*IRON AND STEEL TRADE IN 1902.*

THE report, now in press, on the iron and steel trade for 1902, by Mr. James M. Swank, United States Geological Survey, shows a continued advance in the annual domestic production of pig iron, the excess over 1901 being 1,942,953 tons, or almost 12.24 per cent. The total production in 1902 was 17,821,307 long tons, as compared wth 15,878,354 tons in 1901, 13,789,242 tons in 1900, 13,620,703 tons in 1899, 11,773,934 tons in 1898, and 9,625,680 tons in 1897.

Notwithstanding this increase of production, the imports of iron and steel in various forms amounted in foreign value in 1902 to $41,468,828, as against $20,395,015 in 1901, an increase in 1902 of $21,073,811, or over 100 per cent. The total exports of iron and steel, including locomotives, car wheels, machinery, etc., amounted in 1902 to $97,892,036, as against $102,534,575 in 1901, $129,633,480 in 1900, $105,690,047 in 1899. The exports of agricultural implements, which are not included above, amounted in 1902 to $17,981,497, against $16,714,308 in 1901.

The consumption of pig iron in 1902 was approximately 18,439,899 long tons, of which 625,383 tons were imported, as compared with 16,232,446 tons in 1901, of which 62,930 tons were imported. The increased production of pig iron in 1902 over 1901 was 1,942,953 tons; the increased consumption was 2,207,453 tons.

At the close of 1902 the number of furnaces in blast was 307, as compared with 266 at the close of 1901 and 232 at the close of 1900. At the close of 1902 105 furnaces were out of blast—many being temporarily banked from lack of fuel—as against 140 furnaces at the close of 1901.

The production of Bessemer steel ingots and castings increased more than half a million tons in 1902—to 9,306,471 long tons; the production of Bessemer steel rails remained almost stationary. The production of open-hearth steel ingots and castings in 1902 was 5,687,729 long tons, an increase of 1,031,420 tons over 1901.

In the fiscal year 1902 there were built for mercantile service 106 steel vessels and one iron vessel, with a gross tonnage of 280,362 tons, as compared with 119 steel vessels and one iron vessel, with a gross tonnage of 196,851 tons, built in 1901. Of these 107 vessels, 49, with a gross tonnage of 161,930 tons, were built at ports on the Great Lakes.

The production of pig iron in Canada in 1902 increased to 319,557 long tons, over 30 per cent. as compared with 1901; and the production of steel ingots and castings in 1902 was 182,037 long tons, as compared with 26,084 tons in 1901, an increase of 155,953 tons, or nearly 600 per cent.

The second part of Mr. Swank's report consists of an interesting and valuable series of tables presenting complete statistics of the production of iron and steel, iron ore, and coal in the United States, Great Britain, Germany, France and Belgium, to the close of 1901, thus showing the progress that has been made by these countries in the first year of the twentieth century.

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*'FESTSCHRIFT' IN HONOR OF PROFESSOR VAUGHAN.*

A COMMITTEE consisting of John J. Abel, Johns Hopkins University, Baltimore, Md.; Edmund Andrews, Chicago, Ill.; Flemming Carrow, University of Michigan, Ann Arbor, Mich.; Richard Dewey, Wauwatisa, Wisconsin; George Dock, University of Michigan, Ann Arbor, Mich.; William J. Herdman, University of Michigan, Ann Arbor, Mich.; William H. Howell, Johns Hopkins University, Baltimore, Md.; Franklin P. Mall, Johns Hopkins University, Baltimore, Md.; William J. Mayo, Rochester, Minnesota; Lewis S. Pilcher, Brooklyn, New York; Albert B. Prescott, University of Michigan, Ann Arbor, Mich.; Henry Sewall, Denver, Colorado; and G. Carl Huber, secretary, has sent out the following announcement:

The close of the present academic year marks the twenty-fifth anniversary of the doctorate of Doctor Victor C. Vaughan. Certain of the former students of the Department of Medicine and Surgery of the University of Michigan and his colleagues have deemed it opportune to commemorate the long and valuable services which he has rendered to his Alma Mater and to American medi-

cine in general. This expression of appreciation and esteem should be one of permanent value and to the educator and investigator nothing can be more acceptable than the dedication of a volume which contains the researches of friends and co-workers. Such a volume, or Festschrift, is an appropriate honor to the recipient and is itself a valuable contribution to medical science. The suggestion that on this occasion the testimonial should take this form met with the cordial favor and ready approval of the committee. At an early date steps were taken to secure adequate and representative contributions and it will be a source of pleasure and pride to all friends of the movement to know that the project is nearing its realization. The commemorative volume, which will be of about seven hundred pages, is now in press and is expected to be ready for distribution by the end of June.

The price to subscribers, in advance, has been fixed at five dollars for cloth binding, six dollars for half morocco. After publication the price of the volume will be raised.

Subscriptions may be sent to Dr. F. G. Novy or to Mr. George Wahr, publisher, Ann Arbor, Mich.

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## *SCIENTIFIC NOTES AND NEWS.*

PROFESSOR J. PETER LESLEY, the eminent geologist, died at Milton, Mass., on June 1, aged eighty-three years.

VICTORIA UNIVERSITY, as part of the celebration at Manchester in commemoration of Dalton's publication of the atomic theory, has conferred the degree of D.Sc. on Professor F. W. Clarke, of Washington, and Professor J. H. Van't Hoff, of Berlin.

THE University of Wales will confer the degree of Doctor of Science on Lord Kelvin 'on the ground of his eminent services to physical science,' and upon Lord Lister, 'on the ground of his long-continued scientific research, which, by establishing a system of antisepsis, has revolutionized the practice of surgery throughout the world.' The degrees will be conferred at a congregation of the university next November at Cardiff.

DR. H. M. REESE, of the Lick Observatory, has accepted an appointment in the Yerkes Observatory. His place at Lick Observatory will be filled by Mr. J. H. Moore, assistant in the department of physics of Johns Hopkins University.

THE German Chemical Society has conferred its gold Hofmann medals on Professor Henri Moissan and Sir William Ramsay.

MR. BION J. ARNOLD has been elected president and Messrs. Calvin W. Rice, W. S. Barstow and Ralph D. Mershon, vice-presidents of the American Institute of Electrical Engineers.

MR. HENRY L. WARD has been elected custodian of the Milwaukee Public Museum for a period of five years.

DR. W. J. HOLLAND, the director of the Carnegie Museum, Pittsburgh, gave the commencement address before the University of North Carolina at Chapel Hill on June 3.

PROFESSOR HUGO MÜNSTERBERG, of Harvard University, sailed on May 30 for Germany, where he will represent the St. Louis Exposition in an effort to secure the cooperation of the German government and educational institutions in the International Congress of Arts and Sciences to be held in connection with the exposition next year. Professor Albion W. Small, of the University of Chicago, will undertake a similar mission to France. Professor Simon Newcomb, chairman of the committee, is also abroad, partly in the interests of the congress.

PROFESSOR W. F. WILLCOX, of Cornell University, has been requested by the director of the census to prepare a report on the census work of other countries, and will spend the present summer in Europe.

PROFESSOR C. S. SARGENT, director of the Arnold Arboretum, accompanied by his son, Mr. A. R. Sargent, and Dr. John Muir sailed for Europe on May 29. After traveling through France, Holland and Germany the botanists will go to St. Petersburg and Moscow, and thence over the Transsiberian Railway to Pekin. They will make numerous stops on the way to collect seed and herbarium specimens in Siberia and northern China. From Pekin they will go to Java and Hong Kong.