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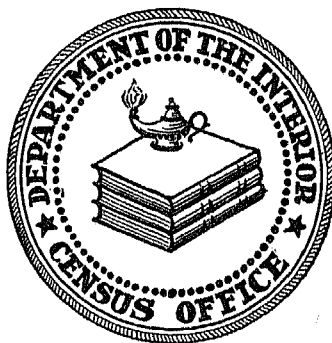
TWELFTH CENSUS OF THE UNITED STATES,
TAKEN IN THE YEAR 1900

WILLIAM R. MERRIAM, DIRECTOR

MANUFACTURES

PART II
STATES AND TERRITORIES

PREPARED UNDER THE SUPERVISION OF S. N. D. NORTH,
CHIEF STATISTICIAN FOR MANUFACTURES



WASHINGTON
UNITED STATES CENSUS OFFICE
1902

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,

CENSUS OFFICE,

Washington, D. C., March 19, 1902.

SIR:

I have the honor to transmit herewith Part II of the Report on Manufactures for the Twelfth Census. The contents of Part II were necessarily prepared prior to the statistics of industries, which appear in Part I.

This volume contains the statistics of manufacturing and mechanical industries in the several states and territories and in their several subdivisions, comprising counties and cities; but the analysis and discussion of these tables appears in the introduction to Part I.

In the preparation of the text of the several state reports the Census Office was materially assisted by Mr. Frederick S. Hall, for the states of Ohio, West Virginia, Texas, and Nebraska; Mr. James Bowron, of Birmingham, for Alabama; Prof. Carl C. Plehn, of the University of California, for California; Mr. William A. Countryman, of the Census Office, for Connecticut; Mr. Arthur L. Hunt, of the Census Office, for Delaware; Mr. T. H. Martin, of Atlanta, for Georgia; Mr. J. M. Glenn, of Chicago, for Illinois; Mr. J. B. Conner, of Indianapolis, for Indiana; Prof. W. R. Patterson, of the University of Iowa, for Iowa; Mr. W. L. A. Johnson, Commissioner of Labor, Topeka, for Kansas; Mr. Stephen D. Smith, of Louisville, for Kentucky; Mr. A. L. Redden, of New Orleans, for Louisiana; Mr. Samuel W. Matthews, Commissioner of Labor, Augusta, for Maine; Mr. Richard H. Edmonds, of Baltimore, for Maryland; Hon. Horace G. Wadlin, Chief of the Bureau of Statistics of Labor, Boston, for Massachusetts; Mr. Harlan S. Person, of Ann Arbor, for Michigan; Hon. L. G. Powers, Chief Statistician for Agriculture, of the Census Office, for Minnesota; Prof. A. M. Muckenfuss, of Mill Saps College, for Mississippi; Mr. J. S. Higgins, of St. Louis, for Missouri; Mr. W. H. Stinson, of Goffstown, for New Hampshire; Hon. William Stainsby, Commissioner of Labor, Trenton, for New Jersey; Mr. A. F. Weber, Deputy Commissioner of Labor, Albany, for New York; Hon. B. R. Lacy, State Treasurer, Raleigh, for North Carolina; Mr. Albert S. Bolles, Haverford College, for Pennsylvania; Mr. George H. Webb, of Providence, for Rhode Island; Capt. Ellison A. Smyth, of Pelzer, for South Carolina; Dr. Charles A. Dabney, of the University of Tennessee, for Tennessee; Mr. W. B. Gates, of Burlington, for Vermont; Mr. W. P. C. Adams, of Olympia, for Washington; Mr. R. H. Odell, of Milwaukee, for Wisconsin; and Mr. Victor H. Olmsted, for Hawaii.

Very respectfully,


Chief Statistician for Manufactures.

Hon. WILLIAM R. MERRIAM,

Director of the Census.

STATISTICS OF MANUFACTURES.

INTRODUCTION.

