126.8	126.7	121.4	125.2	132.5	127.6	130.5	109.2	110.3 ^e	125.9 ^h	116.8	119.8

¹ For footnotes see pp. 188-89.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Dyeing and finishing	29.8	35.6	44.0	48.5	56.0	55.9	51.5	63.4	70.7	73.9	79.3	67.6	66.3 ^a	74.7 ^b	77.5	66.9
Hosiery, knit																66.2
Underwear, knit																159.1
Outerwear, knit	83.7	104.1	129.3 ^m	150.5	172.6	172.5	161.9	41.5	28.0	24.7	29.0	26.1	26.9	35.5	29.3	38.5
Cloth, knit																28.1
Carpets and rugs, rag ^s	1.3	1.7	2.0	2.1	2.0	1.9	1.6	2.0	1.9	1.6	1.5	1.0	0.68	0.99 ¹	0.43	10.9
Mats and matting	1.2	0.62	0.94	0.87	1.1	1.1	0.63	0.99	0.90	0.42	0.47	0.31	0.22	0.69	0.79	q
Carpets, rugs and mats, except wool																q
Carpets and rugs, wool	28.4	33.2	33.3 ^r	31.3	22.9	22.9	22.9	35.2	33.9	32.8	32.6	22.9	21.3	27.6 ¹	30.8	25.6
Asphalted-felt-base floor covering	2.7	3.4	4.2	4.4	5.4	5.4	0.82	1.7	2.5	2.4	2.3	1.9	2.3	2.7	3.3	7.0
Linoleum																4.8
Cordage and twine	13.1	14.6	14.6	15.8	17.6	17.6	14.6	16.4	15.4	15.1	14.5	11.1	11.1	12.3	14.0	12.1
Jute goods	4.5	6.1	6.7 ^r	8.0	7.1	7.1	5.7	6.0	6.3	5.4	4.9	3.8	4.2	4.6	6.5	3.6
Linen goods	3.3	3.8	3.6	3.6	1.9	1.9	2.5	2.9	2.6	2.5	2.2	1.6	1.6	1.8	1.9	1.7
Clothing, men's, work																1.6
Clothing, men's, n.e.c.	120.9	137.2	191.2	173.7	175.3	174.6	165.2	36.6	32.8	40.6 ^r	38.2	33.1 ^t	55.3	61.1 ^u	69.5	70.4
Clothing, men's, buttonholes ^v	0.94	0.90	0.83	0.67	0.48	0.45	0.33	0.33	0.33	0.41	0.29	0.22	0.24	154.6 ^w	158.2	161.7
Cloth sponging and refinish- ing	0.53	0.80	0.98	0.90	1.2	1.2	1.1	1.2	0.93	0.74	0.90	0.58	0.68	755.7	755.7	755.7

NUMBER OF WAGE EARNERS

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Furnishings, men's, n.e.c.	13.2	16.4*	15.9	22.5	18.9	18.9	15.9	19.0	21.1 ^r	25.2	26.6	24.0 ^r	16.7	18.8	22.2 ^r	20.4
Gloves, textile, n.e.m.					99.0	9.0	5.8	8.9	7.8 ^{aa}	10.3	9.3	7.1	8.6	8.0	12.7	12.3
Shirts	36.6	36.5	48.5	52.0	39.6	39.2	45.4	51.7	49.9	57.2	59.8	57.8 ^r	53.8	59.9	67.6	70.5
Collars, men's	17.1	10.8	12.4	10.1	11.1	11.1	9.3	10.4	7.2	3.3	3.0	2.0	1.2	0.83		
Clothing, women's, n.e.c.	83.7	115.7	153.7	168.9	165.6	165.0	144.9	133.2	126.5	154.5 ^{bb}	187.5	173.9	159.8 ^{oo}	220.6	242.9 ^r	281.3
Corsets	12.3	11.0	17.6	20.5	18.4	18.4	17.1	16.1	14.5	13.8	13.7	14.0	14.0	15.6	16.4	18.8
Embroideries										9.0	6.6	5.6	4.7	5.7	6.7	8.5
Millinery										33.3	32.2	26.6	22.6 ^{oo}	22.8	21.6 ^r	24.3
Trimmings, n.e.m.	16.9	27.5*	39.2	45.3	50.8	50.4	53.7	54.2	53.6	9.5 ^{bb}	7.9	6.2	5.1	6.1 ^b	8.5	9.3
Handkerchiefs										6.7	6.0	4.8	4.7	4.9	5.0	4.8
Elastic woven goods, n.e.m.										4.1	4.3	3.3	2.6	2.7 ^b	2.9	2.6
Hats, cloth										3.8	3.8	3.5	3.5	3.5	3.5	3.4
Hats, straw, men's	12.5	6.6	6.2	7.3	7.5	7.5	6.5	7.3	6.6	6.3	5.8	3.5	4.1	3.8	3.5*	3.4
Hats, fur-felt	18.9	22.0	25.1	21.3	18.5	18.5	13.9	16.7	15.2	15.9	16.5	14.1	12.5	14.7	15.9	14.7
Hats, wool-felt	2.1	1.5	2.0	1.2	1.4	1.4	1.4	2.0	1.9	2.1	2.0	1.5	1.6	3.0	4.0	4.4
Hat and cap materials	1.4	2.4	2.4	1.8	3.0	3.0	1.7	2.3	2.1	2.8	2.6	1.9	1.9	2.5	2.4	2.7
Fur goods	7.8	9.4	11.9	9.0	13.6	13.5	12.1	14.4	16.6	16.6*	15.8	12.4	8.2	12.5	13.0*	13.1
Furs, dressed	0.84	1.1	1.2	1.5	5.1	5.1	4.4	5.2	5.1	5.5	5.2	5.2	5.4	6.4	6.3	5.1
Artificial leather	2.0	1.8	7.4 ^{oo}	0.80	2.0	2.0	1.4	2.5	2.7	2.7	2.6	1.9	2.0	2.3	3.9	4.0
Oilcloth	0.51	0.53	0.98	1.2	1.1	1.1	0.95	1.2	1.2	1.1	1.4	1.2	1.3	1.4	3.9	4.0
Awnings	3.3	3.4	4.2	5.1	6.0	5.9	5.1	6.0	6.2	6.5	7.2	5.4	4.5 ^{rr}	4.0 ^{rr}	4.7	3.9
Bags, textile, n.e.m.	3.9	5.7	8.0	9.4	10.8	10.7	10.3	11.5	11.4	11.2	11.8	12.0	10.5	10.9	12.1	12.0
Belting, woven, n.e.m.	0.25	0.69	1.2	0.95	2.5	2.5	1.1 ^r	0.34	0.25	0.34	0.26	0.19	0.17	0.17	0.23	0.23
Housefurnishings, n.e.c.	5.2	4.8 ^{bb}	4.9 ^h	6.9	7.9	7.8	7.5	8.7	9.3	11.7	15.8	14.2	14.7 ^{ss}	15.9 ^h	26.0 ^{oo}	33.4
Horse blankets	0.58	1.1	1.6	1.7	0.77	0.76	0.70	0.84	0.69	0.66	0.58	0.39	0.54			

For footnotes see pp. 188-89.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More																
	Establishments with Products Valued at \$500 or More					1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939	
	1899	1904	1909	1914	1919																	
Felt goods	2.7	3.3	3.5	4.0	5.2	5.2	4.2	5.7	5.1	5.5	5.5	4.4	5.0 ^h	3.6	3.7	3.3						
Flags and banners	0.51	0.37	0.93	1.5	1.1	1.0	0.99	0.88	1.0	1.0	0.94	0.78	0.57	1.7 ^w	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Regalia	1.6	2.5	2.6	2.0	2.2	2.2	2.1	2.0	1.7	1.8	1.4	0.92										
Nets and seines	0.75	0.82	0.95	1.1	0.86	0.86	0.70	0.88	0.88	0.87	0.90	0.57	0.42	0.47	0.50	*						
Wool shoddy	1.9	2.1	2.0 ^h																			
Waste	1.3	1.7	2.0 ^h	2.1	2.6	2.6	1.2	2.1	2.2	1.7	1.8	1.1	1.5	6.0 ^h	5.6	4.8						
TOTAL	1,036.7	1,179.1	1,457.1	1,466.3	1,654.3	1,632.3	1,532.0	1,741.7	1,654.3	1,655.6	1,719.7	1,732.0	1,441.1	1,707.5	1,834.6	1,839.9						

^a Prior to 1914 lace goods was included in cotton small wares and cotton goods.

^b Between 1919 and 1921 establishments engaged primarily in the manufacture of aircraft parts, other than engines and tires, were transferred from cotton goods and other industries to aircraft.

^c Between 1933 and 1935 dyeing and finishing departments of textile mills making cotton, rayon, and silk goods were transferred to dyeing and finishing; and cotton-and-silk-mixed fabrics and cotton-and-rayon-mixed fabrics having a cotton warp, even though the material of chief value was silk or rayon, were transferred from silk and rayon goods to cotton goods and to cotton small wares. The Bureau of the Census states that the combined figures for the latter two industries for 1935 are "roughly, but not exactly" comparable with the figures for 1933 and prior years and that the 1935 figures for silk and rayon goods are not comparable with the figures for earlier years.

^d Between 1933 and 1935 cotton batting, wadding, and mattress felts were transferred from cotton goods to upholstering materials, n.e.c.; and batts, padding, and card rolls were transferred from woolen goods and worsted goods to upholstering materials, n.e.c. The comparability of the figures for upholstering materials, n.e.c., appears to have been seriously affected by these shifts.

^r Between 1909 and 1914, 8 establishments manufacturing jute carpets were transferred from carpets and rugs, wool, to jute goods.

^s Between 1927 and 1929 sheep-lined clothing was transferred from fur goods to clothing, men's, work.

^t Between 1931 and 1933 children's play suits, windbreakers, lumberjacks and oiled waterproof outer garments were transferred from clothing, men's, n.e.c., to clothing, men's, work; sheep-lined and blanket-lined coats were transferred from clothing, men's, work, to clothing, men's, n.e.c.; workshirts (including flannel shirts) were transferred from shirts to clothing, men's work; and men's nightwear was transferred from furnishings, men's, n.e.c., to shirts.

^u For 1935 and 1937 the statistics for clothing, men's work, are not comparable because of a change in the constitution of the industry.

^v Because clothing, men's, buttonholes, contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

^w Between 1935 and 1937 uniforms were transferred from flags and banners to clothing, men's, n.e.c. In 1935, moreover, some establishments in flags and banners reported their merchandising activities with their manufacturing activities.

* Prior to 1909 suspenders, garters and elastic woven goods were classified with *furnishings, men's, n.e.c., rubber goods, other, and millinery*. In 1909 they were grouped under a new classification, *elastic woven goods, n.e.m.*

† After 1925 *military and lace goods, n.e.c.*, was abandoned as a separate classification and divided among *embroideries, millinery, and trimmings, n.e.m.* Ladies' handkerchiefs (formerly part of *millinery and lace goods, n.e.c.*) were classified with men's handkerchiefs (formerly in *furnishings, men's, n.e.c.*) under the title *handkerchiefs*.

‡ The 1937 Census of this industry is reported by the Bureau of the Census to be incomplete.

§ Between 1923 and 1925 certain establishments manufacturing gloves and mittens of cloth and leather combined were transferred from *gloves, leather, to gloves, textile, n.e.m.* Overlapping figures for 1925 are provided by the Bureau of the Census.

|| Between 1927 and 1929 women's scarfs and other neckwear were transferred from *trimmings, n.e.m., to clothing, women's, n.e.c.*

¶ The 1933 Census of this industry is considered by the Bureau of the Census to be somewhat incomplete.

‡‡ Between 1925 and 1927 women's and children's straw hats, other than harvest hats, were transferred from *hats, straw, men's, to millinery*.

§§ Prior to 1909 *excelsior* was combined with *artificial leather*. Overlapping figures for 1909 are available for *artificial leather*.

¶¶ Between 1933 and 1935 more than 300 establishments whose values of products were reported as between \$5,000 and \$20,000 were eliminated from *awarings* by the Census of Manufactures. More than 100 such establishments were not eliminated in 1933-35, however, because in some previous Censuses they had reported values of products above \$20,000. In 1937 these establishments also were eliminated.

‡‡‡ *Flags and banners and regalia* are included with *belting, women, n.e.m., hours furnishings, n.e.c., and fabricated textile products, n.e.c.*, in 1939.

§§§ Between 1904 and 1909 establishments manufacturing signs and advertising novelties were transferred from *housefurnishings, n.e.c.*, and other classifications to a new classification, *signs*.

¶¶¶ Prior to 1914 *aluminum manufactures* was included in *housefurnishings, n.e.c.*, and other industries.

||| Between 1909 and 1914 a few establishments making cotton or mattress shoddy and a few small establishments engaged in the cutting of flocks were transferred from *wool shoddy to waste*.

‡‡‡‡ Oakum was combined with *all other industries* in 1921 and with *waste* in other Census years.

||| After 1935 establishments reporting wiping rags as their primary product, formerly classified under *waste*, were not canvassed by the Bureau of the Census.

• *Nets and seines* are included with *cotton goods* in 1939. We have provided overlapping figures for 1937 for *cotton goods*.

The larger 1937 figure for *cotton goods* also reflects a revision arising from the reclassification of some establishments to accord with the 1939 classification.

† Between 1921 and 1923 belting manufactured in textile mills and elastic webbing manufactured in textile mills were transferred to *cotton small wares*, the former from *belting, women, n.e.m.*, and the latter from *elastic woven goods, n.e.m.* The comparability of the figures for *cotton small wares* appears to have been seriously affected by the shift.

‡ Between 1933 and 1935 *cotton small wares* was expanded to include some mixed fabrics with a cotton warp. According to the Bureau of the Census, the figures are still comparable.

§ Between 1935 and 1937 some establishments were transferred from *cotton small wares* to each of the following industries: *asbestos products, fabricated textile products, n.e.c.* (Combination of *housefurnishings, n.e.c., belting, women, n.e.m., and horse blankets*), *silk and rayon goods, elastic woven goods, n.e.m., and trimmings, n.e.m.*

¶ For 1939 *wool scouring, woolen goods and worsted goods* (including *haircloth*) are available only in combination. The Bureau of the Census has provided a comparable 1937 figure. The combination for 1937 differs slightly from the sum of the 1937 figures for the industries named because of the reclassification of some establishments to accord with the 1939 classifications.

¶¶ Prior to 1909 contract work alone was included in *wool scouring*, whereas some of the establishments included in later Censuses reported also work done on purchased skins and wool.

‡ Between 1933 and 1935, woven felts were transferred from *felt goods to woolen goods*.

‡‡ Between 1935 and 1937 some establishments in *carpets and rugs, rag*, were transferred to *carpets and rugs, wool*, and some establishments in the latter industry were transferred to *woolen goods*.

§ Between 1909 and 1914 some knitting mills using silk as the sole material were transferred from *silk and rayon goods to knit goods*.

¶ Between 1933 and 1935 dyeing and finishing of hosiery knitted by others were transferred from *dyeing and finishing to hosiery, knit*.

¶¶ Between 1935 and 1937 some establishments in *dyeing and finishing* were transferred to *fabricated textile products, n.e.c.* (combination of *housefurnishings, n.e.c., belting, women, n.e.m., and horse blankets*).

