

Metallurgy, McGill University, in his report to the Hon. Wm. Sloan, Minister of Mines, British Columbia.

Electric vs. Open Hearth Steel

It is a proved fact that properly made electric steel is far superior to open hearth steel, and that the best makes equal and in certain cases excel crucible steel. Electric tool steels have made their mark and are here to stay. High-speed steels, alloy tool and plain carbon tool steels are being made which compare well with the best crucible grades. Electric alloy die blocks are giving exceptional service and promise to put the cheaper grades off the market. Some automobile manufacturers and makers of automobile parts are specifying electric steel for drive shafts, gears, and in a few cases for drop forgings. This last field is still in its infancy, but there the need for high-grade steel is very urgent. A large number of failures in drop forgings are due to dirty steel and segregations found in the open-hearth forging steels.—Chemical and Metallurgical Engineering.

Economies of Electric Iron and Steel Production in Scandinavia

By Joseph W. Richards

During a tour of Scandinavia this summer I was particularly interested in inspecting electric pig-iron furnaces, in which I have been interested for a great many years, and had the opportunity to see eleven out of the twelve furnaces which are in operation. The first plant visited was at Trollhattan, where the original Jernkontoret furnace of 1912 is still in operation. Mr. E. Nystrom is in charge of the plant. A second has been built alongside of it. Both are being run very steadily and uniformly on a medium-grade iron ore, making a pig-iron which is going into commercial use, using only charcoal as a fuel.

This may be said about the use of the electric furnace as compared with the blast furnace in Sweden: At the present time charcoal is cheaper than coke, and therefore it is cheaper to run with charcoal; the electric pig-iron furnace thus has the advantage of working at its best, under conditions where the blast furnace can hardly compete with it. Pig-iron produced by those furnaces is costing in Sweden about \$5 per ton less than their own blast furnace pig-iron.

I hardly think that any more blast furnaces will be built in Sweden. Possibly a few may be in certain localities, but wherever water power is available for producing electricity, certainly the electric pig-iron furnace can operate more cheaply in Sweden than the blast furnace can.

The next plant visited was at Domnarfvet. They have four furnaces, three of which were in operation. The fourth was idle on account of shortage of water power, it being the dry season. These furnaces show very plainly the successive development of the electric furnace.—Chemical and Metallurgical Engineering.

MARKETS

(From Seattle Post-Intelligencer, May 4, 1919)

There is at present a market on the Pacific Coast, including South and Central America, for more than 2,000,000 tons of pig-iron and finished products, of which 600,000 tons of steel, merchants' bars, small angles, concrete reinforcing bars and plates are used on the Pacific slope of the United States. Col.

David Carnegie said in his address to the Canadian Manufacturers' Association in Toronto, January 28, 1918:

"Canada has increased her steel production from one million tons before the war to 2,500,000 tons. The United States steel production has increased from 32,000,000 to 50,000,000 tons, and Britain's from 7,500,000 tons to 12,000,000 tons."

IRON AND STEEL INDUSTRY FIRST NECESSITY

By Ronald Campbell Campbell-Johnston

"The necessity has imperatively arrived to immediately develop a provincial iron and steel industry within our gates. This has matured more suddenly than otherwise because the United States has, from now on, placed an embargo on its own exports of every kind of pig-iron or steel billets, including their finished products, except permitting the completion of those few contracts already entered into for ship plates and some sundries promised formerly. No other country is able during the war, and for many years after its final collapse, to supply Canada with pig-iron or steel ingots, especially also the heavy manufactured resultants, but rather others are earnestly looking to Canada to supply their urgent needs from her abundant storehouses with unlimited amounts, both of ingots of steel and the finished goods."

MARKET

Immediate local demand, 50 tons per diem.

Future demand for renewals for three transcontinental railways, mining, logging, shipping and railway machinery.

GOVERNMENT ENGINEER

Letter from Wm. M. Brewer, resident engineer:

"I have been authorized by the Honorable the Minister of Mines to carry out the provisions of the act entitled 'The Iron Ore Supply Act,' and shall be obliged if you will kindly inform me how soon you will be ready to receive shipments of magnetite, in what quantities, and what facilities, if any, you have for unloading from scow or steamer."

From a letter received from C. Price Green, Commissioner Canadian National Railways, April 25, 1919:

"We are anxious to have any information on this subject that you feel you are at liberty to communicate. I have given considerable thought to the question of the iron and steel industry at the coast, although the information we have is somewhat unchulous, and perhaps it is only by the establishment of industries such as you propose that this can be brought about."

"I do not know whether you have seen a speech of the Hon. L. C. M. S. Amery, under-secretary of state for the colonies, in which he said: 'Nova Scotia, jutting out into the Atlantic, and British Columbia, overhanging the Pacific, form an incomparable foci for the world's industry and commerce, from the viewpoint of future economic strategy. Canadians have at their back the raw materials and the market of half a continent, and in front their own empire, whence to draw tropical raw materials and find an outlet for their surplus manufactures.'"