Part II of the Report on Manufactures for the Twelfth Census contains the statistics of manufacturing and mechanical industries in the several states and territories (including Alaska and the Hawaiian Islands) and in their several subdivisions, comprising counties and cities. Thus it contains statistical tables which, at the Eleventh Census, were published partly in Volume I of the Report, and partly in Volume II. This change in the method of grouping the statistics brings all the figures relating to each state and territory together. It is believed this arrangement will be more convenient for general reference. The statistics for each state as a whole, for its leading industries, for its cities, and for its counties, are considered together. Accompanying the data is a brief text, descriptive of the origin and characteristics of the leading manufacturing industries peculiar to the state or territory. In the preparation of this descriptive text, the Census Office was assisted in many states by gentlemen selected for that purpose, who were especially familiar with the history, the development, and the characteristics of the manufacturing industries of their respective states.

The tables in this volume show the statistics of 1900 for each state and territory, and also for each city having a population of 20,000 or over, by specified industries; and the totals for all industries in each county and in each city with a population of less than 20,000. In order to present the statistics in a manner convenient for reference and comparison, a uniform series of tables is given for all states and territories in which the data were sufficient to permit of their preparation. These tables are described as follows:

1st. A comparison of the general totals for all industries in the state as reported for each census from 1850 to 1900, inclusive, with the percentage of increase or decrease for each decade, also the percentage which the average number of wage-earners employed in manufacturing establishments was of the total population and the percentage that the capital invested in manufacturing was of the total assessed value of all land and buildings at each census.

2d. A general summary for all industries reported at the census of 1900. In this summary the statistics are shown separately for (a) the hand trades, (b) governmental establishments, (c) educational, eleemosynary, reformatory, and penal institutions, and (d) all other establishments.

3d. The number and capital investment of establishments that were idle during the census year.

4th. A comparative summary of the statistics reported for the leading industries in each state at the censuses of 1890 and 1900.

5th. A comparative summary of the totals for all industries in each of the principal cities of the state as reported at the censuses of 1890 and 1900, with the percentages of increase or decrease.

6th. Urban manufactures; being a summary of the totals reported for the census of 1900, for all industries in each of the cities, towns, and villages of the state, showing the percentage which the totals for the urban manufactures are of the total for the state, and the rank of each place by value of products and by population.

At the census of 1900, all cities, towns, and villages, 1,341 in number, in which the manufacturing and mechanical industries were of sufficient importance, were withdrawn from the enumerators and assigned to special agents. The statistics for urban manufactures include the totals for all these cities, towns, villages, or boroughs, irrespective of their population.

7th. Totals for 1900 for all industries in each county.

8th. Statistics of 1900 for each state and territory by specified industries.

9th. Statistics of 1900 for each city in the state having a population of 20,000 and over, by specified industries.

10th. Totals for 1900 for all industries in the cities and towns having a population of less than 20,000.

The presentation of the statistics of states in the form of the above enumerated tables is followed in this volume by 5 tables, which are summary presentations of the statistics, as follows:

Table 1 is a comparative summary by states and territories of the statistics which have appeared in Table 1 for each state and territory.

Table 2 is a comparative summary of the totals for each of the principal cities reported at the censuses of 1880, 1890, and 1900.

Table 3 is a summary of the totals for each of the 1,341 cities, towns, and villages which are shown separately in 1900.

Table 4 is a summary of the statistics for 73 selected industries in 209 cities having a population of 20,000 and over, by industries, 1900.

Table 5 presents the totals for each of the 73 selected industries in each of the 209 cities. Cities in which there are less than 3 establishments reported for any industry are grouped as "all other cities." This table, therefore, shows

for each industry the extent to which it is segregated in the cities, as well as its importance in each separate city.

The introduction to Part I of the Report on Manufactures contains a discussion and analysis of the statistics of industries presented in Parts I and II. A full understanding of the data in the present volume can only be obtained by reference to that introduction. This is particularly true of the statistics of cities, which are there analyzed carefully in connection with a consideration of the general conditions surrounding the development of urban manufactures in the United States.

