

## MUNICIPAL DEPARTMENT

### METHODS OF SEWAGE DISPOSAL.

Professor John Amyot, of the Provincial Biological Department, delivered a lecture on "Sewage Disposal" at the Canadian Institute, Toronto, on Saturday evening last. At the outset he stated, that the time had gone by when it was believed that sewage disposal was merely a matter of filtration. The operations involved were mechanical, chemical and bacteriological, and the last named was the most important. The experimental sewage plant at Berlin, Ont., was described at some length, also that at Brockton, Mass., and the methods adopted and results attained at each of these plants were compared with those of Berlin, Germany, and London, Ont.

In describing the system of broad irrigation, Dr. Amyot said that too often the quality of the earth utilized in such plants was not given due consideration. All soils were not equally adapted to the treatment of sewage, clay being, of course, much less efficient than sand or loam. In the process of broad irrigation, the purification is effected by bacteria, which work through thru the agency of spontaneously generated ferments, the operation being analogous to that which goes on in the human stomach. But carrying this analogy still further, the products of such bacteriological action must be carried off freely, or the bacteria would be bathed in their own poisons and annihilated. It has been found that the bacteria in the sand beds used in broad irrigation digest freely and rapidly, then cease action. But if the products be removed, they recuperate their powers and the process is renewed. Hence the necessity of effective filtration of such beds.

Coming to the question of how much land is necessary to treat a given amount of sewage, the professor gave some interesting statistics tabulated from actual results in London, Brockton, Mass., and Berlin, Ont. The plant now in operation at the London Asylum treats effectively 75,000 gallons per day, and covers an area of seven acres. The land is divided into twelve strips, 12 to 15 feet wide, and these strips are dosed alternately, so that no one of them is used more than once in four or five days. The farmers whose land lies adjacent to and below the plant state that their crops are better than before it was in operation.

In Brockton, Mass., the sand beds have been in constant use for fifteen years, and the sand is to-day in better condition than when the sewage was first turned on it. Speaking of the effluent of this particular plant, Dr. Amyot stated that it was absolutely clear, non-putrescent, non-gaseous and odorless, and whilst he could not honestly recommend it as a drinking water, it was a fact that cyclists and others passing a certain spring in Clinton, Mass., were in the habit of quenching

their thirst at a certain spring that had obtained quite a local reputation for purity, and this spring was but a part of the Brockton effluent.

The professor next dealt with the septic tank, explaining very clearly its construction and action. He believed, however, that this was an incomplete method. True, a septic tank would remove 50 per cent. of the organic poisons of strong sewage in 24 hours, but it would take many weeks to get rid of the remaining 50 per cent. by the same method, if, indeed, it could ever be entirely removed by such means.

The electrolytic method was too expensive to use, except in small plants, and the contact bed system involved too much attention, and at best was incomplete, to say nothing of the beds having to be renewed every two years.

### NEW STREET SNOW PLOW.

A new snow plow has been designed by Mr. George Heaman, of East London. It was recently inspected by Mr. A. O. Graydon, city engineer of London, who is sure that it will prove a complete success when tested. The new plow will be supported on a double set of runners, like a sleigh. The blade will be adjustable in height, so that on board walks it will clean off snow to within half an inch of the surface, while on smooth concrete walks the snow will be entirely removed. There are shafts attached to the plow, and a seat for the driver. There will also be an attachment for sprinkling sand on slippery walks. Mr. Heaman has applied for a patent on his plow. Mr. Graydon says the plows would be comparatively expensive, costing perhaps \$35 each, but they are so strongly constructed that they will last for twenty years.

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