

In the engine room there are two Belliss and Morecom engines direct connected to Westinghouse generators, two air compressors, and a Worthington barometric condenser connected with both engines and compressors. The room also contains a balancer set and the switch board, and is served by a 5-ton hand power travelling crane. There is sufficient floor space to permit of the installation in the future of three more vertical boilers, an additional engine of somewhat greater capacity than the larger of those now in place, and another compressor.

THE BOILERS AND ACCESSORIES.

The boilers are of the Wickes vertical water tube type, and designed for a pressure of 150 pounds per square inch. The rated capacity of each is 250 h.p., with a water heating surface of 2,510 square feet, and a grate surface of 42 square feet, so that the ratio of water heating surface to grate surface is 60. These

they appear satisfactory in operation. The fuel consumption is given in the record of tests below. The connection to the plate steel flue is at the bottom of the back of the boiler, the gases passing up the front and down the rear half of the boiler, a tile partition making a division between the two directions of flow.

These boilers were bricked in more heavily than customary for this type, there being 16 inches of common brick laid in cement and an inner layer of fire brick, with an air space of 2 inches between them. The flue is covered with heavy asbestos insulation.

The boilers are fitted with Foster superheaters of sufficient capacity to give 150° F. superheat. They are fastened to the front of the boilers just below the steam drum, the superheated steam pipe passing between two adjacent boilers to reach the main header.

The Wickes boiler having no combustion chamber immediately below the boiler, requires the addition of an exterior furnace or Dutch oven. This was utilized for

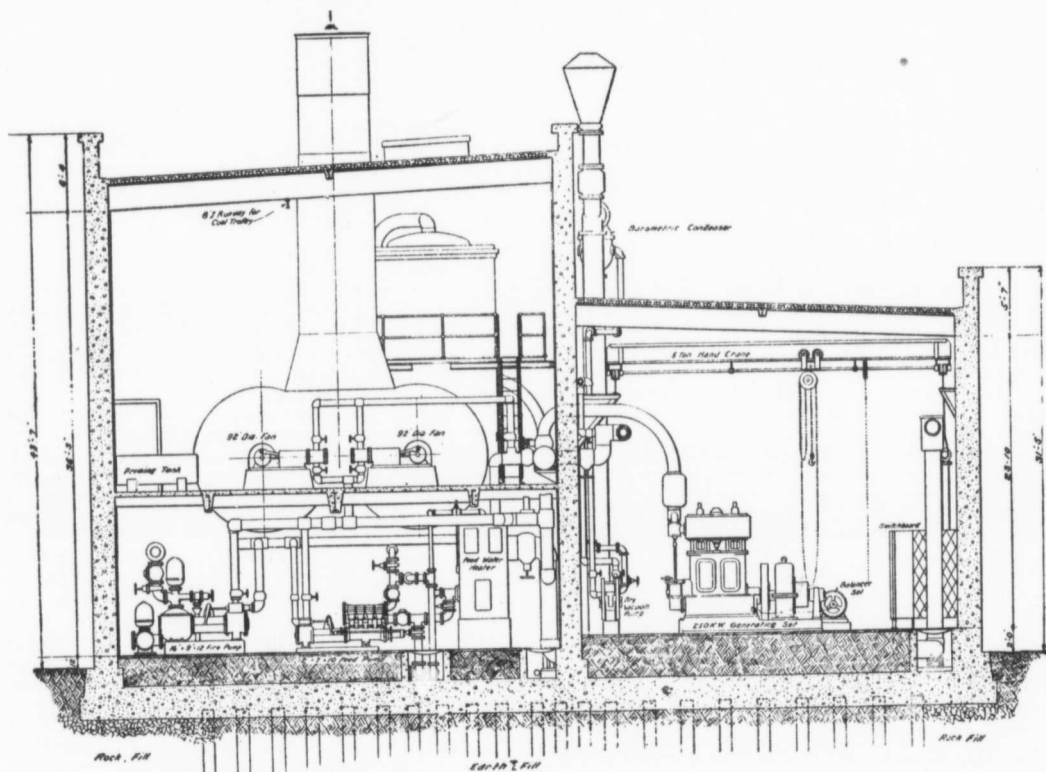


Fig. 3—Elevation of Power Plant, Canadian Locomotive Works, Kingston.

boilers consist essentially of two drums, connected by vertical tubes. The drums are 78 inches in diameter, the lower, or mud drum, being 53 inches long, and the upper, or steam drum, 100 inches. There are 112 four-inch tubes. The upper drum has a well-stayed head with one large manhole and a smaller hole directly over each tube, the latter to enable tubes to be readily inserted or withdrawn. From the inside of this large drum the tubes can be readily inspected and expanded when renewals are made.

The construction of the boilers is very simple, and

the installation of Murphy stokers. The magazines are at present filled from above by an air hoist travelling on a runway over the stokers, but a light trestle extending to the out-door coal pile is to be substituted, permitting small dump cars to run directly over the stoker magazines.

The induced draft plant is in duplicate, each half being able to supply draft very easily for the three boilers now installed, while the two fans are of sufficient capacity to handle six boilers at moderate speed. The fans are 92 inches in diameter, connected with 7"x12"