

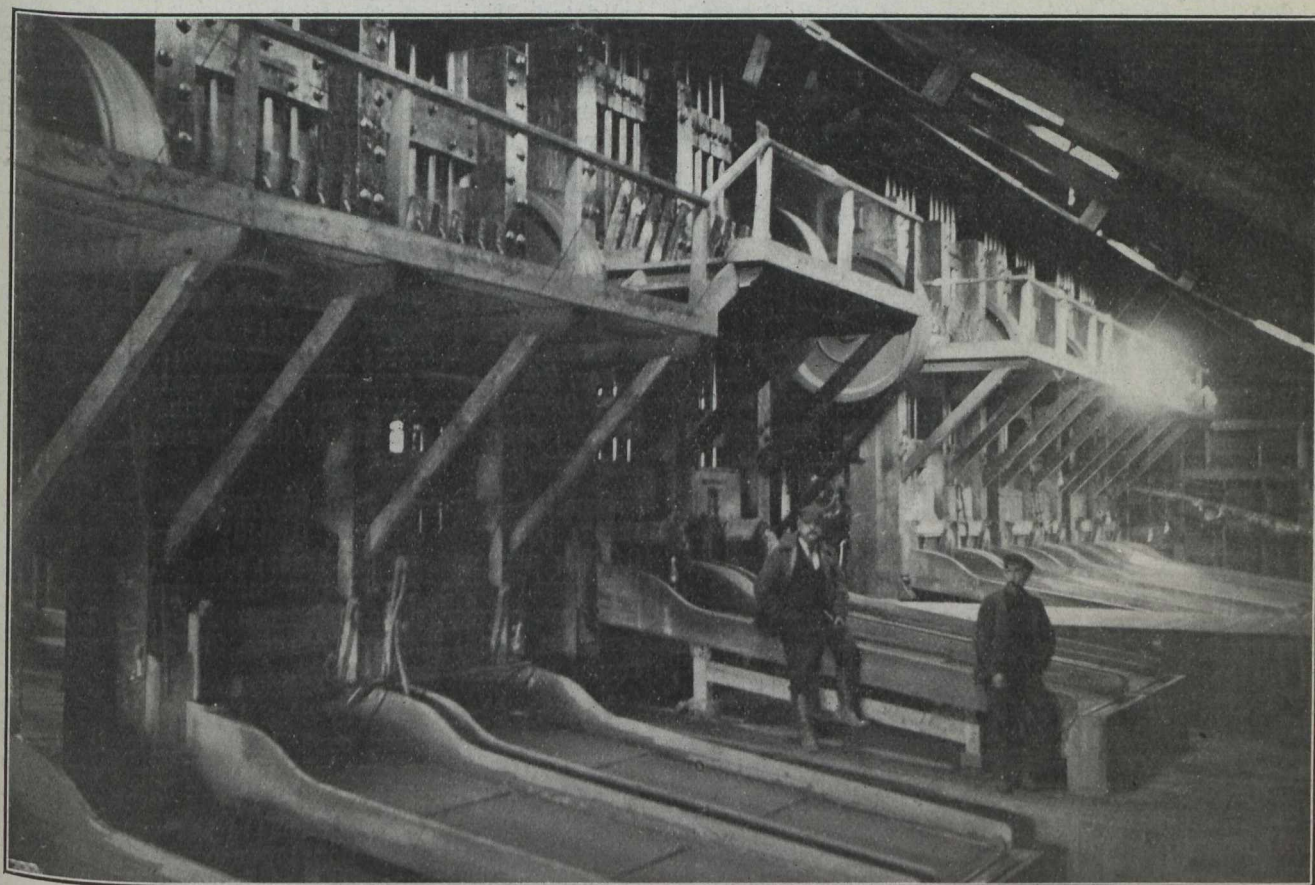
feet. From the bottom of this shaft levels have been driven westward on the north and south legs, the former being about 1,000 feet and the latter about 1,200 feet in length.

Raises have been driven upward towards the old works from these levels and the ore mined by a modern system of overhand or back stoping. In this connection it may be noted that the early management of the mine claimed they could not use the method of overhand stoping as the back would not stay up. The present management, although they have mined portions of the same ground, have not experienced this difficulty. The underground foreman says he finds the chief difficulty is that the back is too ready to stay up.

The ore is run into chutes, from which it is trammed to large bins at the bottom of the vertical shaft. It is hoisted from here to the surface in a self-dumping skip of two tons' capacity.

each. They drop 7 to $7\frac{1}{2}$ inches 95 to 98 times per minute. The height of discharge (top of die to bottom of screen) is about 6 inches. The screen now used is 18 by 24 mesh, No. 26 wire, twilled. Considerable experimental work has been done with regard to screens. Formerly one of plain wire, 30 mesh, No. 28 wire, was used; but this was discarded in favor of the one in use at present, as the first cost of this screen is about half as much as the other, it lasts almost twice as long, the efficiency of the stamps is greatly increased thereby and there is very little difference in the saving of gold.

The water is introduced at the back of the mortars and is so arranged that it strikes about half way up the die. No inside plates are used. The chuck blocks were originally provided with them, but their use has been discontinued. Silver-plated copper apron plates 12 feet in length are used and are found to keep in ex-



INTERIOR OF 60-STAMP MILL—BOSTON-RICHARDSON GOLD MINE.

The ore is dumped from the skip on to an inclined steel plate and grizzly, over which it is fed by hand to one of the two 9" x 15" Blake rock crushers. The crushed ore drops into a bin and is trammed to the mill in a side dumping car holding about $1\frac{1}{2}$ tons. This work is so arranged that one man at the rock breaker and one man running the car can handle all the ore crushed by the 60 stamps in 24 hours during one shift of 10 hours. Four of the 10-stamp batteries in the mill are set on concrete foundations and two 10-stamp batteries on end wood. The results of the work here show conclusively that when concrete foundations are properly set and where rubber is used between anvil and mortar, that the concrete is more durable than wood.

The mill is equipped with suspended Challenge feeders. The stamps, newly shod, weigh 950 pounds

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cellent condition as the amalgamators do not attempt to take off the amalgam too close. Under ordinary conditions the amalgam is removed twice a week. Mercury is fed to the batteries, the amount being judged by the "feel" of the plates. Five men are employed, 3 on day shift, 2 at night. The mill is cleaned up once a month in the usual way. Ten stamps only are cleaned up at one time, the rest of the mill running as usual.

From the apron plates the pulp passes to 6 Wilfley concentrators. The concentrates, which consist almost wholly of Arsenopyrite, are carried by a shaking sluice to a settling tank. From this they are shovelled to a ing box and thence to the treatment tank.

The method used is known as the Bromo-Cyanide process, and is a modification of that employed so successfully at Deloro, Ontario. The cyanide plant is very simple, and consists of:—