‡ Because *carpets and rugs, rag*, contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

‡‡ In 1939 a new industry, *carpets, rugs and mats, except wool*, was constituted from *carpets and rugs, rag*, and *mats and matting*, and parts of several other industries. Comparable figures for 1937 are provided by the Bureau of the Census.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

LEATHER PRODUCTS	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Leather	52.1	57.2	62.2	55.9	72.5	72.5	49.0	59.7	52.3	52.9	49.9	42.0	44.2	50.9	50.7	47.3
Shoes, leather	141.8	149.9	185.1	191.6	211.0	211.0	183.5	225.2	207.0	203.1	205.6	181.4	190.9	202.1	215.4	218.0
Shoe cut stocks, n.e.m.	6.2	5.9	6.7	7.8	9.7	9.7	7.0	8.0	8.0	8.6	9.5	8.6	6.5	6.5	18.3	18.8
Shoe findings, n.e.m.	3.2	4.4	6.5	6.7	8.9	8.9	5.9	7.9	8.6	10.0	10.4	9.1	10.3	10.3	18.8	18.8
Belting, leather	1.7	2.1	3.0	3.0	2.8	2.8	2.3	3.2	2.6	2.2	2.6	1.6	1.7	2.4	2.8	2.3
Gloves, leather	14.2	10.6	11.4	10.7	10.7	10.7	7.9	10.0 ^a	8.4	9.1	9.2	7.9	8.1	9.8	11.6	10.0
Leather goods, n.e.c.	6.3	7.8 ^b	7.7	7.1	8.9	8.9	8.6	7.9	6.7	7.2	6.0	5.2	4.5	6.0	20.9	20.1
Pocketbooks	1.7	2.3	1.5	1.5	2.9	2.9	2.7	5.5	6.8	8.6	10.4	8.7	8.1	11.4	17.4	20.1
Luggage	7.0	9.1	11.1	9.9	11.5	11.4	8.7	11.4	10.3	10.3	11.4	6.2	5.1	6.7	8.7	8.3
Saddlery and harness	14.4	15.0	14.6	13.0	10.4	10.0	4.5	6.6	4.6	4.0	3.3	2.0	2.5	3.2	3.0	2.8
Whips ^c	1.3	1.6	1.5	1.2	0.72	0.71	0.29	0.20	0.10	0.09	0.06	2.0	2.5	3.2	3.0	2.8
TOTAL	249.7	266.0	311.3	308.2	350.1	349.4	280.4	345.6	315.4	316.1	318.5	272.8	282.0	310.8	328.0	327.7

^a Between 1923 and 1925 some establishments manufacturing gloves and mittens of cloth and leather combined were transferred from *gloves, leather*, to *gloves, textile, n.e.m.* Overlapping figures for 1925 are provided by the Bureau of the Census.

^b Between 1904 and 1909 establishments manufacturing signs and advertising

novelities were transferred from *leather goods, n.e.c.*, and other classifications to a new classification, *signs*.

^c Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

RUBBER PRODUCTS	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Shoes, rubber	14.4	19.0	17.6	18.7	32.9	32.9	23.9	29.4	25.0	26.8	25.7	15.9	18.1	17.2	18.4	14.9
Tires and tubes	22.2	24.9 ^a	31.7 ^b	55.3	125.7	125.7	55.5	74.0	81.6	78.3	83.3	49.2	53.0	57.1	63.3	54.1
Rubber goods, other	36.6	43.9	49.3	74.0	158.5	158.5	103.3	137.9	141.1	36.9	40.2	34.2	35.2	40.3	48.2	51.8
TOTAL									141.9	142.0	149.1	99.3	106.3	114.7	129.8	120.7

^a Between 1904 and 1909 establishments manufacturing signs and advertising

^b Between 1904 and 1909 establishments manufacturing signs and advertising

^a Between 1925 and 1927 rubber cement was transferred from *muslages* to *rubber goods, other*. Overlapping figures for 1925 are provided by the Bureau of the Census, *other*.
^b Between 1925 and 1927 rubber toy balloons were transferred from *toys and games to rubber goods, other*. Overlapping figures for 1925 are provided by the Bureau of the Census.

^a Prior to 1909 *rubber goods, other*, included some suspenders, garters, and elastic woven goods. Between 1904 and 1909 these three products were brought together in a new classification in the textile group, *elastic woven goods, n.e.c.*
^b Between 1909 and 1914 rubber combs and hairpins were transferred from *combs, n.e.c.*, to *rubber goods, other*.

Industry	Establishments with Products Valued at \$500 or More														
	1899	1904	1909	1914	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
PAPER PRODUCTS															
Cardboard, n.e.c.m.	49.6	66.0	76.0	88.5	113.8	105.3	120.7 ^a	123.8	98.6	103.3	87.7	87.2	103.3	110.8	110.6
Paper									24.8	24.7	20.2	20.1	23.6	27.0	26.9
Pulp									6.5	7.0	6.8	7.7 ^b	9.1	10.4	11.1
Bags, paper, n.e.c.m.	2.0	2.5	3.2	3.5	4.2	3.7	4.7	5.6	5.7	46.7	46.7	47.2	55.3	65.2	69.2
Boxes, paper, n.e.c.	27.7	32.1	39.5	45.3	55.9	46.2	56.9	57.1	56.4	55.7	46.7	47.2	55.3	65.2	69.2
Cardboard, n.e.c.m.	0.63	0.59	0.92	1.2	1.4	1.2	1.2	0.98	0.66	0.61	0.52	0.49	0.63	0.88	0.88
Card cutting and designing	0.32	0.70	0.52	0.52	1.1	1.1	0.76	1.2	1.1	2.0	2.3	2.0	1.8	3.0	3.3
Envelopes	3.0	4.3	5.3	7.0	8.1	8.1	7.9	9.2	9.1	9.7	10.4	8.9	8.0	9.0	8.7
Labels and tags	0.75	1.3	2.3	2.6	5.2	4.2	5.0	5.4	6.1	4.5	^a				
Paper goods, n.e.c.	6.1	9.8	13.0	13.5	14.1	14.1	11.5	14.7	13.4	14.8	20.2	17.9 ^b	20.4	20.7	27.4
Stationery goods, n.e.c.	3.0	4.3 ^c	6.2	7.7	11.3	11.2	11.3	13.3 ^d	11.4	9.0	11.1	8.6 ^e	5.7	3.5	3.5
Wall paper	4.2	3.9	4.0	4.7	4.3	4.0	5.4	5.1	4.8	4.7	3.7	3.2	4.3	4.5	4.1
TOTAL	97.3	125.5	151.0	174.5	219.4	196.0	232.3	232.9	233.4	244.5	203.2	202.2	199.8	235.7	264.5
														266.1	264.0

^a Between 1923 and 1925 some establishments were transferred from *roofing to paper and pulp*.
^b Between 1933 and 1935 *stationery goods, n.e.c.*, was abandoned as a classification and the products were divided among *bags, paper, n.e.m.*, and other classifications.
^c *Cardboard, n.e.c.m.*, and *cardcutting and designing* are included in *paper goods, n.e.c.* in 1939. Overlapping figures for 1937 are provided by the Bureau of the Census.
^d Between 1929 and 1931 *labels and tags* was abandoned as a classification and the products were divided among *printing and publishing, book and job; lithographing; engraving, other, and miscellaneous articles*.
^e Between 1931 and 1933 *papeteries* were transferred from *stationery goods, n.e.c.*, to other industries, principally *paper goods, n.e.c.* Overlapping figures for 1931 are provided by the Bureau of the Census.
^f Between 1904 and 1909 establishments manufacturing signs and advertising novelties were transferred from *stationery goods, n.e.c.*, and other classifications to a new industry, *signs*.
^g Between 1923 and 1925 *manifolding machinery* was transferred from *stationery goods, n.e.c.*, to *foundry and machine-shop products, n.e.c.*

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Printing and publishing, book and job	68.4	88.8	109.6	114.2	123.4	121.7	121.9	130.8	134.6	142.3	150.6 ^a	135.3	104.7 ^b	126.7	141.4	132.6
Printing and publishing, music	0.78	0.58	0.74	0.87	0.90	0.90	0.90	0.92	0.96	0.99	0.81	0.66				
Printing and publishing, periodical	94.6	96.9	108.7	114.4	120.4	115.1	107.5	115.6	117.0	119.4	129.7	119.5	109.1	118.7	135.2	118.7
Bookbinding and blank- book making	16.0	17.7	19.9	21.7	20.4	20.1	17.5	20.7	20.8	21.9	24.8	21.2	16.9	20.5	25.3	25.8
Engravers' materials	0.076	0.049	0.13	0.11	0.17	0.17	0.18	0.22	0.18	0.18	0.31	0.28	0.22			
Engraving, steel and copper	3.3	3.6	5.3	6.9	7.0	7.0	7.2	7.5	7.3	8.5	10.1	7.0	5.0	5.3	7.8	5.4
Engraving, wood ^d	0.34	0.34	0.32	0.30	0.24	0.22	0.13	0.14	0.12	0.13	0.14					
Engraving, other ^d	0.96	1.6	1.3	1.5	1.9	1.8	1.3	1.9	1.8	1.8	2.2 ^a	1.5	1.1	2.2	2.1	1.4
Lithographing	13.0	12.6	15.1	15.2	15.6	15.6	14.0	16.3	17.0	16.3	19.0 ^a	16.2	14.6	17.7	24.1	26.0
Photo-engraving, n.e.d.	2.7	3.9	5.3	6.2	6.8	6.7	7.0	8.5	9.9	11.0	12.4	10.1	7.9	9.4	12.4	11.8
Printing materials, n.e.c.	0.56	0.36	0.54	0.42	0.72	0.72	0.82	0.56	0.89	0.88	1.0	0.78	0.89			
Type founding	1.4	1.4	1.5	1.1	0.81	0.80	0.61	0.61	0.54	0.52	0.47	0.41				
Stereotyping, n.e.d.	2.4	2.7	2.8	3.5	3.7	3.7	3.6	4.1	4.3	4.5	6.5	4.9	3.7	4.4	4.8	4.4
TOTAL	204.6	230.5	271.3	286.3	302.0	294.5	282.5	308.0	315.3	328.6	358.0	317.8	264.1 ^c	304.8	353.1	326.0

^a Between 1929 and 1931 *labels and tags* was abandoned as a separate classification and its products were divided among *printing and publishing, book and job; lithographing; engraving, other; and miscellaneous articles*.

^b Between 1933 and 1935 *stationery goods, n.e.c.*, was abandoned as a separate classification and the products were divided among *printing and publishing, book and job; printing and publishing, music; and other classifications*.

^c After 1933 *printing materials, n.e.c.; type founding; and engravers' materials* were transferred to *foundry and machine-shop products, n.e.c.*

^d Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More											
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939	
Chemicals, industrial ^a	17.5	22.3	26.0 ^b	35.4 ^c	76.9	76.9 ^a	49.1	62.9 ^a	57.9 ^a	52.3	62.2 ^a	48.5	53.2 ^b	65.8	79.0	69.6	
Gases, compressed								14.4 ^a	19.1	3.2	3.4	2.8	2.8	3.8	4.7	4.0	
Rayon								9.0	9.7	26.3	39.1	38.7	44.3	50.6	55.1	48.3	
Druggists' preparations	11.6	11.0	11.0	13.3	17.4	17.1	13.8	17.4	14.8	15.1	16.4	13.5	21.7	25.6	28.4	27.4	
Patent medicines	1.8	2.1	2.4	2.9	5.4	5.3	5.8	7.8	8.7	10.5	13.1	10.7 ¹	9.0	9.7	10.2	10.4	
Toilet preparations	0.64	0.98	0.92	1.1	1.3	1.3	0.84	0.75	0.62	0.66	0.68	0.66	0.63	0.59	0.70	1	
Drug grinding	11.0	15.5	17.1	21.8	26.8	26.8	16.2	12.7	16.2	18.4	15.8	12.3	14.2	13.2	16.6	15.2	
Cottonseed products ^k	1.3	1.3	1.5	1.5	2.2	2.2	2.1	2.6	2.7	2.7	2.7	1.8	1.6	2.4	2.6	2.1	
Linsseed products	0.17	0.13	0.29	0.25	0.32	0.30	0.30	0.17	0.18	0.17	0.26	0.13	0.18	0.17	0.20	0.26	
Oils, essential	5.2	7.4	8.7	11.5	22.8	22.8	8.4	10.5	7.8	7.6	7.2	5.9	5.8	7.2	8.4	5.4	
Ammunition	1.6	1.5	1.4	1.3	1.2	1.2	1.2	1.2	1.4	1.6	1.8	1.4	0.92	7.2	6.5	5.4	
Fireworks	1.2	1.2	1.4	1.8	2.5	2.4	1.7	2.2	1.9	1.7	1.6	1.5	1.6	1.5	1.5	5.1	
Blackings	0.51	0.56	0.98	1.2	2.0	1.9	1.7	2.4	2.2	2.4	2.7	2.4	2.8	2.8	3.3	3.3	
Cleaning preparations	0.22	0.21	0.31	0.25	0.36	0.36	0.23	0.19	0.18	0.16	0.10	0.095	0.077	0.058	0.067	0.055	
Bleuing	0.085	0.20	0.23	0.34	0.68	0.68	0.83	1.3	1.5	1.6	1.9	1.0	1.4	1.8	2.2	1.6	
Carbon black																	
Candles		9.5	0.82	0.54	0.39	0.54	0.54	0.61	0.75	0.63	0.71	0.78	0.71	0.67	0.71	0.72	0.84
Soap			11.0	13.0	14.2	20.4	20.4	16.6	17.0	51.4	13.4	14.2	14.3	13.9	14.0	13.6	
Charcoal ^l	1.8	0.92	0.63	0.23	0.21	0.19	0.27	0.10	0.16	0.10	0.058	0.037	0.018	0.030	0.048	1.8	
Hardwood-distillation products							1.5	2.9	2.9	2.9	2.8	1.6	1.3	1.9	2.1		
Softwood-distillation products	1.6	2.3	2.7	2.8	4.9	4.9	0.34	1.1	1.2	1.5	1.8	1.0	1.4	1.9	2.4	2.4	
Explosives	4.5	5.8	6.3	6.3	9.2	9.2	4.5	6.4	5.7	5.8	5.6	4.7	4.2	4.6	5.4	7.2	
Fertilizers	11.6	14.2	18.3	22.8	26.3	26.3	16.9	18.6	19.6	18.6	20.9	14.6	13.1	17.5	20.9	18.7	
Glue and gelatin	1.6	2.9	3.3	3.1	4.3	4.3	2.9	3.7	3.3	3.2	3.0	2.6	2.0	3.3	3.5	3.0	

^aFor footnotes see next page.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

CHEMICAL PRODUCTS (concluded)	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
	Grease and tallow	2.0	3.6	4.4	5.1	6.6	6.6	4.4	5.2	5.3	5.1	5.5	4.1	4.0	4.8	5.2	5.2			
Ink, printing	0.50	0.71	1.1	1.4	2.0	2.0	1.7	2.0	2.2	2.3	2.4	2.2	2.1	2.4	2.8	2.6				
Ink, writing	0.28	0.43	0.50	0.51	0.70	0.69	0.50	0.58	0.52	0.49	0.42	0.35	0.36	0.38	0.37	0.25				
Mucilage	0.46	0.47	0.54	0.70	0.80	0.79	0.76	0.66	0.70 ^m	0.56	0.41	0.28	0.21	0.27	0.30	0.28				
Paints and varnishes	9.7	11.6	14.2	16.1	21.5	21.5	18.0	22.8	25.5	28.1	29.2	22.5	22.9	27.7	31.7	28.2				
Salt	4.8	4.7	4.9	5.1	6.5	6.5	6.0	6.8	6.3	6.0	5.5	4.7	5.0	5.0	4.6	3.7				
Tanning and dye materials	1.6	2.7	2.4	2.8 ^e	4.3	4.3	3.0	3.2	2.5	2.4	2.4	2.0	2.1	2.7	2.8	2.7				
TOTAL	108.6	134.0	154.5	183.4	283.8	283.1	190.9	237.2	236.7	245.6	275.0	226.5	233.9	272.0	309.7	279.9				

^a Blast-furnace products and chemicals, industrial, each include part of ferro-alloys, which was listed as a separate industry in 1919.