It is not deemed necessary to duplicate any considerable portion of this discussion in the present volume; but it is important that certain cautionary statements regarding the use of the statistics for comparative and other purposes shall be kept clearly in mind in the study of Part II, and these statements are therefore summarized below:

Comparison with Previous Censuses.—The census of manufactures has many important uses, among the chief of which is the *measure of growth* afforded by a comparison of the statistics for industries, for states, for cities, and for counties, from decade to decade. It is not always possible to make these comparisons, however, with exactness, by reason of repeated changes which have taken place from census to census in the form of inquiries contained in the schedules, in the industries canvassed, and in the methods of compilation. Such comparisons are practically impossible between the censuses prior to that of 1850, and, therefore, in these reports only incidental use has been made of the statistics they contain. From 1850 down to the census of 1890, the inexactness of such comparisons continues to be marked. It is believed that the comparisons between the censuses of 1890 and 1900 are more exact than has ever before been the case; but even between these two censuses there are certain important differences in the forms of inquiry, or the methods of handling the statistics in compilation, to which careful attention should be paid.

Capital.—In the inquiry concerning capital, comparisons have no real statistical value prior to the census of 1890. The form of the inquiry regarding capital, at all censuses down to and including 1880, was so vague and general in its character that it can not be assumed that any true proportion exists between the statistics on this subject, as elicited prior to 1890. At the census of 1880, the question read: "Capital (real and personal) invested in the business." At the census of 1890, live capital, i. e., cash on hand, bills receivable, unsettled ledger accounts, raw materials, stock in process of manufacture, finished products on hand, and other sundries, was for the first time included as a separate and distinct item of capital, and the capital invested in realty was divided between land, buildings, and machinery. The form of this inquiry at 1890 and 1900 was so similar that comparison may be safely made.

Salaried Officials.—No comparison of the statistics of the number and salaries of salaried officials of any character can be made between the reports of any census. Not until the census of 1890 did the census begin to sharply differentiate between salaried officials, i. e., employees

engaged at a fixed compensation per annum, and the wage-earning class, i. e., employees paid by the hour, the day, the week, or the piece, for work performed and only for such work. Prior to 1890, such salaried officials, if returned at all, were returned with the wage-earners proper. At the census of 1890, the number and salaries of proprietors and firm members actively engaged in the business, or in supervision, were reported, combined with clerks and other officials. Where proprietors and firm members were reported without salaries, the amount that would ordinarily be paid for similar services was estimated. At the census of 1900, the number only of proprietors and firm members actively engaged in the industry or in supervision was ascertained, and no salaries were reported for this class, salaries, as a matter of fact, being rarely paid in such cases, proprietors and firm members usually depending upon the profits of the business for their compensation.

Employees and Wages.—At the censuses of 1850 and 1860, the inquiries regarding employees and wages called for "The average number of hands employed; male; female;" and "The average monthly cost of male labor," and "The average monthly cost of female labor." At the census of 1870, the average number of hands employed was called for, divided between "Males above 16 years, females above 15 years, and children and youth," and the "Total amount paid in wages during the year" was first called for. The inquiries at the census of 1880 were like those of 1870, though more extended for some of the selected industries.

At the census of 1890 the average number of persons employed during the entire year was called for, and also the average number employed at stated weekly rates of pay; and the average number was computed for the actual time the establishments were reported as being in operation. At the census of 1900 the greatest and least numbers of employees were reported, and also the average number employed during each month of the year. The average number of wage-earners (men, women, and children) employed during the entire year was computed in the Census Office by using 12, the number of calendar months, as a divisor into the total of the average numbers reported for each month. This difference in the method of ascertaining the average number of wage-earners during the entire year has resulted in a variation in the average number as between the two censuses, and should be considered in making comparisons.

