

admit of part of the contents of a full tank being discharged into an empty one for the purpose of flushing out deposits. Ample provision is made for ventilation, there being 27 fresh air inlets in the three tanks, while the fumes are collected by a flue 4 feet high and  $2\frac{1}{2}$  feet wide and conveyed to the under side of a coke furnace, and passed into a chimney shaft about 100 feet high.

The rapid discharge of the whole of the impounded sewage is an essential feature of the scheme; the outlets are sufficiently large to admit of all the sewage being discharged into the outfalls and thence into the sea, within a period of one hour. The mouths of the outlet-pipes lie just below low water mark. Before definitely deciding upon the point of discharge of the sewage, experiments were caused to be made to ascertain the course that would be taken by the sewage under the diverse conditions prevailing. It was found that the floats were carried many miles out to sea when placed in the tide-way soon after high-water, and the works were designed so as to admit of an exceedingly rapid discharge of the sewage in order to take full advantage of this circumstance. On the arrival of the period when it is desirable to allow the sewage to be discharged into the sea, a small penstock is opened, the escaping sewage operates a turbine, which in its turn sets in motion the machinery by means of which the large penstocks are opened; thus one man can readily open these ponderous appliances, and attend to the tanks as well.

The pumping station and rising main cost £25,000, and the tanks and outfall works £45,000. The annual working expenses at both pumping station and tanks amount to £2,700 per annum.

This brings me to my second head.

I have given the sewage disposal works of Portsmouth considerable space as they afford a good example of a free outfall into the sea or large body of water, and I have always strongly recommended that method of sewage disposal for the city of Toronto. Indeed, it was a consideration of the immense advantage to sewage discharge afforded by tidal waters which led me to devise a scheme that would secure to Toronto the advantage of a tide, though on the tideless waters of Lake Ontario, and those of you who are familiar with my scheme will recognize how fully these have been secured. You will observe that by means of a high-level sewer along, say, Gerrard street, between Yonge and Parliament streets, intercepting all the sewage north of that line and conveying it into a tank situated down near Front street, we secure the benefit of a tide, not ten or twelve feet high, but 32 feet high, or more if we require it. Next, we can have it just when we want it and have