^b Between 1909 and 1914 powdered milk and sugar of milk were transferred from chemicals, industrial, to milk, canned.

^c Between 1914 and 1919 artificial dyestuffs and mineral colors and dyes were transferred from tanning and dye materials to chemicals, industrial.

^d Between 1919 and 1921 some establishments were transferred from secondary metals, nonprecious, to chemicals, industrial.

^e Between 1923 and 1925 rayon and allied products were transferred from chemicals, industrial, to a new classification, rayons. The rayon data for 1923 were secured from a special tabulation made by the Bureau of the Census for the Bureau of Foreign and Domestic Commerce from the original returns for 1923; see the Commerce Year Book, 1922, Vol. 1, p. 423. To obtain the 1923 figure for chemicals, industrial, we subtracted the figure for rayons from the figure given for 1923.

^f Between 1925 and 1927 compressed and liquefied gases were transferred from chemicals, industrial, and Pintsch gas plants from gas, manufactured, to a new classification, gases, compressed.

^g Between 1929 and 1931 molded plastics were transferred from chemicals, industrial, and other industries to pulp goods.

^h Between 1933 and 1935 ethyl alcohol was transferred from liquors, distilled to chemicals, industrial.

ⁱ Between 1931 and 1933 druggists' preparations and patent medicines were combined into a single industry, drugs and medicines. At the same time some establishments were shifted from the latter industry to toilet preparations and vice versa.

^j In 1939 drug grinding and foundry supplies were included in the combination of druggists' preparations and patent medicines. Comparable 1937 figures are provided for the latter.

^k Data on cottonseed products for 1925 and prior years relate to the 12-month period ending July 31 following the year specified, although in the early Census returns some firms may have reported for the calendar year. The figures for 1927-37 relate to the 12-month period ending July 31 of the year indicated, but may also include a few reports prepared on a calendar-year basis.

^l Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

^m Between 1925 and 1927 rubber cement was transferred from mangle to rubber goods, other. Overlapping figures are provided for 1925 by the Bureau of the Census.

Industry	Establishments with Products Valued at \$5,000 or More															
	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Petroleum refining	12.2	16.8	13.9	25.4	58.9	58.9	63.2	66.7	65.3	71.2	80.6	68.8	69.0	77.4	83.2	72.8
Lubricants, n.e.m.	0.13	0.12	0.18	0.48	0.47	0.47	0.42	0.60	0.61	0.57 ^a	2.6	2.1	1.8 ^a	1.9 ^a	2.2	2.1
Oils, n.e.c.	1.5	1.3	1.8	2.0	5.9	5.9	3.5	4.3	3.6 ^b	3.4 ^a	1.2	0.96	0.93	1.8	2.5	4.1
Coke-oven products	17.0	19.0	29.3	21.1	29.3	29.3	16.1	28.4	23.2	21.1	20.6	14.4	13.1	16.7	20.6	21.7
Fuel briquettes	30.8	37.2	45.1	49.1	94.8	94.8	83.6	100.3	93.0	96.6	105.4	86.6	85.1	98.1	108.9	101.2
TOTAL																

^a Between 1927 and 1929 lubricating oils were transferred from oils, n.e.c., to lubricants, n.e.m. The comparability of the figures for both industries appears to have been seriously affected by this change. The 1935 figure for lubricants, n.e.m. does not cover lubricating oils and is therefore not exactly comparable with preceding or following figures.

^b Between 1925 and 1927 vegetable cooking oils were transferred from oils, n.e.c., and other industries to shortening.
^c In 1904 no establishments were reported as engaged primarily in the manufacture of products classified under *fuel briquettes*; in 1899 this industry was included with *all other industries*.

Industry	Establishments with Products Valued at \$500 or More															
	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Asbestos products	1.1	2.7	3.6 ^a	4.2	6.1	3.6	2.0	6.1	6.1	6.3	8.1	6.0	6.1	9.6 ^b	13.0	10.0
Steam and other packing						6.1	4.9	5.1	6.1	5.9	7.3	4.7	4.6 ^c	4.3	4.8	5.9
Roofing	7.6	8.8 ^d	2.5 ^a	4.1	8.9	8.9	6.9	7.7 ^e	8.3	7.3	6.0	4.1	4.4	6.5	7.4	8.0
Cement						25.5	26.2	35.1	38.4	36.3	33.4	24.3	15.8	20.7	26.4	23.8
Lime						11.3	10.3	12.3	12.1	10.9	8.6	6.7	6.0	7.5	9.8	9.5
Wall plaster and board						5.1	4.9 ^f	7.0	9.3	11.0	10.0	7.5	5.9	4.4 ^g	4.7	8.0
TOTAL																

For footnotes see page 197.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
Concrete products*	41.7	2.5	10.0	10.3	8.4	7.4	7.0	10.8	14.7	17.8	16.5	9.3	4.4	8.4	12.8	17.4				
Marble and granite		51.1 ^d	65.6	55.0	32.8	32.3	30.3	40.1	36.6	40.5	37.8	27.7	16.5	15.2	20.8	18.5				
Emery wheels	0.55	0.80	1.9	2.4	5.6	5.6	2.8	3.6	3.4	3.3	3.9									
Hones	0.19	0.22	0.15	0.17	0.21	0.21	0.095	0.17	0.16	0.19 ^b	0.17	1	4.6	4.9	6.8	9.7				
Sandpaper	0.27	0.30	0.61	0.68	0.77	0.77	0.68	1.2	1.2	0.92	1.2									
Pulp goods	0.69	0.70	0.78	1.7	3.0	3.0	4.7 ⁱ	3.6	3.0	3.0	3.6	2.4 ⁱ	6.8	12.7	16.7	15.8				
						2.6	2.6					5.7	0.084	0.23	0.41	0.35				
Sand-lime brick					0.56	0.50	0.50	0.37	0.58	0.80	0.79	0.57	0.32	0.15	0.28	0.31				
China firing and decorating, n.e.c.s	0.30	0.22	0.33	0.30	0.24	0.23	0.32	0.36	0.33	0.37	0.32	0.22	0.15	0.28	0.31	0.42				
Pottery	43.7	52.4	56.21	26.7	27.9	27.9	28.5	36.8	36.5	36.7	35.4	27.0	23.6	28.8	33.1	32.7				
Clay products, n.e.c.	62.0	66.0	76.54 ⁱ	100.2	76.9	76.3	68.8	102.7 ^m	103.0	102.8	101.0	93.3								
	0.67	0.28	0.34	0.30	0.85	0.85	0.41	0.52 ^m				51.1	31.9	44.6	65.2	61.5				
Crucibles						0.27	0.28	0.26	0.32											
Graphite	0.14	0.22	0.16	0.25	0.50	0.49	0.15	0.24	0.23	0.29	0.49	0.18	0.17	0.26 ⁿ	0.056	0.055				
Minerals and earths	2.1	2.2	2.0	4.7	14.4	14.4	6.9	8.7	8.8	8.3 ^o	1.7	1.1	1.9	4.3	4.5	5.9				
Statuary and art goods	p	1.5	1.7	2.0	1.5	1.4	1.6	1.8	2.0	2.0	2.1	1.3	0.69	0.72	0.86	0.98				
Glass	52.8	64.0	68.9	74.5	77.5	77.5	54.7	73.3	69.4	65.8	67.5	49.9	49.8	67.1	79.1	69.8				
Glass products, n.e.m.	4.9	8.4	9.4	8.1	6.5	6.4	4.7	5.2	4.9	4.5	6.0									
Mirrors	2.6	2.6	3.0	3.2	2.6	2.6	2.4	3.5	4.2	4.3	4.8	7.2	6.5	10.7	12.7	10.0				
TOTAL	240.4	295.9	349.1	345.9	320.9	318.5	269.7	368.6	371.2	366.7	346.5	234.0	188.8	257.2	330.3	311.4				
		297.4										237.3			328.6					

^a Prior to 1914 asbestos products was included with steam and other packing and roofing.
^b Between 1935 and 1937 some establishments were transferred from cotton small tuars to asbestos products and other classifications.
^c Between 1933 and 1935 mineral wool was transferred from steam and other packing to wall plaster and board. Overlapping figures for 1933 are provided by the Bureau of the Census.
^d Between 1904 and 1909 roofing slate was transferred from roofing to marble and granite.
^e Between 1923 and 1925 some establishments were transferred from roofing to paper and pulp.

^f Between 1921 and 1923 wall board, other than gypsum wall board, was transferred from pulp goods to wall plaster and board. Overlapping figures for 1921 are provided.
^g Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.
^h After 1927 honer was limited to establishments which did not quarry the stone but purchased it in the rough and prepared it for the market.

ⁱ Between 1929 and 1931 there was a change in the classification of an important manufacturer of abrasives. The Bureau of the Census believes that this change renders the statistics for the 3 abrasives industries for 1931 incomparable with those for prior years.

^j Between 1929 and 1931 molded plastics were transferred principally from electrical machinery, but also from miscellaneous articles, chemicals, n.e.c., machine-tool accessories, n.e.c., and phonograph, to pulp goods. Overlapping figures for 1931 are given for pulp goods.
^k Prior to 1914 sand-lime brick was included with clay products, n.e.c.

^l Between 1909 and 1914 terra cotta and fire clay products were transferred from pottery to clay products, n.e.c. The comparability of the figures for both industries appears to have been seriously affected by this change.
^m Between 1923 and 1925 clay crucibles were transferred from crucibles to clay products, n.e.c. Overlapping figures for 1923 are provided by the Bureau of the Census.

ⁿ Between 1935 and 1937 some establishments were transferred from graphite to other industries. The comparability of the figures for graphite appears to have been seriously affected by the shift.
^o After 1927 establishments performing manufacturing operations alone were included in minerals and earths; in prior years mining establishments also were included. The change appears to have had a serious effect upon the comparability of the figures.

^p Between 1899 and 1904 establishments engaged in manufacturing stannary and art goods were transferred from plastering and stuccowork (a classification abandoned by the Bureau of the Census in 1904) and miscellaneous articles to a new classification, stannary and art goods.

Establishments with Products Valued at \$5,000 or More

FOREST PRODUCTS

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More												
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939		
Lumber-mill products, n.e.c. ^a	413.3	404.6	547.2	479.8	480.9	469.3 ^b	364.2	495.9	467.1	413.9	419.1	196.6	189.4	255.2	323.9	325.8	297.8	
Planing-mill products, n.e.m.	73.5		97.7	112.4	96.2		87.0	86.4 ^b	78.0	103.0	111.3	96.6	90.1 ^c	54.5 ^d	54.6	35.4	48.3	66.8
Window and door screens			3.2		2.2	2.1	2.1	3.7	3.8	3.7	4.0	2.6	1.6	1.9	2.8	2.8	2.8	2.8

For footnotes see page 199.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
Wood turned and shaped, n.e.c.	14.8	21.3	20.9	18.0	17.1	16.9 ^b	14.6	17.0 ^c	14.9	15.9	18.7 ^{a,f}	17.0	15.5	21.5	23.1	22.0				
Baskets	4.2	5.1	4.7	4.6	4.5	4.5	4.8	5.8	6.8	9.3	9.4	8.4	8.4	9.0	9.3	9.4				
Boxes, wooden, cigar	4.6	6.3	6.1	5.8	5.2	5.2	4.7	5.1	4.8	4.6	4.4	3.8	3.4	3.2	3.3	3.1				
Boxes, wooden, other	22.0	30.3	35.4	38.5	42.4	42.3	32.6	39.2	34.8	30.8	30.6	22.9	21.8	23.1	26.0	25.4				
Cooperage	22.1	21.1	19.5	17.1	13.2	13.1	9.9	12.0	11.5	11.5	10.7	8.2	8.5	9.9	9.6	7.2				
Furniture	89.0	113.5	127.1	130.4	140.3	140.0	124.4	168.2	181.0	186.3 ^g	193.4	127.6	105.5 ^h	130.8	170.1	159.2				
Billiard tables	0.45	0.80	1.5	1.5	2.1	2.1	0.92	0.88	1.0	1.2	1.4	0.59	0.41	0.31	0.53	i				
Mirror and picture frames	6.0	6.6	6.0	4.8	4.7	4.7	3.8	4.5	4.2	4.5	4.4	3.1	2.4	2.7	3.4	3.2				
Caskets and coffins	6.8	8.5	9.3	9.5	11.9	11.9	10.0	11.6	11.5 ^j	11.7	13.0	11.9	12.2	13.8	13.7	12.4				
Cork products	2.3	2.9	3.1	3.5	3.5	3.5	2.8	3.5	3.3	3.2	3.8	3.0	2.8	3.0	3.6	2.9				
Excisor	k	1.0	1.2	1.2	1.2	1.2	1.1	1.3	1.3	1.3	1.2	0.93	0.81	0.83	0.96	0.92				
Lasts	1.1	1.2	1.7	2.1	2.9	2.9	2.6	2.3	2.0	1.7	1.8	1.5	1.4	1.5	1.4	1.5				
Matches	2.0	3.2	3.6	3.8	3.7	3.7	4.5	4.7	4.6	3.9	3.8	3.4	4.7	5.1	5.3	5.4				
Turpentine and rosin ^l	41.9	33.4	39.5	34.8	28.1	27.9	27.4	34.3	29.4	37.9	40.2	28.3	30.9	31.3	32.4	1.0				
Wood preserving	0.48	0.74	2.4	2.8	4.0	4.0	4.2	6.5	8.4	12.3	13.1	9.7	7.0	9.0	12.4	11.2				
TOTAL	704.6	757.2	940.6	941.6	855.0	841.7	692.6	919.5	902.0	850.1	863.0	504.1	452.0	570.3	708.5	633.6				

^a Sawmills are unaffected by the restriction, prevailing since 1919, of the Bureau of the Census inquiries to establishments reporting products valued at \$5,000 or more. For Census purposes a mill which saws less than 200,000 feet of lumber or 1,000,000 lath or 2,000,000 shingles is treated as an establishment with products valued at less than \$5,000.

