

bacteria beds, with patented appliances needed, some of very doubtful utility.

The purification is effected in bacteria beds, principally by Aerobic bacteria, or those that work when supplied with air, although Anaerobic bacteria are also present.

In 1895, Mr. Donald Cameron, city surveyor of Exeter, became convinced, as a result of experiments, that the solid matter in sewage could be dissolved and destroyed by Anaerobic bacteria, and the first septic tank system was constructed to deal with the sewage from a small part of the city.

The system consists of a small grit chamber, a closed septic tank, and five small filter beds. The crude sewage flows into the septic tank with a capacity equal to twenty hours flow, in which the sewage stands about seven feet in depth, thence through a submerged outlet pipe to an aerating device, thence to the beds, which are operated in exactly the same way as the finer beds in the Sutton system.

Mr. Cameron has devised a most ingenuous apparatus for automatically filling and emptying the beds in rotation.

Judging from analyses, the action of the septic tank is Anaerobic.

The effluent from the tank is dark and soon becomes offensive; that is, the solids have been broken up and dissolved, and the sewage is prepared for rapid decomposition or for immediate treatment in the finer bed.

Upon the surface of the sewage in the tank a scum or blanket forms, that varies in thickness and consistency with the temperature. The company claims that one cubic foot of gas per capita per day is also produced, that can be utilized for lighting.

The Exeter plant was put in operation in August, 1896, and the writer was informed that it had not been cleaned out since the works started. There was in March last about three feet of semi-fluid sediment, &c., in the bottom, but the work being done in the tank was better than during the first year or so.

The effluent produced by this double process is satisfactory in every way, colorless, odorless and not decomposing.

The effluents at Exeter have been analysed by many chemists, the results being uniformly good. The following table