grade for present use. The mine cars are loaded from chutes below the stopes and trammed, usually by hand, to the shaft, where the ore is dumped either into a pocket or directly into a skip. Most of the shafts have three compartments, one for a manway, pipes, electric wires, etc., and two for the skips. The Le Roi main shaft has five compartments, the two additional ones being used for cages for men, timber, and cars.

MINING MACHINERY.

The mines are extensively equipped with modern mining machinery. Compressed air is used to operate all the drills and most of the pumps. A brief desMaximum capacity 14,500 lb. unbalanced load, raised 2,000 ft. per min. with a 100 lb. steam pressure. The drums may be run singly or in counterbalance. Compressed air is used for the signals. The 5-ton skips, which bring the ore up from the mine, deliver it automatically to crushers, and from these it is delivered to sorting belts (in the Centre Star and Le Roi No. 2 sorting tables are used), from which it falls through the sampler to a storage bin, whence an aerial tram conveys it to a railway bin. The timber for square sets, etc., is framed by mechanical saws. The blacksmith and machine shops are furnished with modern forges, power hammers, lathes, shears, etc.



Mill and Concentration Plant at Le Roi No. 2 Mine, Rossland.

cription of the Le Roi plant will serve for illustration. The Le Roi has two Canadian Rand Drill Co.'s compressors, with a combined capacity of 8,000 cu. ft. of tree air per min., at sea level, compressed to 95 lb. gauge pressure. These are operated by steam. The steam plant consists of two Heine safety water-tube boilers set in one battery, and three batteries of three each h.r.t. steel shell high-pressure boilers. This plant has a nominal capacity of 2,000 h.p., and is used to operate all the engines about the mine. The hoisting plant consists of two modern, first-motion, winding engines, one of 1,000 and the other of 500 nom. h.p.; the larger consists of two 24 by 60-in. Corliss engines with two drums 10 ft. in diameter by 5 ft. face, mounted directly on crank shaft. Each drum is equipped with a powerful band friction-clutch; and a strong Post brake, operated by steam. It has a special valve Rear for hoisting-engine work, and is controlled by link reversing gear, operated by an auxiliary engine.

An air-driven, mechanical drill sharpener is operated in the mine. The Centre Star uses electric locomotives for handling the ore and waste on the surface, and will probably use them for haulage on the longer levels underground; electricity is used as the motive power for the 5-cylinder mine pump, which handles most of the mine water. Electricity is used for lighting buildings, stations and mine levels. Telephones connect the mine levels with the surface, and all the mine buildings are connected by telephone. Electricity is also used for a number of mine hoists and air compressors in the camp, and its use is being extended.

PROCESSES OF TREATMENT.

The shipping ore is loaded in 30-ton bottom-dumping railway cars and taken to the smelter. Heretofore, the Le Roi ore has been shipped to the Le Roi smelter at Northport. The Northport plant consists of sampling mill, six rectangular copper furnaces, with blowers, dust-chambers and stacks, steam power