^b Between 1919 and 1921 establishments engaged primarily in the manufacture of aircraft parts, other than engines and tires, were transferred from *lumber-mill products, n.e.c., planing-mill products, n.e.m., wood turned and shaped, n.e.c., and cotton goods to aircraft.*

^c Between 1929 and 1931 *dairyman's supplies* was abandoned as a separate classification, and the products were divided among *planing-mill products, n.e.m., wood turned and shaped, n.e.c.*, and other classifications.

^d Between 1931 and 1933 horse-drawn lunch wagons were transferred from *carriages, wagons and sleighs to planing-mill products, n.e.m.* Overlapping figures for 1931 are given.

^e Between 1923 and 1925 *rules* was abandoned as a separate industry, and the products were divided among *wood turned and shaped, n.e.c.*, and other industries.

^f Between 1929 and 1931 *carriage and wagon materials* was abandoned as a separate classification, and turned wood products, such as hubs, fellows and spokes, were transferred to *wood turned and shaped, n.e.c.*

^g Between 1927 and 1929 sewing machine cases, cabinets and tables were transferred from *sewing machines to furniture.* Overlapping figures for 1927 are provided by the Census.

^b Between 1933 and 1935 the composition of *dental goods and equipment* was changed to include, among other items, dental chairs and cabinets formerly classed with *furniture.*

ⁱ In 1939 *billiard tables* were included in *sporting goods, n.e.c.*, one of the "miscellaneous products" industries.

^j Between 1925 and 1927 metal burial vaults were transferred from *safes and vaults to caskets and coffins.*

^k Prior to 1909 *excelsior* was combined with *artificial ether.*

^l The higher 1937 figure for *turpentine and rosin* includes all employees, those who were engaged in the production and gathering of crude gum as well as employees at the still. The lower 1937 figure and the 1939 figure apply only to the latter.

The percentage of coverage of total production fell below 100 after 1929. For 1931 the percentage of coverage is not given; in 1933 it was 85, and in 1935 it was 87. The figures for these two years have been raised accordingly. In 1937 estimates were made by the Bureau of the Census for producers who failed to report.

For the period 1921-31 the statistics for *turpentine and rosin* relate to the crop year ending March 31. Thus the data for 1921 refer to the crop year 1921-22. In preceding years, however, and again in 1933, 1935, and 1937, the canvasses were made to cover the calendar year, in order to bring the statistics into line with those for other industries. The statistics for the calendar year differ only slightly from those for the crop year.

IRON AND STEEL PRODUCTS

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Blast-furnace products ^a	39.2	35.1	38.4	29.4	43.3	43.3	18.7	36.7 ^b	29.2 ^b	28.0	25.0	13.6	12.1	15.2	23.1	19.5
Steel-mill products	183.2	207.6	240.1	248.7	375.1	375.1	235.5	388.2	370.7	361.3	394.6	264.6	276.8	359.6	479.3	399.0
Bolts and nuts, n.e.m.	7.7	8.1	11.3	10.7	18.0	18.0	10.1	16.0	13.9	13.6	16.2	10.5	8.5	12.5	16.8	14.3
Forgings, n.e.m.	4.9	5.9	8.5	11.3	29.1	29.1	16.9	27.7	20.5	15.6	20.9	10.0	8.0	12.3	18.3	15.4
Galvanizing, n.e.d.	0.54	1.3	1.4	1.6	1.7	1.7	0.68	0.88	0.80	0.95	1.1	1.0	0.76	1.2	1.1	1.2
Nails and spikes, n.e.m.	4.5	3.7	2.8	2.6	3.4	3.4	2.4	2.8	2.2	2.1	2.0	1.6	1.7	2.2	2.4	2.5
Springs, steel, n.e.m.	2.1	2.5	3.2	3.7	9.0	9.0	5.4	8.6	5.9 ^a	5.8	5.8	2.9 ^d	2.6	3.1	3.9	2.9

For footnotes see page 201.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Structural metal work, n.e.c.	24.9	34.3	40.2	47.2	44.0	43.9	32.9	51.6	48.3	52.4	54.9	37.5	21.4	27.2	38.8	35.5
Wire, n.e.m.	1.6	4.7	18.1	17.6	19.7	19.7	14.8	21.3	18.5	19.9*	22.5	14.5	14.7	21.6	24.6	22.0
Wirework, n.e.c.	9.1	13.4	12.3	12.1	15.2	15.1	11.5	16.8	19.3	21.7	22.4	17.2	17.6	25.2	33.5	30.4
Wrought pipe, n.e.m.	5.5	5.4	6.8	8.8	10.4	10.4	8.7	10.6	10.9	11.1	11.4	8.0	6.6	10.7	14.1	8.4
Cast-iron pipe	f	12.2	12.6	12.6	12.6	12.6	12.5	21.6	23.0	22.9	19.7	16.1	9.5	13.5	17.6	16.5
Doors, metal	0.12	0.70	1.6	2.0	2.1	2.1	1.8	2.4	6.8	8.0	9.6	6.8	3.6	4.5	8.4	7.7
Heating apparatus	9.3	11.7	23.4	26.4	36.7	36.7	30.8	44.1	43.3	42.9	39.6	29.0	22.3	27.1	89.3	76.4
Stoves and ranges	2.5	3.7 ^g	37.1	37.3	43.4	43.4	32.5	49.8	46.5	45.2	46.6 ^h	32.6	30.2	41.7	25.2	24.6
Plumbers' supplies, n.e.c.	8.0	10.8	19.3	18.5	13.6	13.6	16.7 ⁱ	27.2	33.3	29.2	28.0	19.7	15.9	20.1	21.3	16.9
Screw-machine products	3.5	3.5	5.1	8.1	15.2	15.1	8.7	13.2	14.1	13.7	19.9	12.0	10.2	15.0	13.7	16.8
Cutlery, n.e.c.	12.0	14.5	17.0	16.6	19.9	19.8	14.3	16.7	16.4	15.8	15.0	12.5	10.8	13.7	16.8	15.4
Files	3.2	3.3	4.2	4.3	5.8	5.8	3.6	4.6	4.2	3.9	4.0	3.0	2.6	2.9	3.7	3.2
Saws	3.2	4.6	4.8	4.6	5.5	5.4	3.8	5.4	4.7	4.2	4.1	3.0	2.5	3.4	4.4	4.1
Tools, other	7.6	11.6	16.0	16.9	35.6	35.2	19.5	29.1 ^j	25.3	25.2 ^k	76.4	19.3	10.8	9.6	12.6	15.3
Firearms	4.5	6.2	6.0	7.1	11.3	11.3	4.7	6.2	4.5	6.1	6.8	4.3	3.4	4.9	6.8	5.0
Hardware, n.e.c.	29.4	35.1	41.8	43.7	46.2	46.1	35.2	52.2	52.3	47.8	52.3	36.1	32.6	41.5	53.0	43.3
Safes and vaults	2.0	3.5	3.3	3.0	2.9	2.9	3.5	3.5	3.9 ^l	3.4	3.0	2.0	0.93	0.81	1.1	1.2
Tin cans and tinware, n.e.c.	m	16.9	19.8	22.6	34.4	34.4	22.7	30.5	29.9	29.7 ⁿ	31.5 ^h	25.3	23.3	27.5 ^o	33.1	31.8
TOTAL	368.7	431.1	582.6	617.2	853.9	853.2	568.0	887.8	848.5	830.5	876.3	594.7	547.6	720.1	954.4	805.0
	477.7	594.8	821.8	876.3	876.3	594.3	547.6	720.1	954.4	805.0						

^a Blast-furnace products and chemicals, n.e.c., each include part of ferro-alloys, listed as a separate industry in 1919.

^b The 1925 figure for blast-furnace products is not comparable with those for other years because some plants failed to include in their 1925 reports the number of wage earners employed in relining blast furnaces.

^c Between 1925 and 1927 motor-vehicle spring bumpers were transferred from springs, steel, n.e.m. to automobile bodies and parts.

^d After 1931 establishments engaged in the repairing and replacing of motor vehicle springs, formerly classified under springs, steel, n.e.m., were not canvassed by the Bureau of the Census. Overlapping figures for 1931 are provided by the Bureau of the Census.

^e Between 1927 and 1929 certain large establishments engaged primarily in rolling nonferrous metal and manufacturing nonferrous wire were transferred from wire, n.e.m. to nonferrous-metal products, n.e.c.

^f Prior to 1909 cast-iron pipe was combined with foundry and machine-shop products, n.e.c.

^g After 1899 stoves and hot-air furnaces were transferred from foundry and machine-shop products, n.e.c. to stoves and ranges. Overlapping figures are provided for 1904.

^h Between 1929 and 1931 dairyman's supplies was abandoned as a separate classification, and the products were divided among stoves and ranges, tin cans and tinware, n.e.c., and other classifications.

ⁱ Between 1921 and 1923 enamelled bathtubs, sinks, etc. were transferred from stamped and enamelled ware to plumbers' supplies, n.e.c.

^j Between 1923 and 1925 niles was abandoned as a separate classification, and the products were divided among tools, other, and other classifications.

^k Between 1927 and 1929 a new classification, machine-tool accessories, n.e.c. was established. Establishments thus classified were formerly classified with tools, other, and other industries. For tools, other, overlapping figures for 1927 are provided by the Bureau of the Census.

^l Between 1925 and 1927 metal burial vaults were transferred from safes and vaults to caskets and coffins.

^m In 1899 tin cans and tinware, n.e.c., was combined with sheet-metal work, n.e.c.

ⁿ Between 1927 and 1929 stamped tinware was transferred from tin cans and tinware, n.e.c., to stamped and enamelled ware. In 1937 it was retransferred to tin cans and tinware, n.e.c.

Industry	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
Primary nonferrous metals																				
Copper	11.3	12.8 ^b	15.6	17.7	17.3	17.3	8.3	16.8	15.6	13.9	14.5	8.6	5.6	10.4	14.5	•				
Lead	8.3	7.6 ^b	7.4	7.4	6.4	6.4	4.5	6.2	6.1	5.4	4.8	2.6	2.1	3.2	4.0	•				
Zinc	4.9	6.5	6.7	9.6	13.8	13.8	5.8	11.9	11.3	11.2	11.6	7.3	6.9	8.8	11.3	•				
Secondary metals, non-precious	0.98	1.7	2.1	2.6	4.2	4.2 ^c	1.6	1.8	2.9	2.8	4.1	2.6	2.9	3.8	5.0	3.6				
Secondary metals, precious	0.22	0.28	0.46	0.64	0.64	0.64	0.78	0.90	1.3	0.80	0.93	0.80	0.74	1.0	1.1	1.1				
Aluminum manufactures				4.6 ^d	11.4	11.4	9.6	16.3	14.4	14.8	21.2	13.8	13.6	19.3	23.7	23.5				

For footnotes see page 203.

^a *Copper, lead and zinc* are given only in combination in 1939. This combination, entitled *primary nonferrous metals*, includes the production of aluminum, formerly classified under *chemicals, industrial*. A comparable 1937 figure is provided by the Bureau of the Census.

^b In 1909 the copper and lead departments of an important copper and lead smelting and refining establishment were reported together under *copper*, whereas in 1904 the lead department was included with *lead*.

^c Between 1919 and 1921 certain establishments were transferred from *secondary metals, nonprecious, to chemicals, n.e.c.*

^d Prior to 1914 *aluminum manufactures* was included among *miscellaneous articles, handicraftings, n.e.c.*, and stamped and enameled ware.

^e Between 1914 and 1919 aluminum castings were transferred from *nonferrous-metal products, n.e.c.*, to *aluminum manufactures*. The comparability of the figures for the latter industry appears to have been considerably affected by this change.

^f Between 1935 and 1937 several establishments were transferred from *tin and other foils* to other industries.

^g Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.

^b Between 1909 and 1914 metal hairpins were transferred from *combs, n.e.c.*, to *razors and pins*.

ⁱ Between 1927 and 1929 certain large establishments engaged primarily in rolling nonferrous metal and manufacturing nonferrous wire were transferred from *wire, n.e.m. to nonferrous-metal products, n.e.c.*

^j In 1899 *tin cans and tinware, n.e.c.*, was combined with *sheet-metal work, n.e.c.* Sheet-metal shops in which some manufacturing was carried on in connection with building construction or repair contracts were not canvassed for 1925 and 1927, unless the value of the manufactured products exceeded \$20,000. Previously such shops were canvassed if the value of their manufactured products amounted to \$5,000 or more. After 1927 all sheet-metal shops were covered with respect to work done in the shop; outside work was not included.

^k After 1929 *daytime's supplies* was abandoned as a separate classification, and the products were divided among *sheet-metal work, n.e.c.*, and other classifications. ^l Between 1921 and 1923 enameled bathtubs, sinks, etc., were transferred from *stamped and enameled ware to plumbers' supplies*.

^m Between 1927 and 1929 stamped tinware was transferred from *tin cans and tinware, n.e.c.*, to *stamped and enameled ware*. Between 1935 and 1937 it was transferred to *tin cans and tinware, n.e.c.*

MACHINERY

Establishments with Products Valued at \$5,000 or More

Establishments with Products Valued at \$500 or More

Industry	Establishments with Products Valued at \$5,000 or More										Establishments with Products Valued at \$500 or More										
	1899	1904	1909	1914	1919	1929	1933	1935	1937	1939	1899	1904	1909	1914	1919	1929	1933	1935	1937	1939	
Foundry and machine-shop products, n.e.c. ^a	331.2	373.3 ^b	407.5 ^c	398.9 ^d	573.2 ^e	482.5	321.8	449.5 ^f	404.1 ^g	404.2 ^h	284.9	287.5	219.5 ^{k-lm}	220.0	316.2 ⁿ	313.0	433.0	418.3	342.1		
		346.6	389.2	363.1	483.0				398.9	455.0 ⁱ	287.5				313.0						
Agricultural implements	46.6	47.4	50.6	48.5	54.4	54.3	30.4	31.0	28.7	33.3	41.7	17.5	11.1 ^o	19.3	52.9	77.5	80.2	59.1			

For footnotes see pp. 205-06.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More											
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939	
Office and store machines, n.e.c.													10.9 ^m 72.4		44.8	36.2	
Business machines	2.1	4.1	7.5	9.0	16.5	16.5	9.8	15.0	13.3	14.4	16.8 ^e	12.2	18.5		23.6	p	
Typewriters	4.3	6.2	9.6	11.1	15.7	15.6	13.4	15.0	15.0	15.6	16.9 ^q	10.9	9.6	15.4	21.4	p	
Carbon paper										1.1	1.3	1.2	1.2	1.4	1.6	1.7	
Electrical machinery	42.1	60.5 ^r	87.3	118.1	212.4	212.3	161.2	234.9	239.9 ^e	241.6	328.7 ^e	214.7	180.7 ^t	130.9 ^u	181.8	260.2	214.9
Phonographs	1.3	3.4	5.2	9.4	28.7	28.7	17.9 ^v	20.5	11.3	14.2	14.4 ^w	1.9 ^x	36.5 ^y	32.9	44.8	48.3	43.5
Radios and phonographs													34.1	23.5 ^z			
Engines and tractors	2.0	1.9	2.3	2.0	1.9	77.6	35.6	48.5	51.1	54.3	61.1	34.1	34.1	23.5 ^z			
Windmills						1.9	1.4	1.1	1.4	1.4	1.6						
Engines and windmills, excl. tractors													75.4 ⁶	22.1	32.9	18.7	
Steel barrels					3.3	3.3	2.0	2.7	2.0	2.9	4.1	3.3	6.5	5.8	6.2	6.1	
Machine tools					53.7	53.1	21.3	33.4	30.8	35.3 ^h	32.4	47.4	21.3	12.7	28.2	47.3	37.5
Machine-tool accessories, n.e.c.																	
Pumps	0.63	1.4	2.1	2.7 ^d 8.3	16.1	16.1	12.2	14.6	17.9	18.7	23.1	15.2	11.1	15.0 ^a 17.5	28.3	24.2	21.9
Textile machinery																	
Gas machines and meters	2.2	2.7	4.8	5.0	5.6	31.8	31.0	35.7	27.9	26.2	27.0	18.8	18.6	19.1	25.3	21.9	
Refrigerators and ice-making machinery						5.6	4.3	6.1	5.5	5.9	6.1	5.0	3.2 ⁱ				
												26.7	26.4	37.1	50.6	35.2	

