



VIEWS OF THE DAM SHOWING WASTE GATES AND OUTLETS.

In the space above the flames in the upper portion of the tower-keel dam a large conduit receives the leads from the dynamos to the switchboard. Lead-covered, rubber-insulated cable are used for these. In the walls of the power house a number of large terra-cotta pipes, about 3 feet long, bent to a quarter circle, with the convexity upwards, have been built in, and through these the cables leading to the pole line pass out without touching anything between the insulators inside and outside the building.

Two pole lines are constructed to Montreal, either one being sufficient to carry the load. This construction was adopted to minimize the chances of accidental breakdown, and to make repairs easily possible without danger to workmen. The poles are of chestnut, none being less than 40 feet

long. Each pole carries two cross arms, the usual "square" for two-phase transmission being observed. The insulators are of a deeply pelticoated porcelain type, somewhat similar to the Niagara pattern, but lacking the grooves for conducting away rain water. They are mounted on oak pins, having a steel rod in the centre of each. A line of barbed wire is run along the tips of the poles, and four similar lines are attached to the ends of the cross arms, all five being connected together and grounded by means of 8 feet of iron gas pipe at each pole. The line wire is bare, of 00 gauge, and is tied to the insulators by two pieces of No. 12 gauge soft copper wire. A short distance below the main line a short cross arm carries the two No. 12 copper wires of a telephone circuit.

The main power transmission line ends in the electric-light station of the Royal Electric Company, at Montreal, where 6000 horse-power will be used for incandescent and arc lighting and direct-current motor service. The large two-phase generators now employed in that plant for incandescent lighting and power have been rewound as synchronous motors, and connected directly in the 12,000-volt circuit. These machines are belted by a system of countershafts to the arc-light generators and other continuous current machines of the station, to which they furnish power. A group of static transformers of 150 kilowatts each are arranged in the basement of the present station, reducing the line voltage of 12,000 for distribution over the present circuits at 1000 and 2000 volts, two-phase.