

MUNICIPAL DEPARTMENT

TO MUNICIPAL OFFICERS.

The CONTRACT RECORD is desirous of publishing, as far as possible, advance information regarding projected works of construction in all parts of Canada, such as sewerage and waterworks systems, railways, street pavements, public and private buildings, etc. Municipal officers would confer a favor upon the publisher by placing at our disposal particulars of such undertakings which are likely to be carried out in their vicinity, giving the name of the promoter, character of the work, and probable cost. Any information thus furnished will be greatly appreciated.

SEWAGE SYSTEM AT SUTTON, ENGLAND.

The town of Sutton, Surrey Co., England, contains about 13,000 inhabitants. For years it has been noted as the home of many of those famous cricketers that made Surrey the banner cricket county of England. Within the last two years, however, it has become the Mecca for engineers and others interested in sanitary problems. Here there has been devised and put into operation a system of sewage disposal that for effectiveness and cheapness is claimed to have no rivals.

This system is known as the "natural" system, because it makes nature do the work that it is fitted to do. Readers of our daily papers and magazines have grown somewhat tired of the discussions on "microbes"; some good people even left off eating various delicacies for fear of the microbes in them. Here, however, in this sewage system is a place where microbes can perform their rightful functions in the economy of nature by consuming the deposits of sewage. When this sewage leaves the main pipe it is conducted through an iron screen. This screen retains paper, cork and substances in bulk, which even in the best regulated families, inevitably find their way into the sewage pipe. After passing through the screen the sewage drops some few feet into a coarse bed 50 feet long, 30 feet wide, and 5 feet deep. This bed, which much resembles a large shallow meat dish, is lined with coarse brick throughout, and in the bed are broken brick, burnt clay, and coke breeze. These substances retain the bacteria and give them hiding and breeding places. There are two of these coarse beds at Sutton that took about \$3,000 dollars to build and put in working operation. After going through these coarse beds the sewage is led through a fine bed in which are the same materials in a finer form. This bed does exactly the same work as the coarse. When the sewage leaves the fine bed it is thoroughly purified, and those in charge at Sutton

have no hesitation in drinking the water. Pipes conduct it from the fine bed into the river Surbiton, which it helps to keep pure.

The system has been in operation in Sutton for two years. By the side of the beds stands a little house. In this house are registered the tests made by the Government inspector twice a week. These tests have been very satisfactory and are open to public inspection. Before this system was put into operation Sutton had a system of chemical precipitation which cost them 4 pence per head of the population per year to run. The bacteriological system, to give it its distinguishing name, costs one-half penny per head of the population, just one-eighth of the former cost, so from the standpoint of economy the test is satisfactory. But this is not all, they actually make it produce a revenue. The officials gather from the iron screen two barrelsful of matter daily. Thus they bury in a large field and on it they grow peppermint. This peppermint is taken to a distillery near by and turned into oil, the money from the sale of which helps to pay the running expenses. Still another test is that a large piece of meat if put into the beds is entirely eaten up in the course of a few hours. This natural method of sewage disposal is being closely watched in England, and large cities that have been thoroughly dissatisfied with sewage farms, precipitation systems and the like are making preparations to put in this system on a large scale. The inventor of this system is Dr. Dibden, a famous chemist of London, England.

For the first few days that the beds are used, there is little or no purification, but as soon as the bacteria find their lodging places they begin to work.

The people of Sutton are not allowed by the English law to issue debentures for these works, so they still have the system of precipitation in use, but the money they are saving by the bacteriological system they are using to extend it, so that in the course of another year they will have this system entirely. The trouble with a chemical system is that in process of time, by the action of natural gases, the chemicals themselves become dissolved and pass away, so that there has to be a constant renewal of the chemicals and a disturbance of the sewage.

Mr. F. A. Cambridge has been appointed electrician for the city of Winnipeg, Man.

THE RENFREW WATERWORKS SYSTEM.

The town of Renfrew, Ont., has recently completed a waterworks system, of which a brief description may prove interesting. The contract was let for \$51,874, and provided for laying 34,000 feet of water pipe and 19,000 feet of sewer pipe. The water pipe was to be laid to such a depth as to admit of 5½ feet of covering over the pipe. There are 52 valve chambers and 87 fire hydrants in the waterworks system, and the sewer system contains the necessary number of man-holes and lamp-holes—some 60 of each. A circular stand pipe, 80 feet high, and of a capacity of 157,000 gallons, is erected on Carswell's hill.

The power house is constructed at the north side of the Bonnechere river, from which source the water supply is obtained, and is over a mile distant from the stand pipes. The machinery consists of two boilers and engines of 100 horse power each, two magnificent pumps and a condenser and two filters, with a capacity of over 200,000 gallons in twenty-four hours.

From Smith's creek to Mr. Barnett's residence at the southern end of the town the distance is about 2,400 feet. There are about 1,100 feet of extensions of water pipe being laid this fall on some three or four of the streets. The cost of operating the water works system is about \$1,200 per annum, including salaries of engineer and inspector, fuel for power house, etc.

The Berlin, Ont., Water Works Company have made an offer of their personal property to the town for \$102,000, which has been accepted by the council.

On September 10th Mr. C. H. Topp, city engineer of Chatham, Ont., was married in the Church of the Redeemer, Toronto, to Miss Edith Mills, of Bracebridge, Ont.

Road rolling in Easton, Pa., has been done of late by a 12½ ton Harrisburg steam roller. City Engineer H. R. Fehr reports that it has proved particularly useful in picking up old roadbeds. The cost of operating is said to be 30 per cent. less than with the horse roller formerly employed, and more and better work is done. The cost of operating per day is \$6.245, which is itemized as follows: Engineer, \$3.428; watchman, \$0.50; hauling, \$0.162; oil and grease, \$0.30; coal, \$1.772; packing and waste, \$0.083.

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