MACHINERY (continued)	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Refrigerators, nonmechanical	3.3	4.0	5.0	5.6	5.8	5.8	5.8	8.5	9.4	9.6	9.8	7.1	1			
Refrigerators, mechanical										11.3	16.9	15.6	1			
Scales and balances	2.8	3.1	3.6	4.5	5.4	5.4	3.7	4.2	4.3	3.9	4.1	2.8	2.2	2.5	3.3	2.8
Sewing machines	13.4	17.1	19.3	18.0	19.2	19.2	12.6	13.4	12.1	11.8*	10.5	8.1	6.3	7.5	9.0	7.8
Washing and ironing machines	1.5	1.6	1.8	2.3	6.0	5.9	4.1	6.1	7.1	7.8	8.2	6.2	7.0	8.7	9.3	7.5
TOTAL	453.2	531.8	600.5	634.3	1,038.5	1,037.2	688.5	940.0	881.8	913.3	920.2	1,121.3	698.3	546.3	800.0	1,110.9
		500.1	586.2		1,037.2									545.1	800.0	1,081.3
																883.6

* Foundry and machine-shop products, n.e.c., includes iron and steel, processed (shown separately by the Census, 1919-29) and bault, sidewalk, and floor lights, coat covers, and ventilating equipment (shown separately by the Census from 1899 to 1923).
 b After 1899 stoves and hot-air furnaces were transferred from foundry and machine-shop products, n.e.c., to stoves and ranges. Overlapping figures are provided for 1904.
 c Prior to 1909 cast-iron pipe was combined with foundry and machine-shop products, n.e.c. Overlapping figures are provided for 1909.
 d Prior to 1914 the industry engines and tractors, and establishments engaged in the production of power pumps, were included in foundry and machine-shop products. Overlapping figures are provided for 1914. Automobile repairing was first treated as a manufacturing industry in 1914. Prior to that year no special effort was made to canvass this industry but some reports were received in 1909 and were included with foundry and machine-shop products, n.e.c.
 e Prior to 1919 steel barrels, textile machinery, iron and steel, welded, and machine tools were included in foundry and machine-shop products, n.e.c. Overlapping figures are provided for 1919.

f Between 1923 and 1925 manfolding machinery was transferred from stationary goods, n.e.c., to foundry and machine-shop products, n.e.c.
 g Between 1925 and 1927 a new classification, refrigerators, mechanical, was set up. Establishments there classified were formerly in electrical machinery and foundry and machine-shop products, n.e.c.
 h Between 1927 and 1929 a new classification, machine-tool accessories, n.e.c., was set up. Establishments there classified were formerly in machine tools, foundry and machine-shop products, n.e.c., and tools, other. Overlapping figures are provided for 1927. We obtained the 1927 figures for machine-tool accessories, n.e.c., by subtracting the revised figures published in the 1929 Census of Manufactures for foundry and machine-shop products, n.e.c., tools, other, and machine tools from the respective unrevised figures, published in the 1927 volume, and then totaling the differences.

i Between 1929 and 1931 dairyment's supplies was abandoned as a separate classification, and the products were divided among foundry and machine-shop products, n.e.c., and other classifications.

Footnotes concluded on next page.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

MACHINERY (concluded)

¹ Between 1931 and 1933 refrigerators, mechanical, refrigerators, nonmechanical, and ice-making apparatus, which was previously in *foundry and machine-shop products, n.e.c.*, were combined under *refrigerators and ice-making machinery*. Overlapping figures are provided for 1931.

² Between 1933 and 1935 printing materials, *n.e.c.*, type founding, and engravers' materials were combined with *foundry and machine-shop products, n.e.c.*

³ Between 1933 and 1935 gas machines and meters was abandoned as a separate classification. Gas and water meters were transferred to *instruments, professional and gas generators to machine shops*, part of *foundry and machine-shop products, n.e.c.*. Overlapping figures are provided for 1933.

⁴ Between 1933 and 1935 addressing and mailing machines, check-writing and canceling machines and duplicating or manifold machines were transferred from *foundry and machine-shop products, n.e.c.*, to *business machines, and numbering machines from hand stamps and stencils to business machines*. Overlapping figures for 1933 are provided by the Bureau of the Census.

⁵ Between 1935 and 1937 air compressors and dry vacuum pumps were transferred from *foundry and machine-shop products, n.e.c.* to *pumps*. Overlapping figures are provided for 1935.

⁶ Between 1933 and 1935 tractors were transferred from *engines to agricultural implements*. Overlapping figures are provided for 1933.

⁷ Between 1937 and 1939 typewriters were combined with *business machines* and with establishments making stencil cutting and embossing machines (formerly included in *machinery, n.e.c.*, part of *foundry and machine-shop products, n.e.c.*), to

form the *industry office and store machines, n.e.c.* A comparable figure for 1937 is provided.

⁸ Between 1929 and 1931 certain establishments manufacturing typewriter-bookkeeping-billing machines were transferred from *typewriters to business machines*.

⁹ Between 1904 and 1909 establishments manufacturing signs and advertising novelties were transferred from *electrical machinery* and other classifications to a new one, *signs*.

¹⁰ Between 1929 and 1931 molded plastics were transferred principally from *electrical machinery*, but also from *phonographs, machine-tool accessories, n.e.c.*, and other classifications to *pulp goods*.

¹¹ In 1931 a new classification, *radios and phonographs*, was set up. Establishments there classified were formerly in *electrical machinery and phonographs*. Overlapping figures for 1931 are provided for *electrical machinery* by the Bureau of the Census.

¹² *Electrical machinery* includes *beauty-shop equipment*, listed separately by the Bureau of the Census after 1933. Most of the establishments in the latter industry were formerly classified in *electrical machinery* or in *miscellaneous articles*.

¹³ Between 1933 and 1935 the composition of *dental goods and equipment* was changed to include certain electrical devices formerly in *electrical machinery*.

¹⁴ Between 1927 and 1929 sewing machine cases, cabinets and tables were transferred from *sewing machines to furniture*. Overlapping figures for 1927 are provided by the Census.

TRANSPORTATION EQUIPMENT

Establishments with Products Valued at \$5,000 or More

Industry	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939										
Aircraft ^e						0.17	3.5	3.5 ^o	1.4	2.9	2.7	4.4	14.7	9.9	7.8	11.4	24.0									
						17.5	3.3 ^b	4.4	6.7	10.9	10.9	4.3	6.6	4.2	3.9	4.4	3.3	3.0	5.1	6.9	7.0	48.6				
Motorcycles and bicycles																							30.4	48.6		
Automobiles, incl. bodies and parts																									571.3	399.0

TRANSPORTATION EQUIPMENT (concluded)	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More											
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939	
	Industry																
Automobile bodies and parts		1.8	24.4	47.8	132.6	132.3	69.1	163.5	228.4 ¹	181.5	221.3 ²	222.8	150.6	145.7	240.8	284.8	^d
Automobiles	2.2	10.2	51.3	79.3	210.6	210.6	143.7	241.4	197.7	187.9	226.1 ²	224.7	134.9	97.9	147.0	194.5	^d
Carriage and wagon materials	15.4	17.2	17.4	11.1	6.5	6.5	2.7	2.0	1.4	0.76	0.68	^b					
Carriages and sleds, children's	2.7	4.0	5.3	5.9	6.7	6.7	5.5	8.3	6.9	7.0	7.1	4.2	4.0	4.9	5.2	4.3	
Carriages, wagons and sleighs	58.7	61.3	53.2	47.6 ¹	40.0	16.0	15.5	6.3	8.1	4.8	3.4	2.9	1.4 ¹	1.4	1.6	1.8	1.3
Cars, railroad, n.e.m.	37.0	38.8	46.7	58.1	55.2	55.2	48.0	80.6	50.4	38.0	40.0	18.8	14.3	21.5	40.5	24.5	
Locomotives, n.e.m.	19.0	24.8	14.9	17.4	26.7	26.7	16.6	30.7	12.8	13.0	11.0	5.4	2.4	3.8	9.0	6.5	
Ships and boats	46.7	50.8	40.5	44.5	387.4	387.3	106.4	62.3	50.2	55.0	55.1	45.3	30.9	44.8	62.3	69.2	
TOTAL	199.4	212.2	258.1	312.6	856.1	855.2	404.0	606.3	559.6	494.9	583.4	373.8	307.4	480.9	629.1	560.4	

^a Some degree of incomparability may have been introduced by the following changes in the questionnaire for *aircraft*: For 1935, 1937, and 1939 aircraft were reported as "begun and completed in 1935," 1937 or 1939; for 1933, as "built in 1933"; for 1931, as "built in 1931"; for 1929, as "completed in 1929."

^b Between 1904 and 1909 children's tricycles and velocipedes were transferred from *motorcycles and bicycles to toys and games, n.e.c.*

^c Between 1919 and 1921 establishments engaged primarily in the manufacture of aircraft parts, other than engines and tires, were transferred from *cotton goods, lumber-mill products, n.e.c., planing-mill products, n.e.m., and wood turned and shaped, n.e.c. to aircraft.*

^d In 1939 *automobile and automobile bodies and parts* were combined to form a single industry and motor-vehicle hardware plants owned by motor-vehicle manufacturers were transferred to this industry from *hardware, n.e.c.* A comparable figure for the combination is provided for 1937.

^e In 1899 no establishments reported that they were engaged chiefly in the

manufacture of automobile bodies and parts. The Bureau of the Census doubts that there were any such establishments at that time.

¹ Between 1925 and 1927 motor-vehicle spring bumpers were transferred from *springs, steel, n.e.m., to automobile bodies and parts.*

² Between 1929 and 1931 trailers were transferred from *automobiles to automobile bodies and parts.*

³ In 1931 *carriage and wagon materials* was abandoned as a separate classification. Turned products, such as hubs, fellos and spokes were transferred to *wood turned and shaped, n.e.c.,* and other materials and parts were transferred to *carriages, wagons and sleighs.*

⁴ Prior to 1914 establishments engaged in repair work were included with *carriages, wagons and sleighs.* Overlapping figures are available for 1914.

⁵ Between 1931 and 1933 horsedrawn lunch wagons were transferred from *carriages, wagons and sleighs to planing-mill products, n.e.m.* A 1931 figure comparable with later years is provided for *carriages, wagons and sleighs.*

⁶ Does not include government shipyards.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Industry	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More									
	1899					1919					1919					1939				
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939				
MISCELLANEOUS PRODUCTS																				
Organs	21.3 { 3.6, 2.4, 2.4, 3.1, 1.9					23.0 { 2.4, 3.1, 1.9, 2.3, 1.9					23.0 { 2.4, 3.1, 1.9, 2.3, 1.9					23.0 { 2.4, 3.1, 1.9, 2.3, 1.9				
Pianos	8.5 { 2.1, 1.8, 1.8, 4.1, 4.1					11.0 { 2.1, 1.8, 1.8, 4.1, 4.1					11.0 { 2.1, 1.8, 1.8, 4.1, 4.1					11.0 { 2.1, 1.8, 1.8, 4.1, 4.1				
Organ and piano parts	2.4 { 4.3, 5.2, 4.5, 3.5, 3.5					4.1 { 4.3, 5.2, 4.5, 3.5, 3.5					4.1 { 4.3, 5.2, 4.5, 3.5, 3.5					4.1 { 4.3, 5.2, 4.5, 3.5, 3.5				
Musical instruments, n.e.c.	5.3 { 0.20, 0.27, 0.66, 0.60, 0.93					3.5 { 0.20, 0.27, 0.66, 0.60, 0.93					3.5 { 0.20, 0.27, 0.66, 0.60, 0.93					3.5 { 0.20, 0.27, 0.66, 0.60, 0.93				
Artificial flowers	0.20 { 3.1, 4.1, 4.3, 6.0, 6.0					0.92 { 3.1, 4.1, 4.3, 6.0, 6.0					0.92 { 3.1, 4.1, 4.3, 6.0, 6.0					0.92 { 3.1, 4.1, 4.3, 6.0, 6.0				
Feathers and plumes	2.2 { 3.1, 4.1, 4.3, 6.0, 6.0					6.0 { 3.1, 4.1, 4.3, 6.0, 6.0					6.0 { 3.1, 4.1, 4.3, 6.0, 6.0					6.0 { 3.1, 4.1, 4.3, 6.0, 6.0				
Artists' materials	10.3 { 5.2, 5.6, 6.3, 6.2, 4.3					8.0 { 5.2, 5.6, 6.3, 6.2, 4.3					8.0 { 5.2, 5.6, 6.3, 6.2, 4.3					8.0 { 5.2, 5.6, 6.3, 6.2, 4.3				
Pencils	8.7 { 10.6, 16.4, 14.5, 15.6, 15.4					9.7 { 10.6, 16.4, 14.5, 15.6, 15.4					9.7 { 10.6, 16.4, 14.5, 15.6, 15.4					9.7 { 10.6, 16.4, 14.5, 15.6, 15.4				
Brooms	2.6 { 1.9, 1.6, 3.1, 5.2, 5.2					4.1 { 1.9, 1.6, 3.1, 5.2, 5.2					4.1 { 1.9, 1.6, 3.1, 5.2, 5.2					4.1 { 1.9, 1.6, 3.1, 5.2, 5.2				
Brushes	1.0 { 5.7 ^a , 6.6 ^b , 6.7 ^c , 7.4, 14.0					14.0 { 5.7 ^a , 6.6 ^b , 6.7 ^c , 7.4, 14.0					14.0 { 5.7 ^a , 6.6 ^b , 6.7 ^c , 7.4, 14.0					14.0 { 5.7 ^a , 6.6 ^b , 6.7 ^c , 7.4, 14.0				
Buttons	5.7 ^a { 1.3, 1.8 ^m , 0.91, 0.80, 0.84					0.84 { 1.3, 1.8 ^m , 0.91, 0.80, 0.84					0.84 { 1.3, 1.8 ^m , 0.91, 0.80, 0.84					0.84 { 1.3, 1.8 ^m , 0.91, 0.80, 0.84				
Dairymen's supplies	1.4 { 1.8 ^m , 4.6 ^a , 2.8, 2.2, 2.2					2.2 { 1.8 ^m , 4.6 ^a , 2.8, 2.2, 2.2					2.2 { 1.8 ^m , 4.6 ^a , 2.8, 2.2, 2.2					2.2 { 1.8 ^m , 4.6 ^a , 2.8, 2.2, 2.2				
Dental goods and equipment	0.28 { 0.82, 0.86, 3.5, 1.2, 1.1					1.1 { 0.82, 0.86, 3.5, 1.2, 1.1					1.1 { 0.82, 0.86, 3.5, 1.2, 1.1					1.1 { 0.82, 0.86, 3.5, 1.2, 1.1				
Miscellaneous articles	1.5 { 1.5, 1.7, 1.8, 2.1, 2.1					2.1 { 1.5, 1.7, 1.8, 2.1, 2.1					2.1 { 1.5, 1.7, 1.8, 2.1, 2.1					2.1 { 1.5, 1.7, 1.8, 2.1, 2.1				
Ivory work	2.8 { 3.4, 4.8, 7.1, 15.9, 14.7					14.7 { 3.4, 4.8, 7.1, 15.9, 14.7					14.7 { 3.4, 4.8, 7.1, 15.9, 14.7					14.7 { 3.4, 4.8, 7.1, 15.9, 14.7				
Combs, n.e.c.	3.7 { 4.3, 6.4, 7.9, 14.7, 14.7					14.7 { 4.3, 6.4, 7.9, 14.7, 14.7					14.7 { 4.3, 6.4, 7.9, 14.7, 14.7					14.7 { 4.3, 6.4, 7.9, 14.7, 14.7				
Foundry supplies																				
Hair works																				
Hand stamps and stencils																				
Instruments, professional																				
Optical goods																				

