

MUNICIPAL DEPARTMENT

A PLEA FOR GOOD DRAINAGE.*

By HENRY CARRE, M.E.

Thousands of dollars have been spent in the Old Country as well as in the New World in experimenting on sanitary matters. The best chemists have turned their attention to the question of "sewage disposal," and engineers have done their best to design the most perfect system of drainage. "Systems" have been designed to suit almost every case. We have the now well known "combined" and "separate" systems with their perfectly laid brick sewers and salt-glazed pipes, forming a perfect underground net-work of pipes, the size of each portion accurately calculated to convey the estimated amount.

Volumes have been written showing the danger we run from the want of due care in removing at once the refuse which is collected around our dwellings. 'Tis not sufficient that we are notified once or twice a year to clean our back yards, for it is a well-known fact that three or four days are sufficient to produce putrefaction, and therefore that it requires daily care to remove everything that may become noxious, from around our houses. The danger is increasing from year to year, never decreasing, until the proper course is adopted and each one is not only enabled, but compelled, to keep clean. Should we not then take lesson from the experience of others and not wait until the plague comes before applying the remedy—"a stitch in time saves nine."

The general excuse for not doing so is poverty and hard times. "We cannot afford the cost." "Why, the engineer tells us it will cost \$200,000 for a complete system of sewerage for the city, how could we stand that? We are overtaxed as it is."

Now let us look into this frightful bug-bear; 'tis the best way, I think, in every case to look every trouble square in the face. Take out your pencil and find a small bit of paper, an old envelope will do; now then set down the frontage of your lot—60 feet you say. Well, a nine inch tile pipe costs on an average \$1 per foot, including manholes and flushtanks. Sixty feet at \$1 a foot is \$60, but as your opposite neighbor has to pay one-half of this, your share is then only \$30, which can be arranged to be paid off gradually in a number of years.

Now, compare this with your water tax, for instance, which will soon be universal, and may rise. Here in our city of Belleville we pay \$6 a year for every tap in our house or lawn (and it is well worth the money), that is \$30 in five years, \$60 in ten years, and so on with compound interest, doubling and tripling itself.

* Abstract of paper read at the tenth annual meeting of Executive Health Officers of Ontario.

Now you see that five years of water tax on one tap, would pay your sewerage tax in toto—no more to pay, though the benefit still goes on. 'Tis like a paid up insurance policy, and even better, for it goes on after you are dead and gone and your property also rises in value from the day the sewer is built.

There is, however, another point which we must not forget, and that is this, a nine inch pipe is not sufficient in all sections of the city. As we approach the outlet the volume of sewage increases. Intercepting sewers must be provided along certain streets, and an expensive outlet sewer must be put in. How is this to be paid for? Are those living on the street where an 18 inch pipe has to be laid, to pay the full price, on the same principle as the street with a nine inch pipe? To this we say certainly not. It would not be fair to do so. The enlarged pipe is necessary for the common good, and the excess of cost should be paid out of the public treasury, and included in the municipal tax, each one bearing his share, so that those living on a street where a main or intercepting sewer has been laid would only pay for the cost of laying a nine inch tile, as on any other street, and their due proportion of the outlet and main sewers when divided among all the tax payers. It might be a good idea, in this age of business, to offer a bonus to the street that first built a sewer, as an inducement to get the thing started.

If then, I say, we look at the comforts which without sewerage we cannot have, such as bath-rooms and W. C.'s in our houses, as well as the decrease in the death rate, which has been clearly proved to be consequent on the adoption of sewerage, and compare the cost of all this with what we have to pay for other necessary things, there is little doubt but that every sensible man will vote for sewerage every day and twice on Sundays. But above all things if you do decide on a system of sewerage let us copy the ancients and let it be well done. Let there be no bad work—see that the pipes are laid true to a regular grade, so that the water entering the sewer at any point, will never rest till it reaches the outlet, no matter how far away, and thus avoid the danger of turning portions of your sewers into long cess-pools; because a danger is hidden and out of sight, it does not lose its sting, but like a coward it stabs you in the dark and it attacks the weak and delicate first.

For the sake then, of our wives and children and our aged parents, let us have sewerage.

SANITARY PLUMBING.

The papers read before the recent Sanitary Congress in Liverpool, and the discussions these elicited, again bring the dangers to health and life through the spread of infection by sewers to public attention. There can remain no doubt in the minds of intelligent and well-informed men that to avoid such dangers the whole system of house drainage should be constructed from beginning to end in accordance with the most advanced principles and methods of sanitary plumb-

ing and sewer construction. People with small means hesitate when sanitary plumbing is named, because, in the popular mind, this term is thought to mean also expensive plumbing. The newspapers describe the gorgeous appliances and fittings going into some millionaire's houses in glowing language, and speak of this sort of thing as sanitary plumbing; and the man of small means gets the idea that sanitation is an accompaniment of splendid living only possible to the wealthy. This is a great mistake. Sanitary plumbing means nothing more than plain plumbing done on sound principles, the practical application of which need cost very little more, either in material or labor, than a defective job. It will cost the plumber who does it something more than the common inferior sort of plumbing. It will demand more brains, knowledge and skill.

The leading plumbers in this country have acquired leading knowledge and skill, and are prepared to do their work as perfectly as the present state of art will permit; and if fancy work be not demanded, will do it in sanitary respects as well for the man of limited as it can be done for a millionaire. — Engineering Magazine.

WATER PIPES AND LIGHTNING.

M. A. Houdry, in a recent issue of the *Génie Civil*, described a curious case of damage to water pipes, caused by lightning. On October 9th it was found that the water supply of a suburb of Havre was cut off, although the pressure at the distributing point should have been 36 to 44 lbs. per square inch. It was evident that a leak or a stoppage had taken place. Tests showed that it was a leak. The mains were examined, and it was found that a number of lengths of pipe were split. On looking into the matter more closely the pipe was found completely perforated at a spot where the root of a tree was just touching it. Now, on October 9th this very tree had been struck by lightning, and from the point of puncture for a distance of 80 metres almost every length of pipe was split longitudinally. M. Houdry thinks it worth while to call attention to this curious instance, with a view of warning those who are entrusted with the laying of water pipes to keep as far away as possible from trees, not only on account of the damage that may mechanically be done to the pipes by their roots, but on account of the damage that may be done by lightning.

THE ABSORPTION TEST.

Cincinnati will abandon the absorption test in fixing the value of paving brick. Several years ago a considerable area was paved with brick known to absorb a large per cent. of water. As this area has withstood traffic and the weather in a very satisfactory manner, the test is believed to be of no value; and the city hereafter will buy any brick that has stood the test of wear on the streets.

Mr. H. F. Switzer, town clerk of Midland, Ont., is dead.