The grounds around the pump house have not yet been put into the shape they will afterwards take; it is intended to have the grounds neatly laid out, with sloping bank to the river's edge, and the walk to roadway from pump house laid out and levelled, and, together with the harmonious surroundings, the water company may feel well pleased with their property.

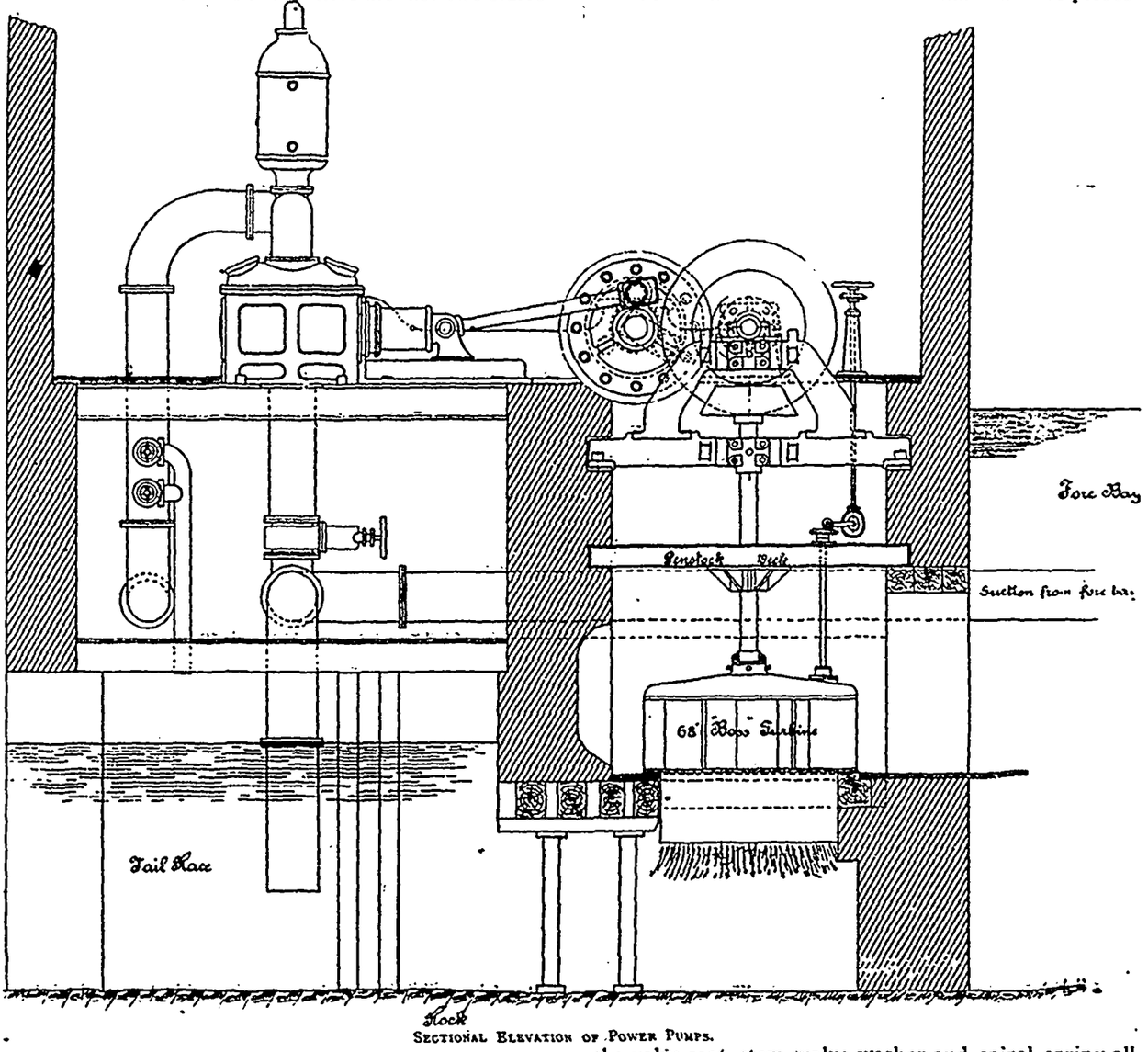
The dam which was recently constructed is an overflow one, built of stone and timber; it is about 600 feet long and has an overflow of 220 feet. There is a power opening upon the last end of the dam 30 feet 6 inches wide. Provision is also made for the running of logs through. As many thousand feet of lumber are driven down the river, a timber slide of 32 feet 6 inches wide was made in the dam. There are also two sluice-ways built in the dam, through which the surplus in the reach above is passed. The dam is composed principally of timber, the crib work being filled in with stones.

The pumps are of the three-throw single acting type, or, perhaps, better known as Triple Single Acting Power Pumps. Each set of pumps has three cylinders, each 18 inches diameter, with a stroke of 30 inches, and a capacity of 2,250,000 imperial gallons per diem and a working pressure of 130 lbs.

The side elevation shows in outline the external appearance of the pumps. The cylinders present a massive and pleasing appearance. The stays or ribs supporting the sides of the cylinders are internal, leaving a smooth exterior surface, which is neatly panelled.

The cylinders are bolted securely to each other, and each to the main frame, the whole being firmly bolted to the splendid foundations prepared for them. The front end of pumps are carried upon a stone foundation; the back part and cylinders are carried upon deep beams, securely built into the walls.

Each cylinder, with its front head, is one casting throughout, well braced and ribbed internally, to withstand the heavy duties assigned to them; the lower part of the cylinder joins the suction chamber. The pump valves are placed on horizontal plates above and below the line of plunger travel. There are 36 valves on top plate to delivery chamber, which forms top part of cylinder, and 36 valves on lower plate forming top of suction chamber. The valves are made in four pieces



Sectional Elevation of Power Pumps.

the valve seat, stem, valve washer and spiral spring all of brass. The valve proper is 3½ inches in diameter, one half-inch thick, and made of rubber by the Gutta Percha and Rubber Co. of Toronto. The amount of lift allowed is just sufficient to make the area through the valves uniform, so that the water will pass with uniform velocity. The low lift of the valves, and with their elastic faces, make them noiseless in action at all speeds and pressures. Access to the suction valves can easily be had by taking off the back end cover of the cylinders, there being ample room for the engineer to get inside of the cylinders when the plungers are drawn up.

Through the hand holes back and front of delivery chamber cover, the delivery valves can be easily reached. In fact all the details of the entire plant were so de-