

British Industry in 1910.

General.

"The Times" Review.

The reviews of the British engineering industries not only tell the story of a distinct revival of trade, but they point to the fact that the British manufacturer is keeping well abreast of the times in the important branches of manufacturing which form the basis of our wealth and strength as a nation. The article and reports show that our industries are in a soberly prosperous condition, and demonstrate beyond a doubt that England, following the excellent advice of His Majesty King George, has awakened, and is at the present moment awake and taking a very active part in all the great engineering achievements of the times. A perusal will dispel much of the nonsense we have grown accustomed to hear of the decline of British industry brought about by reason of the refusal of our manufacturers to avail themselves of recent inventions and to adapt themselves to modern requirements. While here and there an industry has not fully recovered from the depression which has so long hung over our manufacturing districts, the great majority of trades report a sensible revival, with decidedly optimistic forecasts for the New Year. In not a few instances the revival has actually begun, and the order and contract books testify to the probability of a record year for 1911.

Probably the most gratifying feature of our reports is the fact, which is emphasised by many of our correspondents, that Great Britain is retaining her strong position in foreign markets. There are numerous references to South America, South Africa, the Colonies, India, China, Japan, and not infrequently to the Continent. Wherever there is a neutral market—that is, a non-manufacturing country where the high tariffs have not been formulated, as in the United States, Germany, and France, with a special view to keep out our productions—the British manufacturer is able to hold his own. A correspondent points out that even in Cuba and Porto Rico, where American sugar machinery enjoys a preferential rate, planters look upon British machinery as the best and cheapest, and that important shipments have been made. On the West Coast of South America practically all the railway building is in the hands of the British. Representatives of the Governments of these countries have recently stated to a special correspondent of *The Times* that they prefer to deal with British engineers and contractors, for the reason that they have never had any trouble with them—something that cannot be said of our American and German competitors. A few years ago in Bolivia the extension of the railway system was placed in the hands of Americans and one road was built. The work was not very satisfactory, and has subsequently been turned over to a British company, and all the new construction, including

several important branches, is now in the hands of the British. English engineers and contractors have at the present time nearly £20,000,000 worth of railway construction work in progress of completion in three of the West Coast South American Republics. It is unnecessary to mention the tremendous importance of Brazil and the Argentine as fields for the exports of British manufacture and engineering. There are many who believe that South Africa will soon be equally important, whilst China, when once fully aroused to the necessity of modern methods, bids fair to be an even more extensive field of operations. Travel where you may in these countries you will only find one opinion in relation to British goods, British manufactured articles, and British engineering undertakings—namely, that they are the best in quality; that the work is uniformly well done and, moreover, that it lasts. The engineers of other countries may do the work cheaper, but the British do it the best.

Particulars.

In spite of unfavourable conditions, British shipyards have produced a large amount of new shipping in 1910. It is stated that 1,164 vessels of about 1,817,400 tons gross have been launched, as against 1102 vessels of 1,159,000 tons in 1909 and 1218 vessels of 1,033,000 tons in 1908, the British output in tonnage for 1910 being about 56 per cent. of the world's output of new ships. The German output has been 310 ships and not quite 218,000 tons. On December 31, 363 mercantile vessels were under construction in the United Kingdom, having an aggregate tonnage of 1,131,500 tons (gross), as against 331 vessels of 913,400 tons at the same date in 1909. Warships in hand in 1910 at the same date were 66 in number, with an aggregate displacement of 289,500 tons.

The Two Largest Ships Afloat.

A short time ago the "Olympic," of the White Star Line, was launched by Messrs. Harland and Wolff, and when her sister ship the "Titanic" follows they will be the two largest ships afloat. This distinction, however, is likely to be shortlived, as orders have been placed for two still larger Transatlantic steamships; one order has been given by the Hamburg-American Company to the Vulcan Shipbuilding Company, of Hamburg and Stettin, and another by the Cunard Company to Messrs. John Brown and Co., of Clydebank. Before the year 1911 is far advanced both these new vessels will probably be laid down.

The Iron and Steel Trades.

Notwithstanding the fact that improvements have been noted in several directions in the iron and steel trades as compared with the preceding twelve months, the year 1910 was, speaking generally, disappointing. Higher prices were quoted for certain classes of material, but the optimistic views which prevailed during the earlier months of 1910 were not justified by subsequent events, while labour troubles threw a shadow which has only recently been dispelled.

The output of pig iron, which amounted to nearly five million tons in the first half of last year, and should be about double that figure for the twelve months, was well

above the average, and, indeed, the output was the largest since the "boom" of 1907.

Where Great Britain Leads.

It is satisfactory, however, that in certain classes of manufacture Great Britain is maintaining her supremacy. The tin-plate industry of South Wales has enjoyed a period of prosperity which has required the erection of many new mills, and the present position recalls the days before high American tariffs were enacted. The tanning industries still place reliance upon the British manufacturer. In the production of high-speed steel Sheffield still maintains a pre-eminent position, and the past year witnessed a substantial demand for the best Sheffield tool and crucible steel, a preference displayed after attempts had been made to fulfil requirements elsewhere, and in spite of high tariffs the United States have been one of the best customers for these special Sheffield productions. The improvements made in the manufacture of these varieties of steels is a subject of general congratulation, and the successful attempts made to produce an even better class of material in tool steel capable of higher speeds and greater feeds explain the revival in the demand for British material of this class. Another branch of the manufacturing industry in which Great Britain is making headway is in the machine tool trade, a result largely due to the greater attention now paid to the requirements of users and to the production by certain firms of trustworthy low-priced machines which have met and overcome the competition of American manufacturers.

Electrical Progress.

Electrical science during 1910 has proceeded steadily, but the advance has been characterised chiefly by improvements in apparatus and machinery applied to industries and traction, with little to record respecting new phenomena. If there is a dearth of electrical discovery, there is also a decided increase in the extent to which scientific methods have been applied to perfect the designs of parts and details of electrical equipment. The year has thus revealed the general character of the results proceeding from the growth, during the last decade, of science teaching in the schools, of the extension of technical colleges, and of the increased facilities for research in the testing rooms and laboratories attached to industrial works and factories. The stereotyped technical course, with its carefully planned series of set experiments, is in fact producing useful testing-room manipulators, but the evidence of the year's product from the colleges in regard to original investigations suggests that the stereotyped course tends to stultify initiative in electrical research, that there is a limit to the number of discoveries which can be forced into existence by the multiplication of research laboratories, and that the future field of successful scientific research is to be looked for to an increasing extent in the industrial workshops of the world.

Telegraphy and Telephony.

Of the inventions that have appeared in 1910, one of the most remarkable is the telephone relay, which is due to Mr. S. G. Brown. In this instrument he makes use of the fact that the electrical resistance of a microscopic air-gap between two plati-