connected to an alternate pair of 100 horse-power C. G. E. generators (Fig. 12); and in addition a 12 x 12 McEwen horizontal steam engine, 100 horse-power, connected to a pair of C. G. E. generators, 100 horse-power, respectively. The switch board equipment is located on a gallery at the end of engine house, as shown in Fig 12. On runways overhead is a 10 ton hand power travelling crane for handling engine parts in case of repairs. A travelled engineer is not entranced with this equipment for furnishing light and power to the fine shops we have been describing. Probably the administration would reply that this power plant is only

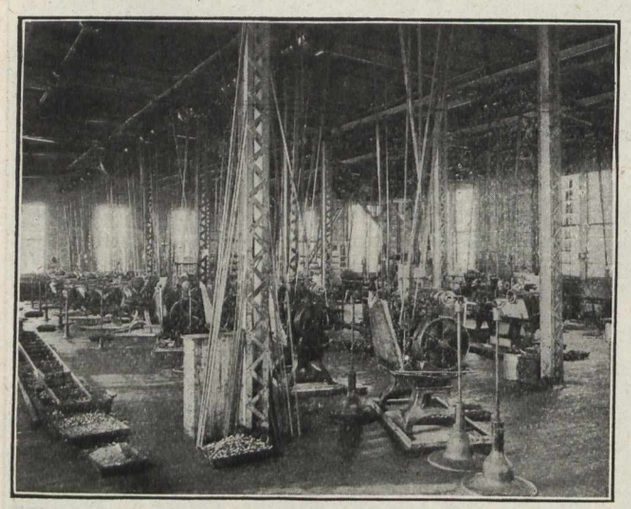

Fig. 11.—Screw and Nut Factory.

temporary, since they purpose utilizing electric power from Niagara Falls. At every turn one is impressed with the foresight shown in the wise provision made for change and extension to meet the demands of the future. In a separate room is a 16 x 24 x 24 cross-compound air compressor (Fig. 13) which delivers 1,500 ft. of compressed air to the hoists and pneumatic tools throughout the shops. In an adjoining part of the power building are 5=150 horse-power return tubular boilers, 72 in. x 18 ft., supplying 140 pounds steam pressure to the engine plant. These boilers are fired by means of "Jones" and "Parsons" mechanical stokers.

Hydraulic System.

West of the boiler shed is the pump house, in which are 3=8 x 5 x 12 inch plunger pumps of 100 gallons capacity per minute. These supply feed water to the boilers. Also 3=6 x 5 x 7 duplex and 1=6 x 8 triplex motor (15 horse-power)

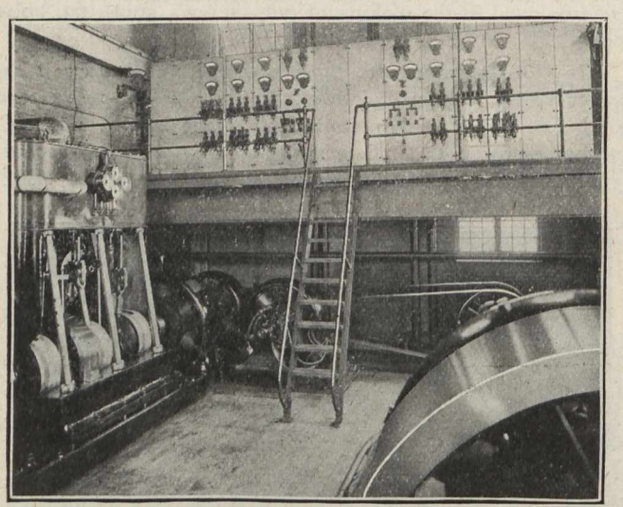

Fig. 12.—Engine House.

driven pump for power plant, elevators, etc., together with 1=14 x 8 x 12 single acting steam pump (250 gallons per minute) for pumping water to 50,000 gallon water tank on roof of pattern vault, which gives a pressure of 40 pounds per square inch, for domestic services, lavatories, etc. The largest, however, is an 18 x 10 x 12 duplex underwriter pump—

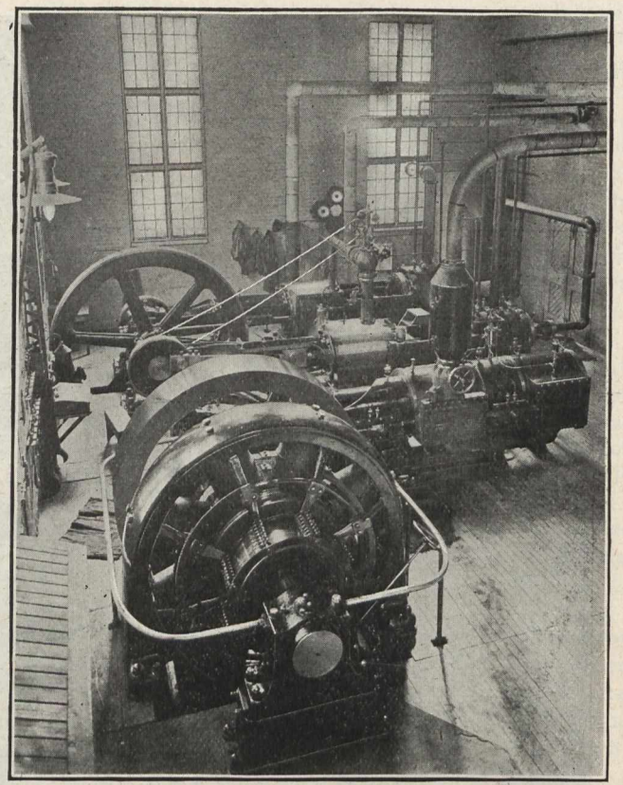

Fig. 13.—Air Compressors.

1,000 gallons per minute capacity. This pump is used for forcing water up to the adjoining 100,000 gallons water tower, which is 150 feet high, and gives a head pressure of 65 pounds per square inch in the fire sprinkler system and hydrants throughout the plant. The water for the tanks is drawn from a large nearby cistern, 14 feet 6 inches deep and a capacity of 250,000 gallons. This cistern is filled directly from the street main, and the average consumption of water is some 75,000 gallons daily. The pumps were all made by the Canada Foundry Company; the water tower by the Chicago Bridge and Iron Works.

Lack of space forbids other than a mere reference to the chemical and testing laboratories, foundry supplies stores, pig iron piles, lumber racks, finished stock yards, and large enclosed shed for the housing of air compressors, rock crushers, rock drills, steam pumps, gasoline engines, boiler tubes, hydrants, gate valves, check valves, etc.; but we have described and illustrated enough of the mechanical engineering half of the famous plant of the Canada Foundry Company at Davenport, to convince the uninitiated and the most

Fig. 14.—Locomotive.

sceptical that right here on the outskirts of Toronto, Canada has an engineering plant of which her sons may justly be proud.

We purpose in our next issue describing and illustrating the equally fine and extensive Civil Enginering half of the plant, viz., the structural, bridge and boiler shops.