

treat the sewerage of 700 people and the plant cost \$8000, and then was not anything like complete. I am of the opinion that a plant to treat the sewerage of Kingston thoroughly by any of the chemical systems would cost well on to \$50,000, with a yearly cost of \$2000 to keep it going.

The Conder System, of introducing sulphate of iron into the sewers by means of small apparatus called ferrometers, is said to have worked well and might be taken into consideration, but the plan I have considered so far is discharging into the lake 4000 feet from the wharf front.

There are two systems of sewerage which have each their advocates among distinguished engineers and sanitarians, viz: the Combined and the Separate. The Combined is when there is but one sewer in the street into which is conveyed the sewerage proper, that is the household wastes, the cellar drainage, and also the roof water and the storm water from the street surface. The Separate system admits nothing into the sewer but the sewerage proper, and generally provides in addition small porous pipes alongside the sewer to convey the subsoil and cellar drainage, and has other drains again for the storm water. Now I am of the opinion that under favorable circumstances the Separate system is the best in a sanitary point of view, and if I had the planning of the sewers of a town where no sewers previously existed, I would follow the Separate system as near as possible, if it were at all practicable to get rid of the storm water without too great a cost; but in Kingston I do not see how that system can be adopted, for the reason that all the drainage so far has been on the combined plan. But some of the features of the Separate system may be introduced in the future with advantage, namely, the small drains for subsoil water, and then with the fine fall that all the principal sewers will have, the introduction of storm water will have no injurious effect.

The chief object in the disposal of sewerage is to get rid of it quickly before any decomposition takes place, and with this end in view all sewers should be straight and laid to such a grade that their least velocity will be two feet per second and as much more as possible within the limit of a speed that will not wear the sewers out with the friction. Now two feet per second equals nearly a mile and a half an hour, and at this speed the sewerage from any part of Kingston in properly constructed sewers would be clear of the proposed outfall pipe within two hours of leaving the house, that is,