Furthermore, the schedules for 1890 included in the wage-earning class "overseers, and foremen or superintendents (not general superintendents or managers)," while the census of 1900 separates from the wage-earning class such salaried employees as general superintendents, clerks, and salesmen. It is possible and probable that this change in the form of the question has resulted in eliminating from the wage-earners, as reported by the present census, many high-salaried employees included in that group for the census of 1890. It is believed that the form of inquiry and the method of computation adopted in 1900 are an improvement upon those of 1890; but it is obvious that compari-

sons between the results of any of the censuses, under these heads, can not be exact.

Miscellaneous Expenses.—The item of miscellaneous expenses was not shown in any census prior to that of 1890. Comparison between the totals reported under this item of inquiry in the various industries can be safely made between the two censuses, notwithstanding some slight changes in the grouping of the items on the schedule.

Materials.—The same statement is true regarding comparison with the items of materials used in manufacture. With the exception of the schedules on which a few selected industries were reported at the census of 1880, the question concerning materials was as follows: "Value of materials used (including mill supplies and fuel)." At the census of 1890 the schedule contained separate questions as to the kind, quantity, and cost of the principal materials, and the cost of "Mill supplies," "Fuel," and "All other materials." The amounts paid for rent of power and heat were also included under this head in 1890. It is probable that some of the items included in the cost of materials at the census of 1880 were included in "Miscellaneous expenses" at the inquiries of 1890 and 1900.

Products.—The statistics of products are comparable from the census of 1870, when the inquiry regarding the value of products first included the value of jobbing and repairing as an element in the productive value.

Classification.—Changes in the character of the manufactured products and the desirability of presenting statistics of certain industries in greater detail have resulted in certain new classifications, and also in changes in the wording of classifications as between the Twelfth Census and all prior censuses. These changes have been indicated in detail in Part I.

Certain minor industries included at one census have been excluded at others, and a list of industries thus excluded or included appears in Part I.

While the general discussion contained in Part I gives a full explanation of all features that should be considered in using the totals for purposes of comparison, or to show actual conditions, still there are three subjects that are so essential to a proper understanding of the statistics for each state that it is deemed proper to make a brief reference to them in this connection. These subjects are (1) The definition of the term "establishment," (2) The assignment of the reports from the separate establishments to the different states, counties, and cities, (3) The assignment

of the reports from the separate establishments to the different groups of industries. It has been the practice at prior censuses to consider two or more plants, when owned by the same corporation, firm, or individual, and located in the same city and engaged in the same industry, as one establishment. As a general rule this practice has been followed at the Twelfth Census. In many cases, however, it was impossible to identify the reports made at different times for the separate plants of corporations. In other cases, while the different plants were engaged in the same general line of industry, each was devoted to a distinct process, as for instance, a blast furnace and a rolling mill operated by the same company; in such cases it was necessary to count each plant as a separate establishment so as to show the statistics for the separate branches of the industry. Therefore, the term "establishment," as used in these reports, is indefinite and can not be accepted as showing either the actual number of individuals, corporations, or firms carrying on independent manufacturing enterprises, buildings, or groups of buildings.

The assignment of the reports of manufacturers to the different states, counties, and cities, has been made according to the exact location of the plant. This confines the statistics for the industries in each city to the plants contained within its corporate limits, and those for the states and counties to the plants within their respective limits.

The reports for the individual establishments were classified according to the finished product of chief value, so as to bring together those for all establishments engaged in the same industry. Therefore, while there may appear a given number of establishments in a certain class of industry, it does not follow that the articles covered by that class are not manufactured in other establishments. The manufacture of "Iron and steel, nails and spikes, cut and wrought, including wire nails," for instance, is shown as a separate branch of industry, but some of the establishments classed as "Iron and steel" make nails. In fact, a large proportion of the wire nails are made in iron and steel rolling mills. Therefore, the figures given for the classification of "Iron and steel, nails and spikes, cut and wrought, including wire nails" can not be considered as representing all of the nails made in manufacturing establishments in the respective states during the census year, nor should it be considered as referring entirely to nails as a product.