is just what this process requires for its development.

The tests at this plant were under the supervision of Messrs. FitzGerald & Bennie, of Niagara Falls, N.Y., and Mr. Robert Turnbull, of St. Catharines, Ont. Messrs. FitzGerald & Bennie and Mr. Turnbull stand high in their profession of metallurgical and electrical experts, and the greatest care was exercised on their part to obtain accurate results.

We quote the following from Messrs. FitzGerald & Bennie's report:—

"In a general consideration of the electric furnace experiments there is reason to be satisfied. So far as the power consumption is concerned, the results obtained show that no difficulty in reaching a power consumption of one-quarter horsepower year per ton of steel produced need be expected. The only serious problem which we have been faced with in the experiments is that of electrode consumption. However, if the conditions of the experiments are considered, there

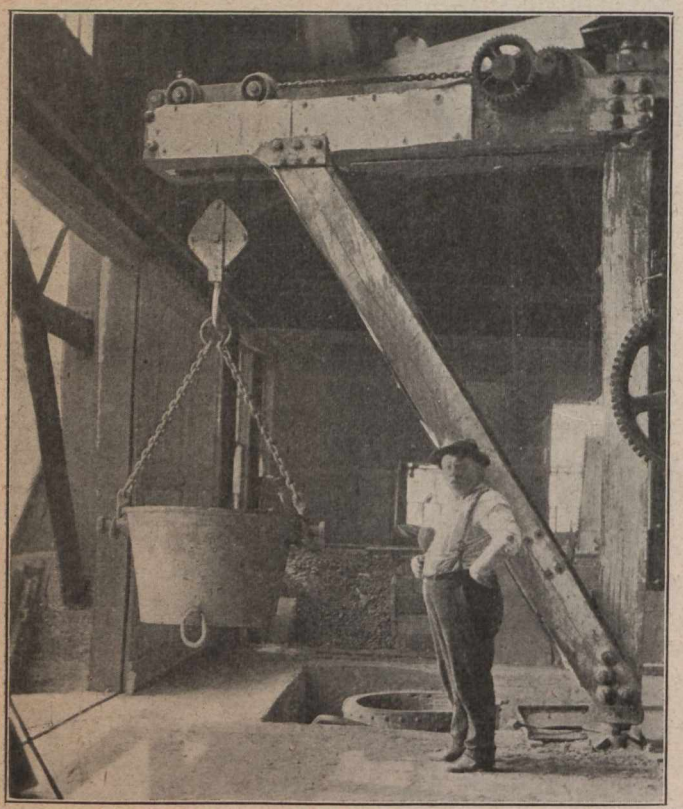

FIG. 6—CASTING CRANE

is reason to believe that this difficulty may be met successfully. There is one other point to be noted in this connection. The Lash process so far has been tried only in the Heroult furnace, where carbon electrodes are used, and this difficulty would not have to be faced in the induction furnace of the Rochling-Rodenhauser design."

Over $30,000 was spent by The Canadian Lash Steel Process Co., Ltd., in building this plant, and conducting these tests, and the results have brought forth conclusively the following:—

First—That cheaper steel can be made by this process than by the regular open hearth practice owing to the reduction in the amount of pig iron required, and the fact that the rest of the metallic content is in the form of ore, which is iron in its cheapest state. To anyone familiar with the steel trade, this cost can be easily figured when the cost of ore, pig iron, carbon in any form, and water power is known. On $3 ore, $18 pig iron, and $15 power, ingots can be made for less than the cost of the pig iron.

Second—The quality of the steel is very much better, owing to the material in the charge coming direct from its native condition.

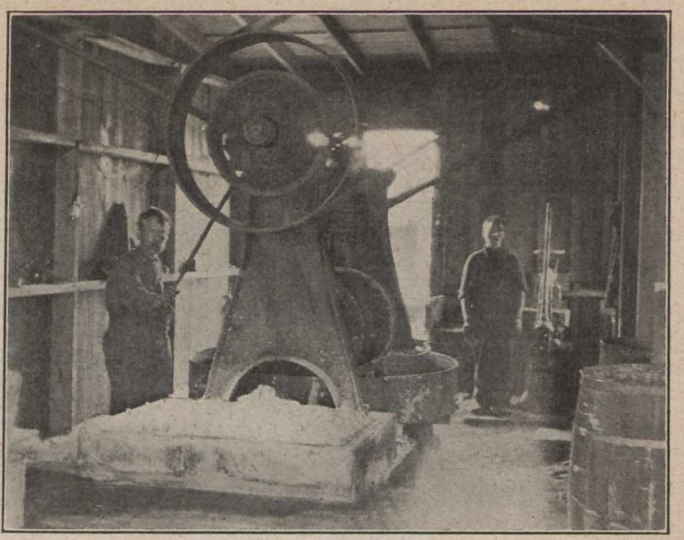

FIG 7—MIXING PLANT.

Third—The control of the heats and temperatures is absolute, and the trouble due to impurities in fuel is eliminated.

Fourth—The carbon content of the bath can be brought under absolute control, as it is only necessary to slightly vary the mixture to bring out any carbon content desired.

Fifth—The cost of building a plant of a given capacity is much less than a plant for regular open hearth practice on account of the elimination of all producers, checker work, underground flues, etc., the electric furnace being nothing more than a large-sized lined ladle.

Sixth—The attendance required should be less, as the material is simply charged into the furnace, the

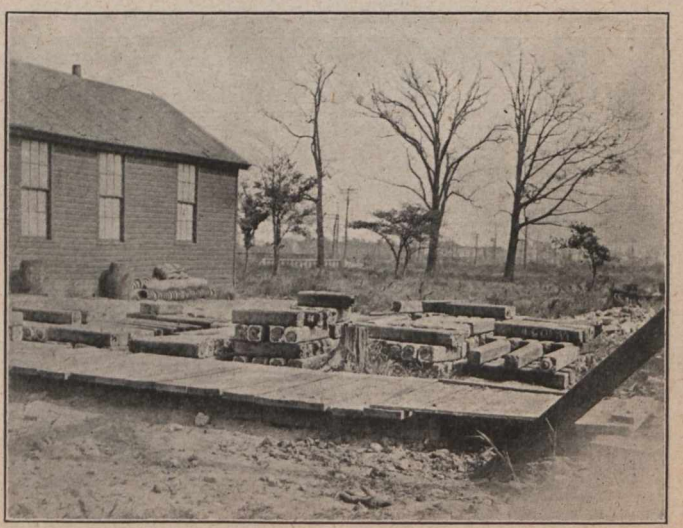

FIG. 8- BILLET YARD.

furnace is closed up tight, and the power applied. Owing to the character of the material that is charged, and the electrical control of the operation, no attendance is required until the melt is made. It therefore becomes a mechanical proposition throughout, in which the materials are all handled by machinery, and the furnace is self-regulating. It is possible to charge a