NUMBER OF WAGE EARNERS

Industry	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Jewelry and instrument cases	0.82	1.7	2.1	2.4	2.7	2.7	2.2	3.0	2.7	2.4	2.3	1.4	1.1	2.3 ^v	4.8	5.1
Lapidary work	0.50	0.51	0.63	0.58	1.2	1.1	0.40	0.64	0.59	0.55	0.51	0.20	0.11	0.15	0.22	0.27
Mattresses and bed springs, n.e.c.	7.6	10.4	11.3	11.7	12.6	12.5	11.7	14.1	14.4 ^w	13.5	17.2	13.6	13.3	15.4	19.2	18.3
Models and patterns, n.e.c. ^a	2.6	2.8	4.2	4.3	6.9	6.8	3.9	5.8	5.3	5.6	6.8	4.3	2.8	4.1	5.7	5.6
Paving materials	2.4	1.9	1.4	19.5	16.1	15.7	15.4	19.4	17.9	19.2 ^x	7.4	1.1	1.2	2.2	1.9	2.4
Pens and points	1.2	1.6	1.9 ^y	2.0	4.4	4.4	3.4	4.3	4.2	4.0	4.6	3.9	3.1	3.8	4.3	4.5
Photographic supplies	3.4	3.8	5.2	8.0 ^z	13.5	13.4	10.7	9.9	9.2	12.1	13.0	10.6	9.0	12.0	18.4	17.3
Pipes, tobacco	1.6	1.9	2.8	2.4	2.5	2.5	1.8	2.4	2.0	1.8	1.7	1.7	1.4	2.2	2.4	2.5
Signs	b	5.5	9.6	10.4	10.3	10.4	13.0	13.0	15.1	16.9	20.0	14.5	12.0	13.7	16.0	17.2
Soda-water apparatus	0.96	1.5	1.8	2.2	2.6	2.6	2.1	2.7	2.4	2.8	2.8	1.6	0.82	1.1	1.7	1.6
Sporting goods, n.e.c.	2.2	4.3	5.3	5.6	6.4	6.4	7.1	9.7	8.7	9.7	10.8	10.2	8.2	9.7	11.4	13.8
Surgical equipment	1.8	3.2	4.2	4.8	7.1	7.0	4.8	5.9	6.4	7.3	7.9	6.7	7.0	7.1	8.4	8.5
Theatrical equipment	aa	0.088	0.15		0.15	0.15	0.17	0.21	0.39	0.56	0.55	0.36	0.31	0.28	0.40	o
Toys and games, n.e.c.	3.3	4.3 ^{bb}	5.3	7.9	14.2	14.1	9.4	14.5	14.2 ^{cc}	14.7	16.7	13.2	12.5 ^{dd}	15.4	17.5	18.7
Umbrellas and canes	5.6	5.4	5.5	4.8	3.4	3.3	3.1	3.8	3.7	3.3	2.9	1.9	2.2	2.2	3.1	2.9
Window shades	1.8	2.6	3.9	4.1	4.4	4.4	3.8	6.0	5.2	4.7	4.7	3.1	2.9	3.0	3.2	3.3
TOTAL	104.9	136.0	179.8	208.9	209.7	254.8	196.1	247.7	236.5	238.8	224.9	161.9	143.4	180.0	220.2	218.5
									235.9	236.9	223.9	146.1	180.3	220.1	218.5	

For footnotes see next page.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

MISCELLANEOUS PRODUCTS (concluded)

- ^a Between 1933 and 1935 crayons were transferred from *artists' materials to pencils*. Overlapping figures for 1933 are provided by the Bureau of the Census.
- ^b In 1899 *dairymen's supplies* was combined with other industries.
- ^c In 1931 *dairymen's supplies* was abandoned as a separate classification, and the products were divided among *flourings, planing-mill products, n.e.c., sheet-metal work, n.e.c., tin cans and tinware, n.e.c., wood turned and shaped, n.e.c., foundry and machine-shop products, n.e.c., and stoves and ranges*.
- ^d After 1927 dental laboratories operating on a custom basis, previously included in *dental goods and equipment*, were not canvassed. Overlapping figures for 1927 are provided by the Bureau of the Census.
- ^e Between 1933 and 1935 the composition of *dental goods and equipment* was changed to include certain electrical devices formerly in *electrical machinery*, and dental chairs and cabinets formerly in *furniture*.
- ^f Between 1935 and 1937 establishments manufacturing dental instruments as their major product were transferred from *instruments, professional, to dental goods and equipment*.
- ^g Between 1899 and 1904 establishments engaged in manufacturing statuary and art goods were transferred from *miscellaneous articles and plastering and stucco work* (an industry abandoned by the Bureau of the Census in 1904) to a new classification, *statuary and art goods*.
- ^h Between 1904 and 1909 establishments manufacturing signs and advertising novelties were transferred from *housefurnishings, n.e.c., leather goods, n.e.c., stationery goods, n.e.c., electrical machinery and miscellaneous articles to signs, a new classification*.
- ⁱ Prior to 1914 aluminum manufactures were included among *miscellaneous articles* and other classifications.
- ^j Between 1929 and 1931 molded plastics were transferred principally from *electrical machinery*, but also from *miscellaneous articles* and other classifications to *pulp goods*.
- ^k Between 1929 and 1931 *labels and tags* was abandoned and the products were divided among *miscellaneous articles* and other classifications.
- ^l Between 1933 and 1935 *stationery goods, n.e.c.*, was abandoned and the products were divided among *miscellaneous articles* and other classifications. At the same time, some establishments making beauty-shop equipment were transferred from *miscellaneous articles* to a new classification, *beauty-shop equipment*, treated by us as part of *electrical machinery*.
- ^m Between 1904 and 1909 many important establishments making horn, celluloid and other combs were transferred from *ivory work to combs, n.e.c.* Hairpins also were transferred from *ivory work* and other industries to *combs, n.e.c.*
- ⁿ Between 1909 and 1914 rubber combs and hairpins were transferred from *combs, n.e.c. to rubber goods, other metal hairpins were transferred from combs n.e.c. to needle and pins*.

- ^o In 1939 *theatrical equipment* was included in *miscellaneous articles*.
- ^p In 1939 *foundry supplies* were included in the combination of *druggists' preparations and patent medicines*.
- ^q Because this industry contains a large proportion of small establishments, the degree to which it is covered in the Census probably varies from year to year.
- ^r Between 1933 and 1935 numbering machines were transferred from *hand stamp and stencil to business machines*.
- ^s Between 1925 and 1927 surveyors' nautical instruments and similar instruments were transferred from *optical goods to instruments, professional*.
- ^t Between 1933 and 1935 *gas machines and meters* was abandoned as a separate classification and gas and water meters were transferred to *instruments, professional*. Overlapping figures are provided for 1933.
- ^u After 1923 establishments grinding lenses for spectacles and eyeglasses from prescriptions, classified under *optical goods*, were not canvassed by the Bureau of the Census. The comparability of the data for the industry appears to have been seriously affected by this omission.
- ^v Because of changes in the classification of certain establishments between 1935 and 1937, the 1937 statistics for *jewelry and instrument cases* are not comparable with those for previous years. Comparable figures for 1935 are provided by the Bureau of the Census.
- ^w After 1925 establishments engaged in renovating mattresses, classified under *mattresses and bedsprings, n.e.c.*, were not canvassed by the Census of Manufactures.
- ^x Establishments formerly in *padding materials* and engaged primarily in quarrying and crushing stone were not canvassed after 1927. The data on the industry appear to have been seriously affected by this change. Crushed slag was not canvassed after 1929. The 1929 figure for *padding materials* has been revised to make it comparable with that for 1931.
- ^y Between 1909 and 1914 there was a change in the classification of certain establishments, listed under *pens and points*, which manufactured gold pens and other products.
- ^z In 1914 motion-picture machines were included in *photographic supplies*, whereas in previous years they were included in *motion pictures*. Overlapping figures for 1914 are provided for *photographic supplies*.
- ^{aa} Canvassed for the first time in 1914.
- ^{ab} Between 1904 and 1909 children's tricycles and velocipedes were transferred from *motorcycles and bicycles to toys and games, n.e.c.*
- ^{ac} Between 1925 and 1927 rubber toy balloons were transferred from *toys and games, n.e.c., to rubber goods, other*. Overlapping figures for 1925 are provided by the Bureau of the Census.
- ^{ad} The 1933 Census of this industry is considered somewhat incomplete by the Bureau of the Census.

NUMBER OF WAGE EARNERS

Group	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More													
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939			
Foods	304.2	358.9	420.1	498.6	509.0	703.1	699.1	583.1	642.2	635.0	639.5	702.9	605.7	618.0	718.3	788.8	788.6	741.0	
Beverages	55.1	68.3	77.8	88.2	55.4	55.4	54.5	35.4	31.3	29.6	28.8	30.5	25.5	43.2	67.9	85.9	65.0	87.5	
Tobacco products	132.5	159.4	166.8	178.9	157.1	157.1	155.0	150.0	146.3	132.1	129.3	116.1	99.8	99.7	90.5	92.2	87.5	87.5	
Textile products	1,036.7	1,179.1	1,457.1	1,466.3	1,525.8	1,635.6	1,632.3	1,532.0	1,741.7	1,654.3	1,655.6	1,719.7	1,732.0	1,441.1	1,491.0	1,707.5	1,834.6	1,838.5	1,839.9
Leather products	249.7	266.0	311.3	308.2	350.1	350.1	349.4	280.4	345.6	315.4	314.1	316.1	318.5	272.8	282.0	310.8	332.0	328.6	327.7
Rubber products	36.6	43.9	49.3	74.0	158.5	158.5	158.5	103.3	137.9	141.1	141.9	142.0	149.1	99.3	106.3	114.7	129.8	120.7	120.7
Paper products	97.3	125.5	151.0	174.5	219.4	219.4	219.2	196.0	232.3	232.9	233.4	244.5	203.2	202.2	199.8	235.7	264.5	266.1	264.0
Printing and publishing	204.6	230.5	271.3	286.3	302.0	302.0	294.5	282.5	308.0	315.3	328.6	358.0	317.8	264.1	263.0	304.8	353.1	326.0	326.0
Chemical products	108.6	134.0	154.5	183.4	283.8	283.8	283.1	190.9	237.2	236.7	236.6	245.6	275.0	226.5	233.9	272.0	309.7	305.9	279.9
Petroleum and coal products	30.8	37.2	45.1	45.2	49.1	49.1	94.8	83.6	100.3	93.0	96.6	105.4	86.6	85.1	98.1	108.9	109.6	101.2	101.2
Stone, clay and glass products	240.4	295.9	297.4	349.1	345.9	320.9	318.5	269.7	368.6	371.2	366.7	346.5	234.0	237.3	188.8	257.2	330.3	328.6	311.4
Forest products	704.6	757.2	940.6	941.6	857.6	855.0	841.7	692.6	919.5	902.0	850.1	852.0	863.0	504.0	452.0	570.3	708.5	677.1	633.6

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

Group	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
MAJOR GROUPS AND TOTAL																
MANUFACTURING																
(concluded)																
Iron and steel products	368.7	431.1 477.7	582.6 594.8	617.2	853.9	853.2	568.0	887.8	848.5	830.5 821.8	876.3	594.7 594.3	547.6	720.1	954.4 944.7	805.0
Nonferrous-metal products	168.4	207.1 190.2	230.3	239.5	304.8	303.7	212.7	293.8	276.6	272.7	314.7	208.6	188.3	265.0	331.4	335.3
Machinery	453.2	531.8 500.1	600.5 588.2	634.3	1,038.5 1,037.2	1,035.7	688.5	940.0	881.8	913.3 920.2	1,121.3	698.3	546.3 545.1	800.0	1,110.9 1,081.3	883.6
Transportation equipment	199.4	212.2	258.1	312.6 310.9	856.1	855.2	404.0	606.3	559.6	494.9	583.4	373.8 373.6	307.4	480.9	629.1 667.4	560.4
Miscellaneous products	104.9	136.0	179.8	208.9 209.7	256.5	254.8	196.1	247.7	236.5 235.9	238.8 236.9	224.9 223.9	161.9	143.4 146.1	180.0 180.3	220.2 220.1	218.5
TOTAL MANUFACTURING	4,495.9	5,173.9 5,173.5	6,245.5 6,255.7	6,583.0 6,592.5	8,445.5 8,444.2	8,403.2	6,468.8	8,186.9	7,861.6	7,846.6 7,844.7	8,362.2 8,361.2	6,153.6 6,155.5	5,797.0 5,796.6	7,193.9 7,194.2	8,584.1 8,552.9	7,868.9

NUMBER OF WAGE EARNERS

	Establishments with Products Valued at \$500 or More				Establishments with Products Valued at \$5,000 or More											
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
RECONCILIATION WITH CENSUS TOTAL																
CENSUS TOTAL	4,712.8	5,468.4	6,615.0	7,036.3	9,096.4	9,050.6	6,946.6	8,778.2	8,384.3	8,349.8	8,838.7	6,523.0	6,055.7	7,378.8	8,569.2	7,886.6
<i>Add or Deduct:</i>																
Revisions by Census	-0.16					-0.14		-5.0	-7.1		+0.28	-1.3		-0.023	-0.033	
REVISED CENSUS TOTAL	4,712.6	5,468.4	6,615.0	7,036.3	9,096.4	9,050.4	6,946.6	8,773.2	8,377.2	8,349.8	8,839.0	6,521.7	6,055.7	7,378.8	8,569.2	7,886.6
<i>Deduct:</i>																
Blended flour																
Butter reworking	0.15	0.40	0.30	0.30	0.047	0.047										
Coffee and spices	6.4	6.0	7.5	8.5	10.5	10.5	8.9	9.7	e	8.2	9.1	8.7	d			
Peanuts		1.4	1.9	2.4	2.5	2.5	2.1	1.5	2.0	7.4	7.9	7.6	d			
Poultry			1.4*	2.1	2.1	2.1	2.3	1.5	2.8	6*	7.8	7.0	7.5	8.1	8.9	14.5
Rectified spirits	0.21	0.21	0.16	0.12	0.42	0.42	0.11	0.062	0.082	0.062	0.047	d				
Flax and hemp	0.61	0.37	0.18	0.17	f											
Wood carpet	22.5	30.6	37.2	43.8	42.9	42.8	35.0	42.3	47.0	48.5	43.1	34.5	26.2	19.7	d	
Gas, illuminating	1.2	0.71	1.4	0.69												
Grindstones																
Grindstones and millstones																
Pulpwood	e	e	e	0.42	f	0.71	0.50	0.65	0.45	0.47	d					
Pulp, other than wood	0.12	e	e	0.064	g	0.064										
Iron and steel, welded				b	1.3	1.3	1.0	1.0	d							
Tinplate and terneplate	3.7	4.8	5.4	5.2	3.1	3.1	3.1	3.1	i							
Automobile repairing				j	12.6	55.1	50.5	d								
Carriage and wagon repairing				k	1.7	2.5	2.4	1.7	d							
Railroad repair-shop products	180.6	247.9	204.6	365.9	515.7	515.5	418.3	523.4	457.8	428.7	398.2	309.0	241.9	155.3	d	
Dental laboratory work																
Motion pictures																
Ordnance	0.98	0.28	e	e	11.3	11.3	1.4	f								

For footnotes see next page.

