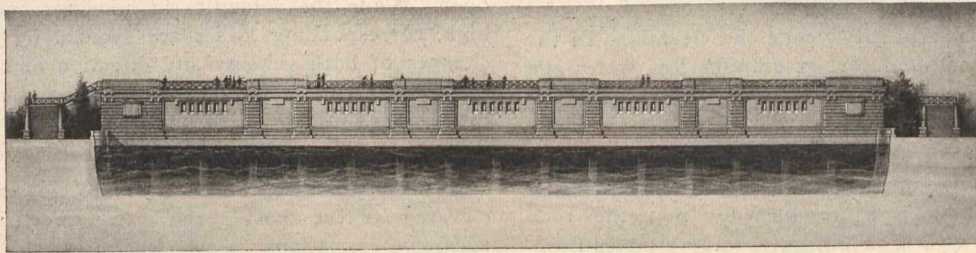


wall, while the other side adjacent to the spillway is occupied by the main screen structure leading to the inner bay and to the portals and head-gates of the three conduits.

The intake, nearly 60 feet long, stretches across the inlet or bay at Dufferin Island almost parallel with the current in the river. Throughout its length a concrete curtain-wall extends down nine feet into the water, here fifteen

screens, which are also enclosed and safeguarded by a curtain carried by the front wall of the gate-house. The bay in front of the curtain communicates with the river by an ample ice-run. Substantial concrete buildings shelter both head-gates and main screens. In each case an open canal between curtain and screen spills into a gravity ice-run emptying into the river. Both buildings are supplied with

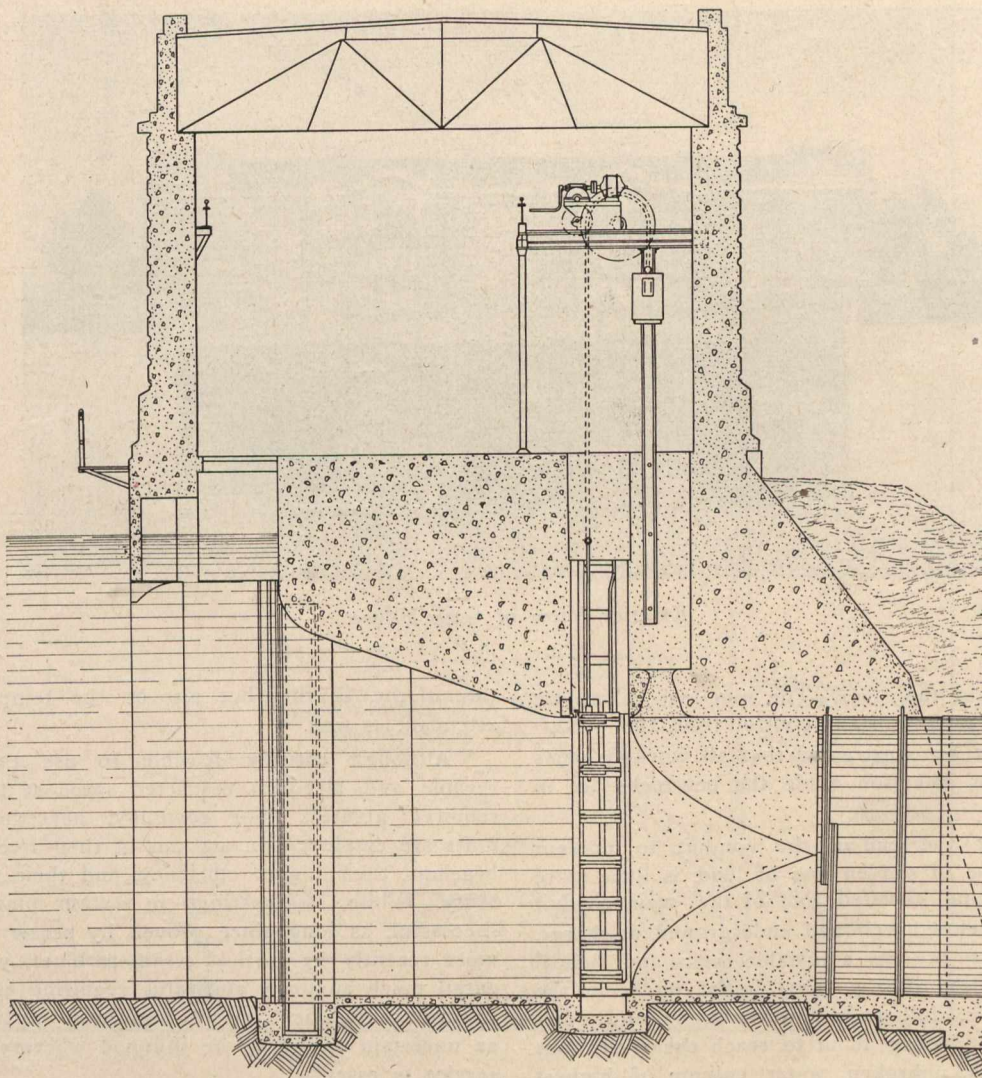


Screen House and Promenade.

feet deep, so that the gate openings beneath admit only deep water, and this at right angles to the swift exterior surface flow, which, sweeping the full length of the curtain, carries the floating ice to the rapids beyond. At the main screen this operation is repeated. This structure, 320 feet long in twenty feet of water, lies across the entrance to the inner bay and parallel with the direction of flow in the outer bay.

steam for heating and thawing from an underground boiler-plant situated in the common abutment.

Thus the water before entering the conduits must pass in succession three automatically selective steps, each excluding surface water and its floating ice, and two screens, each behind ice-runs in heated buildings containing live steam for emergencies. Serious trouble is not believed



Section through Gate House.

Again a curtain, formed by the front wall of the enclosing superstructure, admits to the screens only deep water, here also at right angles, while it excludes ice with the surface currents maintained through the forebay by a voluminous spill of surplus water.

At the gate structure, where the water is thirty feet in depth, the tapering portals leading to the electrically operated Stoney head-gates are protected with wide-mesh

possible while these provisions are maintained with reasonable care.

Screen frames are removable by an electric crane for cleaning and changing. On account of its location in the public park, the top of the long, narrow screen-house, approached at either end by broad steps and landings, is finished as a promenade. From this point of vantage one may have a superb view of the upper rapids. The islands