

MUNICIPAL DEPARTMENT

THE VENTILATING AND FLUSHING OF SEWERS.

BY JOHN DRYCE, M. I. C. E., BURGH ENGINEER,
PARTICK.

(Continued from last week.)

My opinion, meantime, is that in wet weather the flow of water from the gutters will induce an inward current, but in dry weather this will not always prove true. As a matter of fact, I have had to remove a few of these untrapped gullies and replace them with properly trapped cess-pools. The adoption of factory chimneys as a means of ventilating sewers has been tried by some authorities with a certain measure of success. In places where actual observations have been made, the effect has been found to be entirely local, and not extending beyond a radius of 200 yards. Most engineers assert that the actual efficiency is doubtful, while the difficulties connected with securing privileges, and the unsatisfactory conditions of having an arrangement not absolutely under the control of the local authority, make the adoption of this method undesirable except, perhaps, in a special case where it would be impossible to adopt any other method. The suggestion by some that house chimneys should be utilized to carry away sewer gas is beset with so many risks and dangers that it is needless to remark anything on such a proposal.

A departure from natural methods to the employment of heat as an aid to ventilation, and as a means of destroying the noxious gases from sewers, was introduced in 1887, and is now known as "Keeling Holman's patent sewer gas exhauster and

destructor." Somewhat similar arrangements are in the market, known as "Webb's patent," and another as "Deakin's patent." Methods of this nature are very advantageous in places where columns can easily be erected, and where sewers are foul enough to make their erection necessary. Several are now erected in Glasgow and some of the larger towns in Scotland in connection with underground conveniences, and as substitutes for open gratings closed up, where large numbers of people pass in certain busy thoroughfares, and these, taken by themselves, have proved satisfactory. But the success of several lamp columns of this kind is no solution of the whole difficulty connected with sewer ventilation. It would rather tend to conceive a condition of things in the sewers which is injurious. The root of the evil is not effectually dealt with, but is merely glossed over by getting rid of the chief evidence of its existence. In fact, the more foul the condition of the sewer the more successful would be an apparatus of this kind, and it reminds one of an American's remarks on the usefulness of the Newfoundland dog, when he states that if you want to keep a Newfoundland dog and make it useful, you also require to keep a pond with children drowning in it. Time forbids me from making but a simple reference to the charcoal treatment and the "Caink" system, which, owing to the excessive care and attention necessary to keep the process in good working order, cannot be commended as practical methods worthy of adoption by any local authority. In fact, the former of these two systems is now practically abandoned.

A somewhat more effective method of treating sewer air with an admixture of chemicals has been introduced within recent years, and is termed the "Reeves" system. Existing manways are utilized, and a recess built into the side wall for the apparatus. Without going into a long description of the system, the apparatus consists of several vessels of chemicals

with perforated trays and discs, while a steady supply of water is introduced to set free the chemicals and produce the solution, which, overflowing and falling into the sewer underneath, has the double effect of deodorising the sewer air in the manway and disinfecting the sewage in the sewer. This system was introduced on the Water of Leith sewer in Edinburgh three years ago, and 50 manways were altered to receive the apparatus. The reports from Edinburgh and several places in England certainly indicate that the method is effective, and in conditions of emergency is to be recommended as an instantaneous means of removing a nuisance in sewers. In Edinburgh the system was adopted because of the very offensive smell from the open manways, largely created by the heavy percentage of trade refuse which entered the sewers from certain breweries and distilleries, and which is reported to have had as high a temperature as 135 deg. F. A serious objection, however, to this system, apart from the constant attention and opening of manways to renew the apparatus, is the cost of maintenance.

The capital cost to Edinburgh in altering the 50 manways and supplying the apparatus was £910, or about £18 per manway, while the cost of maintenance, taking everything into consideration, must be about £10 per manway per annum. The late Mr. Cooper, city engineer of Edinburgh, in his annual report for 1909, while admitting the effectiveness of the Reeves system on the Water of Leith sewer, pointed out that the chief objection to the more

(Continued on page 8.)

JOHN GALT, C.E. & E.

MEM. CAN. SOC. C.E. AND C.E.A., ETC., ETC.
(Late City Engineer of Ottawa and Chief Engineer
of the Water Works Dept.)

CONSULTING ENGINEER AND EXPERT
ROOM 21, ABERDEEN CHAMBERS,
Cor. Victoria and Adelaide Sts., TORONTO
Specialties—Water Supply and Sewerage.

W. G. McNeill Thompson CONSULTING ENGINEER

M. Inst. C. E. M. Can. Soc. C. E.
M. Am. Soc. C. E. E. P. E.
Examination of Works, Reports, Water Power
Development, Etc., Etc.
ST. CATHARINES, ONTARIO.

Town Lighting with Acetylene Gas

We make a Specialty of Acetylene Gas for lighting of Towns and Public Buildings. We have already installed a number of town lighting plants, which in every case have proved to be satisfactory, a few of them being Aurora, Bolton, Chesley, Milverton, Rodney, Schomberg, Severn, Thamesford, Ont., Warden, Man., Bath, Man., etc., etc.

For further particulars address . . .

The Acetylene Gas
Mfg. Co. Limited
LONDON - - ONT

PORTABLE . . Gravity Concrete Mixer

The CHEAPEST, SIMPLEST and BEST
Machine for mixing concrete ever invented.
High Grade Concrete at low cost.
E. F. DARTNELL, AGENT, 180 ST. JAMES ST., MONTREAL

The Canadian Portland Cement Company, Limited

Manufacture "RATHBUN'S STAR"
"BEAVER" "ENSIGN"
WORKS: Strathcona, Ont.; Marlbank, Ont. CAPACITY: 500,000 Barrels per Annum
For Prices, write, wire, phone or call on our Sales Agents:
THE RATHBUN COMPANY
310-312 Front Street West
TORONTO, ONT.
Telephone Main 4379.
St. Lawrence Portland Cement Co.
2664 Notre Dame Street, West
MONTREAL, QUE.
Telephone Main 3987.

PORTLAND CEMENT

Samson Brand Magnet Brand
MADE AT SHALLOW LAKE, ONTARIO.
The Canadian Portland Cement Company has been before the public for many years, and has made hosts of friends among Contractors and Municipal Corporations until it has become one of the leading Cements on the market to-day, being excelled by none. This year we have decided to place the "MAGNET" on the market, and respectfully ask consumers to give it a trial. It will, we think, do its own advertising.
Correspondence invited.
GEO. S. KILBOURN, Secretary-Treasurer.
WORKS: Shallow Lake, Ont. HEAD OFFICE: Owen Sound, Ont.