

dium. The present metallurgical practice involves the following processes:—

- I. Roasting the ores in open heaps, to remove part of the sulphur.
- II. Smelting in water-jacketed blast furnaces, to produce a low grade matte, containing 33 per cent copper-nickel and nearly all the precious metals.
- III. Converting the furnace matte in Bessemer basic converters, to make a matte containing about 80 per cent copper-nickel.
- IV. Refining the converter matte, separating the nickel-copper, and precious metals.

At the present time the first three processes only are carried on in Canada. The converter matte is shipped to the United States and to England for final treatment.

The Copper Cliff plant, includes: seven blast furnaces, capacity 3,000 tons of ore per day; five basic converter stands; two McDougall reverberatories and four Wedge roasting furnaces.

At the Coniston plant there are three furnaces with a total capacity of from 1,600 to 1,800 tons of ore per day; three Pierce-Smith standard basic converters with an output capacity of 20 tons each of Bessemer matte.

The total quantity of nickel-copper ore mined during 1915 was, 1,364,048 tons and the quantity smelted 1,272,283 tons. There were produced 67,703 tons of Bessemer matte, containing 19,608 tons of copper and 34,039 tons of nickel. This is the largest production since the beginning of operations in 1886.

The total quantity of nickel-copper ore mined during 1914 was 1,000,364 tons and the quantity smelted 947,053 tons. There were produced 46,396 tons of Bessemer matte, containing 14,448 tons of copper and 22,759 tons of nickel.