if passed, are ready to ship to different shell machinery plants to be finished.

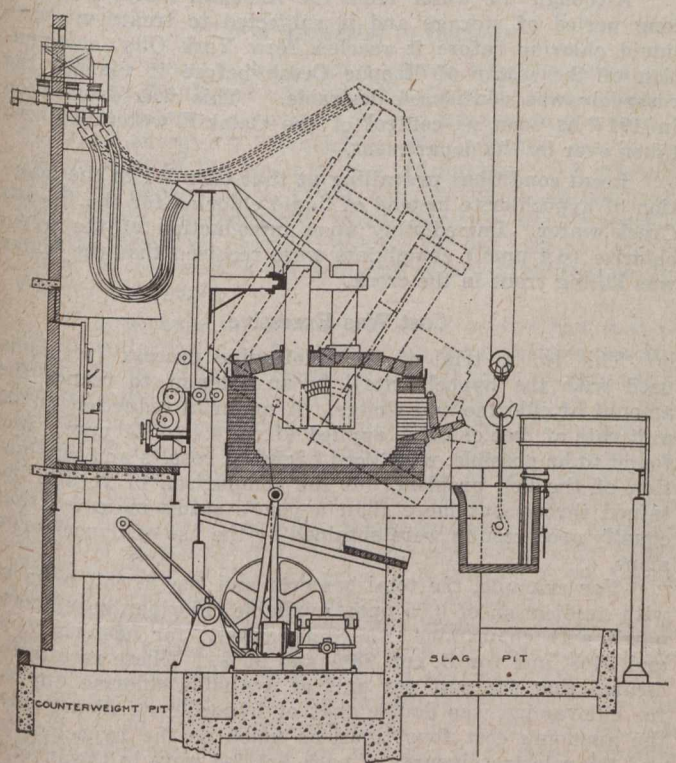
Power House

The power house is of timber construction, with a Warren type roof truss covered throughout with galvanized corrugated iron. It has two spans, each 40 ft. in width, and 13 bays, each 16 ft. in length. The sills are supported on piles driven to refusal, and the floor is built of 3-in. birch planking resting on 4-in. x 6-in. sleepers.

Along the south side of the building are located the ten high pressure, hydraulic pumps, each having a capacity of 200 gals. per min. Each pump is directly connected to Westinghouse motors. Each pump and motor is set on a concrete pedestal, and the whole is supported by a concrete and pile foundation, consisting of a mat of concrete 24 ft. in width extending the entire length of the building and resting on 270 piles driven to rock.

Centrally opposite this battery of pumps are placed the two accumulators, which are 24 in. dia. ram, and 18 ft. stroke, of the weighted tank type. They are each loaded with 450 tons of scrap iron ballast to give a pressure on the hydraulic line of 1,500 lbs. per sq. in. The accumulators are supported by a concrete and pile foundation, the concrete mat being 52 ft. in length x 40 ft. in width and 5 ft. in thickness, resting on 220 piles, spaced 3 ft. centres, driven to rock.

On either side of the accumulators are the steel suction tanks, each 14 ft. x 8 ft. x 8 ft. in depth. These are



SECTIONAL VIEW OF ELECTRIC FURNACE, SHOWING TILTING DEVICE AND FURNACE TILTED

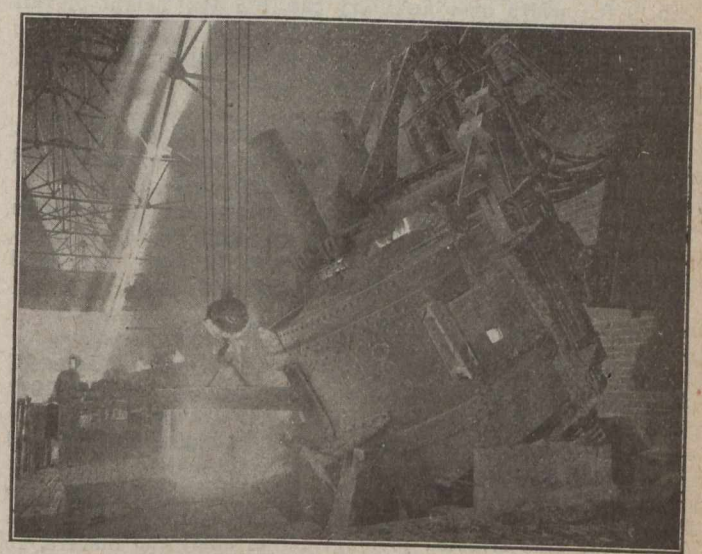
divided with a longitudinal partition, one side being used for the discharge from the presses and returns from the pumps, the other side for the supply to the pumps. Each tank rests on 12-in. x 12-in. timber sills supported by nine piles.

In the power house are also located an Ingersoll-Rand, duplex, belt-driven compressor, supplying air to the forge shop, and the fuel-oil pressure system, which consists of two motor-driven pumps and two 100-gal. receivers, which are equipped with relief valves. The main oil supply is provided by three 9,000-gal. horizontal tanks, with equipment for filling from tank cars, and situated between the forge shop and the power house.

Saw Shop

The saw shop, which was orginally equipped with hack-saws, was re-designed to break gothic section, rolled steel bars for the 6-in. billets. It is a frame building 160 ft. in length x 45 ft. in width, covered with galvanized iron. It is equipped with a special geared breaker or bulldozer, working horizontally and driven by a 150 h.p. motor.

The bars which are 8 ft. to 14 ft. in length, are unloaded by a locomotive crane and piled at the east end of the shop, under a series of air hoists which are arranged to lift and travel. The bars are then conveyed on gravity rollers into the shop, where they are marked with gauges into billet lengths. They are then cut by the standard oxy-acetylene burners to a depth of about ¼ in. Con-



ELECTRIC FURNACE POURING A HEAT

tinuing along the rollers to the breaker, they are broken into billet lengths and passed on to an inspection table, where the breaks are inspected and stamped. They are then elevated by a motor-driven elevator to sufficient height to allow them to run on gravity conveyors directly to the cars on the track immediately to the south of the saw shop. From here, they are delivered to the forge shop, or to any outside plant desired.

Sub-Station for General Power Distribution

This building is of brick and concrete construction, fire proof throughout, and is located against the south side of the power house.

It contains three 750 k.v.a., oil-immersed and water-cooled transformers, reducing the voltage from 13,000 to 2,200 volts. This is used to run the 200 h.p. motors connected to the hydraulic pumps, and for the yard distribution and lighting. One 750 k.v.a. transformer of the same type reduces the voltage from 13,000 to 550 volts for all small power motors throughout the plant. The switchboard comprises four panels for the control of transformers and seven panels for the control of current for the various shops and yard distribution.

There are also housed in a separate building one 200 and one 300 k.w. motor generator sets, for 230 volt direct current.

Drainage System

Several large concrete septic tanks equipped with automatic syphons discharging through two 18-in. main pipes into the ship channel, were designed by the Toronto Harbor Commission.

Railway Facilities

The handling and shipping facilities are adequately and admirably provided for. There are about seven miles of standard gauge tracks throughout the plant. At all of the more important shipping and unloading points, covered sheds have been constructed to facilitate this branch of the work during inclement weather.

The plant has its own shunting locomotives and locomotive cranes for handling material.