

## A CONSIDERATION OF SEWERAGE SCHEMES.

BY L. J. CLARK.

*(Read 7th March, 1891.)*

The title of my paper will lead me to consider the subject under three heads.

I. A general survey of the position of sewage affairs in various parts of the world, particularly in England and Germany.

II. An elucidation of a gravity scheme for Toronto ; and

III. Some general defects in sewerage works, and also some weak points in the scheme at present before the city, if time will permit.

A member of the Institute placed in my hands a work on Sewage Disposal, by W. Santo Crimp, assistant engineer of the London County Council, England, with the remark that my tastes ran more in that line than his, and that I might extract something from it that would be of interest to at least some of the members of our society. I have found the book to be one of very great interest, as it contains the very latest information on the subject, having been issued but a few months.

By adopting a schedule relating to the details of sewage disposal, he is able to give the particulars of about forty towns and cities in England in very little space. The information relates, under the head of Sewage Treatment, 1. To *mode of disposal*, viz., by precipitation, filtration, irrigation, and direct discharge into large bodies of water. 2. To chemicals used, such as lime, alumino ferric or sulphate of alumina, &c. 3. Annual production of sludge in tons. 4. Disposal of sludge. 5. Tanks, precipitating, continuous or intermittent. 6. Acreage of land used. 7. Years in operation. 8. Closets, whether water closets, pails, privies, or ashpits. 9. Sewage flow every twenty-four hours. 10. Gallons per head. 11. Disposal of manufacturing waste.

Of course all these questions are not fully answered in every case ; for instance under the head of Disposal of Sludge, twenty-four answers only are given, as follows :—Given away, 5. Dug into the ground, 5. Sold, 12. Burnt in destructors, 1. Pay for removal, 1.

This throws considerable light on the subject of utilization of sludge for manurial purposes. Many look upon the discharge of crude sewage into large rivers or other bodies of water as being an inexcusable waste ;