Average Number of Wage Earners in Manufacturing Industries (Unit: 1,000)

RECONCILIATION WITH CENSUS TOTAL (concluded)	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
<i>Deduct (continued)</i>																
Rules	0.21	0.15	0.11	0.41	0.17	0.16	0.19	0.22	°							
Straw goods	0.054	0.083	°													
All other industries	0.051	0.064	0.096	0.36	0.099	0.080	0.15	0.631								
<i>Add:</i>																
Correction in:																
Turpentine and rosin ^b															4.6	30.9
Cigars ^c															12.4	
ADJUSTED CENSUS																
TOTAL	4,495.9	5,175.5	6,255.7	6,592.5	8,444.2	8,403.2	6,468.8	8,185.9	7,861.6	7,846.2	8,362.2	6,154.9	5,797.2	7,193.9	8,584.1	7,868.9
NUMBER TOTAL	4,495.9	5,173.5	6,255.7	6,592.5	8,444.2	8,403.2	6,468.8	8,186.9	7,861.6	7,844.7	8,362.2	6,153.6	5,797.0	7,193.9	8,584.1	7,868.9
Unexplained difference					-2.0			+1.0		-1.5		-1.3		-0.2		

^a Canvassed for the first time.

^b Between 1919 and 1921 *butter reworking* was combined with *all other industries*, and was not listed thereafter.

^c Not canvassed.

^d No longer canvassed.

^e Between 1927 and 1929 canned poultry products were transferred from *food, n.e.c.*, to *poultry products*.

^f In 1919 *wood carpet and pulpwood*, in 1923 *ordnance*, and in 1925 *all other industries* were abandoned as separate classifications.

^g Included in *all other industries*.

^h Prior to 1919 *iron and steel, welded*, was included in *foundry and machine-shop products, n.e.c.*

ⁱ In 1921 *tinplate and terneplate* was combined with *ordnance* and in 1923 with *all other industries*. Since 1923 all the products of this industry have been made as secondary products by the *steel-mill products* and the *tin cans and tinware, n.e.c.*, industries.

^j Automobile repairing was first treated as a manufacturing industry in 1914. Prior to that year no special effort was made to canvass this industry but some

reports were received in 1909 and were included with *foundry and machine-shop products, n.e.c.*

^k Prior to 1914 carriage repair work was included in *carriages, wagons and sleighs*.

^l After 1927 dental laboratories operating on a custom basis, and previously included in *dental goods and equipment*, were not canvassed.

^m In 1914 motion-picture machines were included in *photographic supplies*, whereas in 1909 they were included with *motion pictures*.

ⁿ No longer considered a manufacturing industry by the Bureau of the Census.

^o Between 1923 and 1925 *rules* was abandoned as a separate industry, and the products were divided among *tools, other; wood turned and shaped, n.e.c.*, and other industries, according to the character of the products.

^p See footnote ^l under *forest products*.

^q In 1933 the coverage of *cigars* was incomplete. On the basis of Bureau of Internal Revenue data the coverage may be estimated at about 81.5 percent; the figure for this year has been raised accordingly.

*Explanatory Note to Table B-2: Number of Salaried
Workers in Manufacturing Industries*

This appendix table shows the number of salaried persons employed in each major group of manufacturing industries and in all manufacturing combined. In order to conserve space we do not present a reconciliation of the grand totals arrived at in the present study with the grand totals given in the Census volumes, or a tabulation of data for individual industries. Indexes of total employment, including salaried personnel, are given for many industries in Appendix F, and a reconciliation can readily be prepared by the reader who studies the explanatory note to Appendix Table B-1.

Before the figures assembled here are used, Appendix A and the explanatory note to Appendix Table B-1 should be consulted for general comments concerning the character of the data and our method of presenting them. Salaried personnel includes officers of corporations (except directors not holding other offices on salary), as well as "managers, superintendents, and other responsible administrative employees; foremen and overseers who devote all or the greater part of their time to supervisory duties; clerks, stenographers, bookkeepers, and other clerical employees on salary."¹

The number of salaried persons is not the average number employed during the year. For 1909-37 it is the number on the payroll on December 14 or 15, and for 1939, the number on the payroll during the period including October 14, unless these were not representative days; in the latter case data for the nearest representative day or payroll period were requested. For 1899 the number of salaried persons reported is the greatest number employed at any one time during the year; and for 1904, the Census requested simply the number, without specifying any date to which it should relate.

Figures for persons in central-administrative offices are included

¹ See p. 2 of the General Schedule used in the 1929 Census of Manufactures. (This schedule is reproduced on p. 331 of the 1929 Report, Vol. I.)

to the extent shown below. A central-administrative office is defined as

an office which operates two or more manufacturing plants, one or more of which are located in cities other than that in which the administrative office is located. . . . At censuses prior to that for 1925 the central-administrative-office employees were allocated to individual plants, usually on the basis of the percentages which the values of products reported by the several plants formed of the total for all manufacturing plants operated by the administrative office, and the numbers of employees and the amounts of their salaries thus added were included in the statistics for the respective industries. . . .²

To circumvent the improper geographical distribution which resulted, as well as the exaggeration of the number of salaried employees caused by the inclusion of central-office employees not properly allocable to manufacturing,³ the Bureau of the Census decided to show the data for the employees in these offices separately, beginning with 1925. Data for these employees were not collected prior to 1909, or in 1927, 1931 and 1933; in 1929, 1937 and 1939 data were collected but not shown, except for all factories combined;⁴ and in 1935 data were collected but not tabulated. The Census gives no figure for the number of central-office employees in 1909, or in preceding years. For this reason an unavoidable discontinuity occurs between 1904 and 1909 in the series on salaried workers, though it does not appear to be very serious in most cases: in 1923 central-office employees constituted less than 1 percent of the reported total of all workers; in 1929, 2 percent; and in 1937, 1.3 percent. Those interested in the num-

² Census of Manufactures, 1925, Ch. IV.

³ It should be noted that at the decennial Censuses for 1909 and 1919 it was possible to allocate some of the central-office employees to mining. The number involved is not given by the Census.

⁴ The data for 1925-39 for all factories combined are given in Table B-5.

The data presented include figures for those central-administrative offices which made *separate* reports for their personnel. "Many such offices, however, did not report their personnel separately but included data for them in the returns for their plants" (headnote to Table 2, p. 43, 1929 Report, Vol. 1).

ber of salaried workers for its own sake should note, however, that even for all manufacturing industries combined central-office employees constituted as much as 7 percent of the reported total of salaried personnel (excluding these employees) in 1923, 15 percent in 1929, and 11 percent in 1937.⁵

The figures for 1933 have been stepped up to include the number of corporate officials, which was not reported in that year. In estimating this number, we made use of the ratio of the number of corporate officials in 1929 and 1935 to the corresponding total of all salaried persons. In 1935 and earlier years manufacturers were requested to report all corporate officers, but after 1935 only those devoted wholly or chiefly to manufacturing. The resulting incomparability is slight. No data on salaried persons were collected in the 1931 Census.

*Explanatory Note to Table B-3: Number of Proprietors
and Firm Members in Manufacturing Industries*

Table B-3 shows the number of proprietors and firm members engaged in manufacturing in the United States, classified by major groups. To save space details by industries are not supplied; indexes of total employment, including proprietors and firm members, are given for many industries in Appendix F. Reference should be made to Appendix A and to the explanatory note to Appendix Table B-1 before the figures presented here are used.

The reader should note that rather serious discontinuities are introduced into the Census series on number of proprietors and firm members because of changes in the Census coverage of small establishments. These changes occur: (1) because the minimum size of establishment included is based on value of products, and is therefore subject to variation as a result of price changes or changes in scale of operation; (2) because of a change between 1919 and 1921 in the minimum size of establishment required to

⁵ Central-office employees are not all salaried. In 1937 a breakdown was published for the first time; this shows that the 131.0 thousand persons in central offices consisted of 122.1 thousand salaried workers, 8.7 thousand wage earners, and 0.2 thousand proprietors and firm members.

TABLE B-2
Number of Salaried Workers in Manufacturing Industries (Unit: 1,000)

Group	Establishments with Products Valued at \$500 or More										Establishments with Products Valued at \$5,000 or More																																																																																																																																																																	
	1899					1904					1909					1914					1919					1921					1923					1925					1925					1927					1929					1933					1935					1937					1939																																																																																																					
	Excluding Central- Administrative- Office Employees					Including Central-Administrative- Office Employees					Excluding Central-Administrative- Office Employees					Including Central-Administrative- Office Employees					Excluding Central-Administrative- Office Employees					Including Central-Administrative- Office Employees					Excluding Central-Administrative- Office Employees					Including Central-Administrative- Office Employees					Excluding Central-Administrative- Office Employees					Including Central-Administrative- Office Employees																																																																																																																														
Foods	45.0	53.3	85.1	105.1	107.6	163.7	129.5	132.9	129.9	129.9	117.2	119.9	121.2	101.8	113.1	116.9	116.8	95.2	9.9	12.6	17.0	19.5	14.5	9.1	8.8	7.8	7.8	8.4	13.3	13.1	16.6	19.6	15.4	7.8	9.2	13.2	16.8	15.7	14.7	15.7	14.3	10.5	11.6	10.2	3.8	5.0	5.7	4.8	45.3	64.2	96.2	112.9	112.8	151.6	131.3	162.8	148.9	142.7	143.1	145.1	106.0	122.5	121.2	115.8	120.6	121.2	115.8	15.3	18.4	28.7	32.5	44.0	33.5	40.1	36.4	34.8	34.3	32.8	23.7	25.4	25.8	23.9	2.5	3.7	6.7	14.7	47.6	21.4	22.2	23.9	22.9	26.6	22.8	15.6	16.8	20.1	18.6	6.8	9.6	14.8	20.0	28.7	25.7	31.5	31.7	29.5	31.1	33.3	28.8	31.2	32.8	33.0	31.0	41.9	71.3	103.6	120.9	143.9	143.9	169.1	180.0	179.1	191.6	207.8	152.7	204.5	143.2	23.9	30.5	47.5	59.4	95.0	65.4	74.0	71.6	63.5	66.9	72.9	53.6	64.4	70.0	69.4	3.0	4.1	6.0	9.9	21.2	16.2	21.6	21.3	16.2	16.9	18.8	12.7	18.2	19.0	18.7	13.9	20.3	29.3	33.5	41.3	34.7	43.4	48.9	44.1	45.0	43.2	25.9	32.8	37.1	36.9

NUMBER OF SALARIED WORKERS

Group	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More									
	1899	1904	1909	1914	1919	1921	1923	1925	1925	1927	1929	1933	1935*	1937	1939
MAJOR GROUPS AND TOTAL															
MANUFACTURING (continued)															
	Including Central-Administrative- Office Employees					Excluding Central-Administrative- Office Employees									
Forest products	33.7	46.8 47.1	65.1	68.0 67.3	77.6	67.2	78.6	79.7	79.2	75.1 75.2	77.9	44.8	51.6	58.9 57.7	54.3
Iron and steel products	21.1	36.3 29.0	44.6 45.2	52.2 77.3	124.7	93.8	114.4	120.1	106.0	107.1 105.3	110.0	69.1	86.2	108.0 106.1	96.3
Nonferrous-metal products	12.1	18.4	29.5	35.0 32.5	47.9	37.5	45.7	44.3	43.0	45.5	51.6	32.9	43.1	49.7 50.3	43.9
Machinery	45.5	66.2 72.1	109.9 109.3	138.0 116.2	213.2	169.9	204.9	198.1	181.3	195.9 197.6	222.5 222.8	127.4 126.5	169.1	213.3 211.0	177.5
Transportation equipment	10.4	13.3 14.4	26.5	36.0 35.8	90.4	55.1	68.6	68.8	65.0	61.6	67.0	40.2	52.8	74.3 78.3	74.9

Footnote on next page.

Number of Salaried Workers in Manufacturing Industries (Unit: 1,000)

MAJOR GROUPS AND TOTAL MANUFACTURING (concluded)	Establishments with Products Valued at \$500 or More				Establishments with Products Valued at \$5,000 or More										
	1899	1904	1909	1914	1919	1921	1923	1925	1925	1927	1929	1933	1935*	1937	1939
Excluding Central-Administrative Office Employees															
Including Central-Administrative Office Employees															
Excluding Central-Administrative Office Employees															
Group															
Miscellaneous products	9.3	14.0	24.4	33.8	46.9	38.7	45.4	45.0	43.1	44.0	43.2	28.1	28.9	37.0	35.3
		14.5	26.0	34.0						43.5					
TOTAL	347.6	492.3	748.1	908.2	1,368.0	1,087.7	1,279.8	1,270.6	1,186.0	1,223.8	1,288.7	880.5	879.9	1,056.1	1,215.8
	492.9		749.7	910.7						1,223.3	1,288.9	880.5	879.9	1,056.1	1,214.7

* In 1935 and earlier years manufacturers were requested to report all corporate officers; after 1935, only those devoted wholly or chiefly to manufacturing. The resulting incomparability is slight.

report, from a value of products of \$500 in 1919 to one of \$5,000 in 1921; (3) because the biennial censuses are less adequate in coverage than the quinquennial.¹ That proprietors and firm members are concentrated in the small establishments hardly requires demonstration.² If we assume that to every establishment excluded by the change in the minimum value of products between 1919 and 1921 there corresponds one proprietor or firm member, then we must conclude that the change in the minimum between 1919 and 1921 introduced a serious discontinuity in the series for proprietors and firm members, because the number of small establishments is very large.^{3, 4} Shifts in scale of operation and changes in prices would, on the same assumption, also introduce serious discontinuities, as would reduction of coverage in the biennial Censuses.

Data on number of proprietors and firm members in 1899 are omitted because the available figures cover hand trades and custom establishments, excluded from the later Censuses. An estimate for 1899 and one for 1919 comparable with 1921 are given for all factories combined in Table B-5.

