

The hydraulic machinery was supplied by the Boving Hydraulic and Engineering Company, Limited, of Lindsay, Ont., details of which follow: The generator turbines are of the twin horizontal type set in open flumes on concrete draft tubes; each turbine is capable of developing 2,250 b.h.p. under a 45-ft. head when running



Fig. 4.—Pumping Out Sluice Pipe Chamber Preparatory to Connecting Sluice Pipe with Sluice Valves

at 257 revolutions per minute. They are of special heavy type with movable guide vanes of cast steel which are pivoted in bronze bearings and connected to the regulating rings by bronzed bushed links. The regulating rings are provided with rollers which reduce the friction resistance considerably and eliminate a great deal of wear.

The runners are of the latest high-efficiency type, made of steel like the guide vanes. They are mounted on a $9\frac{1}{2}$ -

inch shaft which is supported in two heavy-ring lubricated bearings of which the rear one is a marine thrust bearing accessible through an inspection tunnel which runs under the head race.

This shaft is also supported in the centre by lignum vitae bearing adjustable from the outside.

The governors are of the latest oil-pressure type, direct connected to the gate shafts, and calculated to keep the regulation within very close limits.

The exciter turbine is of the single horizontal enclosed type designed to develop 150 b.h.p. when running at 700 revolutions per minute. It is fed through a 30-inch steel penstock and can be shut off by means of a 30-inch butterfly valve mounted near the wall of the power house. The bedplate is extended to carry the direct-connected dynamo, making a very compact unit.

The exciter turbine is also fitted with an automatic oil-pressure governor and a 5-foot flywheel in order to insure close regulation.

So as not to cause any inconvenience to the power users of Orillia during the period of changing over from one plant to the other, the Orillia Water, Light and Power Commission and the Department of Railways and Canals are to agree on a certain date, a month from which the old plant is to be dismantled, machinery taken out, and the old dam removed. During the interval, which may be a month or perhaps less, the government has guaranteed to supply Orillia with necessary power.

Since 1913 both waterworks and electric power plant in Orillia have been in charge of the commission. The five members of the present commission are J. B. Tudhope, J. T. Horne, R. J. Sanderson, C. H. Hale, chairman, with the mayor ex-officio. W. K. Greenwood, A.M.Can.Soc.C.E., is chief engineer for the commission, while James Mackintosh, A.M.Can.Soc.C.E., is resident engineer on the work for the Department of Railways and Canals.

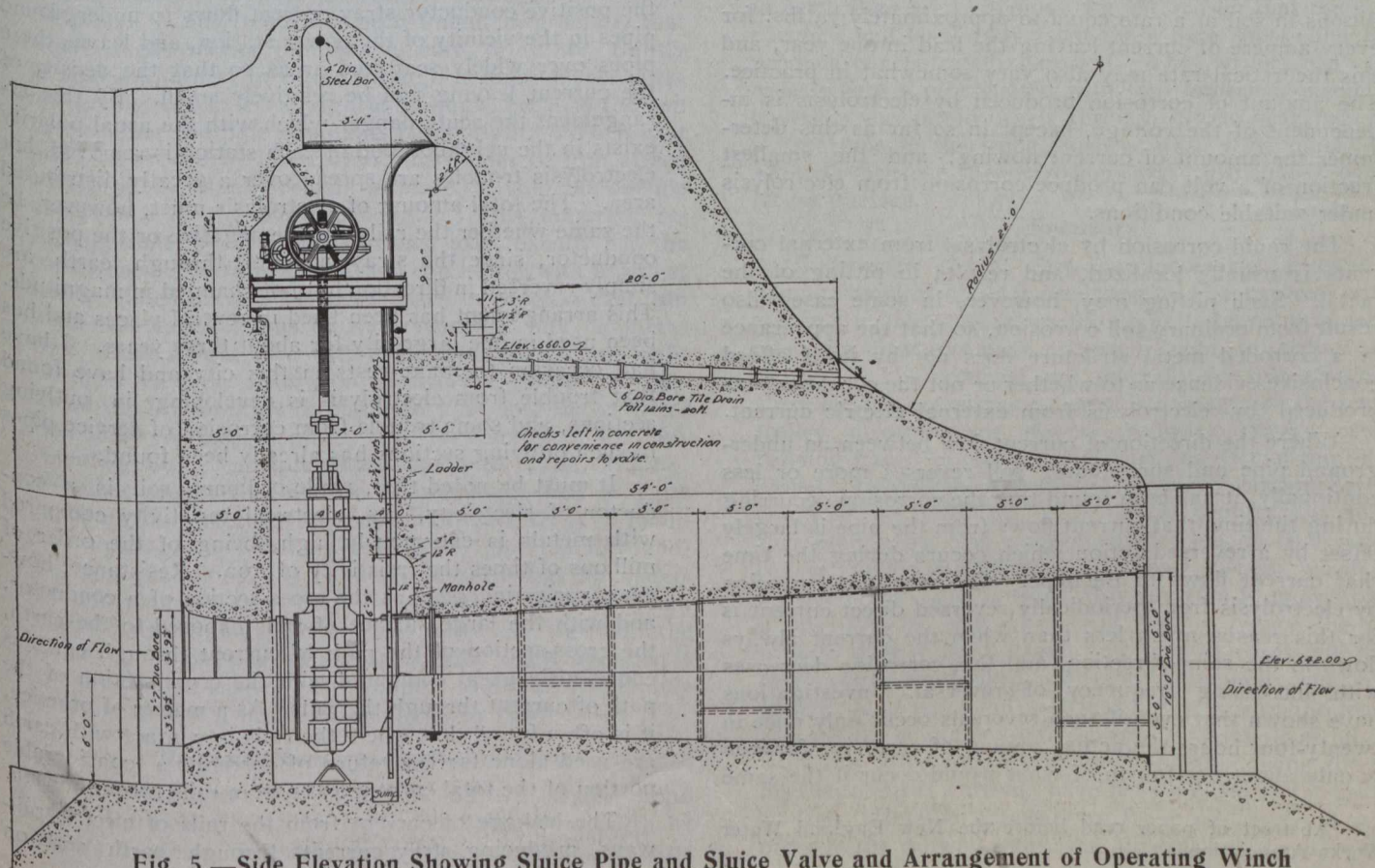


Fig. 5.—Side Elevation Showing Sluice Pipe and Sluice Valve and Arrangement of Operating Winch