

signed for only one hour of deposition, the sludge tank being usually about one-quarter of the size required for preliminary purification. The proportions vary, however, greatly.

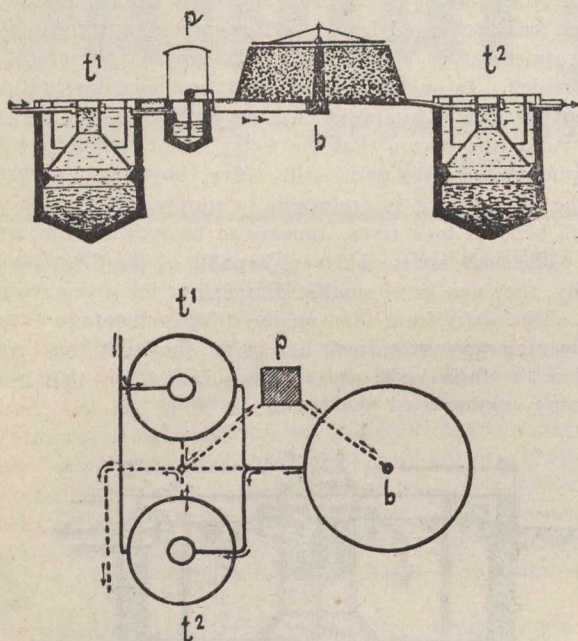


Fig. 4.—Clarifying Plant with Bacteria Beds.

If tanks are used for preliminary and subsequent purification in connection with beds, it is of advantage to arrange them so that they can occasionally be interchanged, as shown in Fig. 4, in which t^1 is the tank for the preliminary purification, p the pump, b the bacteria bed, and t^2 the tank for final purification. This arrangement has the advantage that the sludge of preliminary purification can be directly mixed with that of final purification. Besides other advantages, more uniform decomposition is thereby obtained. The arrangement has the further advantage that the tanks can supplement each other in case of need, rendering special "stand-by" tanks unnecessary.

SEPTIC TANK PATENT CONFERENCE.

The adjourned meeting of municipalities to discuss what action, if any, should be taken relative to the claims for royalties on the septic tank, was held at the Engineers' Club on the 24th of June last. His Worship Mayor Staveland, of London, Ont., again occupied the chair, and Mr. Willis Chipman again consented to act as chairman. The towns of St. Thomas, Peterborough, Brampton, London, Hamilton, North Bay, and Guelph, were represented. Dr. Hodgetts, of the Ontario Provincial Board of Health, along with several engineers, engaged in sanitary engineering were also present.

Arising out of the last meeting when Mr. Wyllie, of the Septic Tank Company read a statement with reference to the company's demands for royalties, Mr. Macallum, city engineer for Hamilton, called upon Mr. T. Aird Murray, C.E., to read a statement, which several engineers had jointly drawn up, replying to Mr. Wyllie's statement.

As we published the former statement in full in our issue of June 18th, we also publish the text of the engineer's statement which was duly read before the representatives.

The statement is as follows:—

To the representatives of the various municipalities interested relative to the question of claims for royalties in Septic Tank Patents.

We, the undersigned Civil Engineers, having attended a meeting of representatives of municipalities, held at the "Engineers' Club," Toronto, June 10th, 1909; and having heard a statement read at that meeting by Mr. Wyllie, of the Cameron Septic Tank Company, of Chicago, and having further examined the said statement in detail as printed, have met together, and after due consideration have concluded

ed a reply thereto. This reply we have put in the form of a statement and duly signed as mutually agreed upon by ourselves.

We first briefly sum up the leading interesting points, which we consider of importance in Mr. Wyllie's statement:—

Points in Mr. Wyllie's Statement.

(a) Mr. Cameron first discovered the scientific principals of the septic process.

(b) That the process is a natural one, but as particularly applied, for the purposes of the elimination of sludge by putrefaction in connection with sewage disposal it is patentable.

(c) That the process has been patented both in the United States and in Canada.

(d) That the process may consist 1st, the so-called anaerobic action of putrefaction by means of which sludge is digested or eliminated. Or, 2nd, the above anaerobic action together with aerobic action, or a further treatment by oxidation of organic ammonia compounds either by means of land intermittent filtration or by means of specially constructed filter beds.

(e) That the main features of the septic process may be summed up in the words of Judge Lacombe, in his decision in the case of Cameron suit against Saratoga Springs, U.S. We quote part of this decision as follows:—

"We, however, are satisfied that Cameron was the first one to subject a flowing current of sewage to the action of anaerobes and aerobes under conditions which secured their separate and successive action. The action of the segregated anaerobes fitting the effluent for subsequent filtration, and aerobic action; and by reason of such careful segregation, he was the first to secure such specified conditions in the anaerobic colony, that its capacity for its natural work was increased to such an extent that it became capable of disposing of practically all future inflowing sludge sewage that entered its workshop without accumulating such a deposit of sludge as would require removal."

(f) That the patents for the above process have been held as valid in the United States.

(g) That no case has as yet been submitted to legal decision either in Great Britain or in Canada.

With reference to this statement, we agree that it is a fair statement of the position of the septic process in the year November, 1907, when Judge Lacombe gave his decision.

With reference to the legal aspect, however, as to how the patents might stand in British or Canadian law, we offer no opinion as we are not lawyers.

On the engineering and general aspect, however, we would offer several remarks, with reference, as follows:—

(a) We cannot agree that Cameron was the first to discover the scientific principals of the septic process. The Cameron process was patented in Great Britain at first in the year 1896. We call attention to the Forse Mouras designed in 1860, here the inlets and outlets are trapped and air excluded from the tanks.

All the putrescible solids were claimed to be liquefied in the tank by anaerobic fermentation allowing of only a slightly turbid liquid.

In 1876, Alexander Muller applied for patent rights for a septic process of tank treatment in which sewage was biologically treated. Air and light were excluded, but it was not claimed that the effluents were purified.

Again in 1891, Scott-Moncrieff constructed what he called a cultivation tank. The whole arrangement is merely a septic tank filled with stones. Scott-Moncrieff claims that he was the first in Great Britain to bring into practical operation any appliance for the claimed purpose of the liquefaction of sludge by putrefaction.

(b) That the process is a natural one, but as particularly applied, etc.

We gather from this and the wording of the United States decision, that there is no claim set up as to a monopoly of septic action. When septic action even in the case of sewage disposal is accidental, and is not particularly applied