¹ See the discussion in Appendix A, *The Output of Manufacturing Industries, 1899-1937* (National Bureau of Economic Research, 1940).

² Small establishments are most often unincorporated. Further, almost every establishment requires a proprietor or firm member: unincorporated establishments are less frequently associated with central administrative offices. (See Table 2, 1929 Report, Vol. I, p. 95. In 1929, 24,000 out of 102,000 establishments controlled by corporations were operated by central administrative offices; the corresponding figures for noncorporate concerns were 2,000 out of 109,000.) Any supervision by one proprietor or partner of more than one establishment is more than counterbalanced by the supervision of one establishment by more than one partner.

³ This assumption is not valid for all *individual* industries because some industries are large scale and almost entirely incorporated.

⁴ This is pointed out in the Census: see footnote 3 to Table I, Ch. 3 of the 1929 Report, Vol. I, p. 42. See also p. 20, Vol. VIII, of the 1909 Census.

TABLE B-3
Number of Proprietors and Firm Members in Manufacturing Industries (Unit: 1,000)

Group	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More							
	1904	1909	1914	1919	1921	1923	1925	1927	1929	1933	1935	1937	1939
MAJOR GROUPS AND TOTAL													
MANUFACTURING													
Foods	49.4	61.5	59.0 61.7	62.3	43.8	39.2	34.5	35.0	37.6	23.1	21.2	31.1	36.4
Beverages	6.3	7.2	7.2	6.2	4.2	4.5	4.0	4.8	4.5	1.9	2.5	3.2	3.8
Tobacco products	19.0	17.6	15.2	10.8	4.7	3.3	2.2	2.0	1.6	0.61	0.67	0.63	0.60
Textile products	21.9	26.8	26.9 26.8	32.8	30.5	28.0	23.8	26.7	23.5	12.2	12.3	13.9	19.2
Leather products	6.0	5.8	6.6	5.7	3.6	3.2	2.7	2.7	2.3	1.4	1.4	1.4	1.5
Rubber products	0.10	0.10	0.087	0.098	0.095	0.11	0.23	0.10	0.11	0.079	0.11	0.098	0.16
Paper products	1.7	1.6	1.4	1.4	1.4	1.1	1.0	0.86	0.81	0.45	0.56	0.66	0.84
Printing and publishing	29.3	31.3	32.1	29.5	22.0	17.9	18.2	18.4	14.8	10.8 10.7	13.1	15.2	18.2
Chemical products	5.0	5.7	5.6	4.9	3.3	2.5	2.4	2.4	2.1	1.3	1.7	1.8	2.4
Petroleum and coal products	0.27	0.28	0.18	0.21	0.18	0.20	0.096	0.058	0.067	0.072	0.096	0.095	0.24
Stone, clay and glass products	11.8	17.2	14.7	11.5	7.5	5.8	6.0	5.3	4.8	1.7	2.6	2.9	3.9
Forest products	40.0	58.6	47.2	44.0	21.1	17.3	16.6	13.1	21.6	7.3	10.9	12.8 11.7	15.3
Iron and steel products	2.3	2.1	1.9	3.7	3.2	2.5	2.4	2.5	2.2	1.2	1.5	1.9	2.4
			3.6		2.3			2.3				1.8	

Group	Establishments with Products Valued at \$500 or More					Establishments with Products Valued at \$5,000 or More								
	1904	1900	1914	1919		1921	1923	1925	1927	1929	1933	1935	1937	1939
Nonferrous-metal products	6.4	8.7	9.8	9.8		7.2	6.1	5.3	4.9	4.7	2.3	3.0	3.4	4.3
Machinery	10.6	11.1	10.8	9.4		8.3	6.5	5.7	6.1	5.3	4.4	4.3	4.6	6.3
Transportation equipment	8.0	8.2	8.1	7.1		2.7	2.1	1.2	0.98	1.0	0.42	0.66	0.80	1.0
Miscellaneous products	7.0	8.2	9.3	10.8		7.5	7.2	6.6	6.2	5.5	3.1	4.5	4.6	6.1
TOTAL	225.0	272.2	256.0	257.8		171.5	147.6	132.9	131.8	132.5	72.3	81.3	99.0	122.6
		272.4											97.8	

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Explanatory Note to Table B-4: Number of Nonfactory Personnel in Manufacturing Industries

This table contains the number of nonfactory workers employed in manufacturing in 1935, 1937 and 1939; that is, manufacturing employees not listed in Tables B-1, B-2 and B-3.

In order to conserve space we do not give the figures for individual industries. The indexes in Appendix F below indicate the importance of nonfactory personnel in many individual industries. For 1935, these are persons within the factory engaged wholly or chiefly in distribution; for 1937, all persons engaged in manufacturing activities but not reported as wage earners, salaried persons, proprietors or firm members; for 1939, all persons on factory payrolls engaged wholly or chiefly in distribution, construction, and other nonfactory activities.

As noted in Appendix A, persons engaged in mining and lumbering activities intimately connected with factory operations have always been counted as regular factory workers. It is not certain, however, to what extent the types of workers counted as nonfactory personnel in 1935-39 were reported as regular factory workers in earlier years.¹ The main question concerns factory employees engaged in distribution, transportation and construction activities.

Drivers of delivery wagons, and salesmen associated with a separate sales office to which the factory turns over its products at a given price are excluded from the Census.² This treatment is consistent with the Census definition of factory value of prod-

¹ Mention should be made of the Census treatment of certain other classes of workers. Persons working at home on materials furnished by a manufacturer are excluded. Contract workers (workers employed outside the plant by an independent contractor) also are excluded, though they may be counted in a separate manufacturing industry (e.g., clothing—contract factories). "Wage earners employed indirectly" are included. These are wage earners who, in some factories, actually work for the establishment in the same building as others but do not appear upon its payrolls, being indirectly employed and paid through superintendents, heads of departments, foremen, and the like. The number and compensation of the workers are estimated and included with the corresponding figures for regular payroll employees.

² That is, an effort is made by the Bureau of the Census to exclude them. See Appendix Table B-1, note to the item on ice, concerning delivery employees.

ucts as the f.o.b. value. If, however, the value of products is that reported by the selling department associated with the factory, then the salesmen of the establishment are included.³ Thus the 1909 schedule requested that the number of "clerks, stenographers, salesmen, and other salaried employees" be reported; that "all salaried officials . . . who devote all or a considerable proportion of their time to the business" be included. It specified further that traveling salesmen were to be included if there was no separate selling department to which the product of a factory was turned over at a given value or price. The 1919 and 1929 schedules and instructions contain essentially the same specifications. In the 1933 schedule⁴ the inquiry on number of persons engaged does not, however, mention salesmen. Only proprietors, officers, administrative employees, clerical employees (clerks, stenographers, and bookkeepers) and wage earners are specified.

The 1935 schedule states: "If you maintain a separate sales department, do not include data for it in your report for the Census of Manufactures; give these data only in the report for the Census of Business, on the last sheet" (the latter is a special sheet requesting distribution and merchandising activities, appended for the first time to the 1935 schedule—see below). The inquiry concerning personnel requests the number of clerical employees—"clerks, stenographers, bookkeepers, timekeepers, and other clerical employees . . . whether in the office or in the factory." Salesmen are not mentioned. The separate "Manufacturer's Distribution Report, 1935," appended to the usual schedule, required that employees engaged in distribution be enumerated. The question reads:

3A Employees engaged in distribution

(Include only those employees who devote all or the major portion of their time to distribution activities, such as selling, advertising, sales promotion, credit, billing, installing, or servicing goods sold, etc. Do not include any em-

³ See p. 36 of the Instructions previously cited in Explanatory Note to Table B-1.

⁴ For 1931 the number of salaried employees was not requested.

ployees used primarily in production or in your sales office or branches, if any, located apart from the plant.)

a) Number of paid officers and employees, as described above, full-time and part-time

b) Number of these, if any, that are also included under Inquiries 4 and 5, page 2 [i.e., in the manufactures schedule]

Some 520,000 persons were reported under (a), and of these, 190,000 under (b).⁵ In other words, 330,000 persons engaged in distribution *within* the manufacturing plant (but whose productive activities were *not* included in the value of products of manufacturing plants) were excluded from the 1935 figures. These are the employees covered in the table below.

In 1937 there seems to have been a repetition of the situation of 1935. The 1937 schedule requested "the total number of employees *in this plant not* reported under Inquiries 4 and 5 or on the Administrative schedule"; and manufacturers were requested to "allocate data for personnel and other items" if the books gave only combined figures for manufacturing and other activities. As indicated in the table following, about 170,000 employees were reported in 1937 as working in the factory but not listed as wage earners or salaried persons.

Finally, for 1939, the Census schedules asked for separate reports on the following classes of employees in the plant: employees whose duties are concerned wholly or chiefly with manufacturing; "those engaged in distribution" (selling, advertising, sales promotion, credit, billing, installing or servicing goods sold, and

⁵ The plants reporting these persons made 49 percent of total net sales in 1935. It is not clear whether the other establishments had no such employees, or had reported them as ordinary factory employees. See *Distribution of Manufactures' Sales, Census of Business, 1935* (Washington, April 1937), p. 23.

Since printing and publishing was not completely covered by this inquiry, the figures cited above are understatements.

other distribution activities); those engaged in "major construction and major repair work" in the plant; and "all other employees." It is at least possible, and indeed it is likely, that employees formerly reported as manufacturing workers were moved into the other three categories in 1939, and are therefore included in the figure of 686,000 given for 1939 in the table following.

It appears reasonable to conclude that changes occurred between 1933 and 1935 (or perhaps between 1929 and 1935) in the coverage of distribution employees; and between 1935 and 1937 and again between 1937 and 1939 in the coverage of all nonfactory employees. The assumption that some of the nonfactory employees reported in the 1935, 1937 and 1939 Censuses were included among production employees in Censuses prior to 1935 is based, first, upon the wording of the earlier schedules in which salesmen and all corporate officials are specifically mentioned as production employees, while they are not so mentioned in later schedules; second, upon the fact that there was no special inquiry to emphasize the distinction between manufacturing and other employees, as there was in 1935, 1937 and 1939.⁶ From the figures cited it appears, however, that the breaks, if any, were not serious for all factories combined, although they were important for some individual industries. In 1935, for example, in as many as 65 industries the number of distribution employees amounted to more than 10 percent of the number of production employees. The indexes given below in Appendix F throw additional light on this point.

⁶ A distinction must be made between instructions on the schedule itself and instructions in the separate booklets entitled "Instructions for Preparing Reports." The latter are much more explicit. Thus, directions in the 1919 "Instruction to Special Agents" stress the need for consistency of treatment of selling departments: either the value of product reported is the value received by the selling department and at the same time salesmen employed in the department are included among the salaried workers, or the value is the transfer value to the department and salesmen are excluded.

TABLE B-4

NUMBER OF NONFACTORY PERSONNEL IN
MANUFACTURING INDUSTRIES

Major Groups and Total Manufacturing

Unit: 1,000

<i>Group</i>	<i>1935</i>	<i>1937</i>	<i>1939</i>
Foods	100.0	60.9	147.5
Beverages	13.4	9.0	47.0
Tobacco products	4.2	.5	3.8
Textile products	51.0	9.2	63.9
Leather products	9.9	1.3	8.3
Rubber products	5.2	2.3	10.4
Paper products	8.8	4.4	20.3
Printing and publishing	.2 ^a	12.5	85.0
Chemical products	23.2	10.6	52.5
Petroleum and coal products	3.1	5.2	15.9
Stone, clay and glass products	9.2	4.3	19.3
Forest products	20.4	10.0	30.0
Iron and steel products	15.3	11.5	37.3
Nonferrous-metal products	10.3	2.0	24.4
Machinery	32.9	17.6	76.7
Transportation equipment	7.3	4.7	19.2
Miscellaneous products	12.7	6.0	25.2
TOTAL MANUFACTURING	327.1	171.9	686.5

^a Book, job and music printing and publishing only.

*Explanatory Note to Table B-5: Aggregate Number of
Personnel in Manufacturing Industries*

This table brings together, for total manufacturing, the detailed data shown in preceding appendices, together with certain estimates needed to round out the picture. The resulting table shows all types of personnel in manufacturing industries during each of the Census years 1899-1939. The numbers are not strictly comparable from year to year, but the incomparabilities are slight, as is indicated by the more detailed data given in Appendix Tables B-1 to B-4, inclusive. The number of wage earners is the average number employed during the year. Practically all other figures relate to the number on the payroll in a single week, usually the week including December 15.

TABLE B-5

AGGREGATE NUMBER OF PERSONNEL IN MANUFACTURING INDUSTRIES, CENSUS YEARS, 1899-1939

Unit: 1,000

Census Years	Wage Earners	Salary Earners		Pro- prieters and Firm Mem- bers.	Total of Preceding Columns		Workers not Covered in Preced- ing Totals ^d
		In Facto- ries ^b	In Factories and Central- Adminis- trative Offices ^c		In Facto- ries	In Factories and Central- Adminis- trative Offices	
ESTABLISHMENTS WITH PRODUCTS VALUED AT \$500 OR MORE							
1899	4,496	348		219 ^a	5,063		
1904	5,173	493		225	5,891		
1909	6,256		750	272		7,278	
1914	6,592		911	258		7,761	
1919	8,445		1,368	248		10,061	
ESTABLISHMENTS WITH PRODUCTS VALUED AT \$5,000 OR MORE							
1919	8,403		1,368 ^a	188 ^a		9,975	
1921	6,469		1,088	171		7,728	
1923	8,187	1,194	1,280	148	9,529	9,615	
1925	7,862	1,184	1,271	133	9,179	9,266	
1927	7,845	1,221		132	9,298		
1929	8,361	1,288	1,496	132	9,781	9,989	
1931	6,155						
1933	5,797	880 ^d		72	6,749		
1935	7,194	1,056		81	8,331		327
1937	8,553	1,215 ^f	1,346	98	9,866	9,997	172
1939	7,869	1,045		123	9,037		686

^a Estimated in part. It was assumed that the 60,000 establishments with products valued at between \$500 and \$5,000 were each managed by one proprietor, thus yielding an estimate of 188,000 proprietors and firm members (248 - 60 = 188).

^b Includes some workers in central offices not reported separately.

^c Includes a small number of wage earners and proprietors in central-administrative offices, not shown separately in most years.

^d For 1935, persons within the manufacturing plant engaged wholly or chiefly in distribution activities; for 1937, all persons in the plant not reported in preceding columns; for 1939, all persons on factory payrolls engaged wholly or chiefly in distribution, construction, and other nonfactory activities.

^e Estimated in part. The figure reported in the 1899 Census is 330,000, exclusive of hand trades but inclusive of nine industries not canvassed in later Censuses and of proprietors and firm members in 66,000 custom mills and factories. Exclusive of the nine industries the figure is 304,000. This was further reduced by 85,000, the estimated number of proprietors in the 66,000 custom establishments (85,000 = 66,000 × 1.29, where 1.29 is the average number of proprietors per nonincorporated establishment in 1899).

^f Includes only salaried officers whose duties were "concerned wholly or chiefly with manufacturing."

^g Assumed equal to the corresponding figure for establishments with products valued at \$500 or more.