MUNICIPAL DEPARTMENT

SEWAGE DISPOSAL.

The following remarks on sewage disposal are taken from an address by Mr. Francis J. C. May, M.I.C.E., delivered at a conference of Municipal and County Engineers, Newcastle:

This I consider one of the most difficult problems of the present day, notwithstanding all the experiments and experience gained during the last 25 years. It is one which every engineer, or surveyor of a local authority, has, in some measure or other, to deal with. It is therefore incumbent upon us all to take advantage of every opportunity for educating ourselves on this subject, on all its several bearings and details. It is a subject which permits of no universal method of treatment. It is governed almost entirely by local circumstances, relating to the nature of the soil and subsoil, the position of the locality and the surroundings, the nature of the trade and the habits of the community, among other circumstances too numerous to mention. Local authorities of towns on the borders of our seas or rivers avail themselves largely of the facilities for discharging their sewers into the waters, some in its crude condition, others more or less treated by mechanical or chemical methods to remove the solids and to purify the effluent. Other authorities of towns or villages not so fortunately situated are dependent solely upon those methods which have been devised for disposing of both solid and liquid sewage on the land, mostly in connection with the water-carriage system. The first method I consider a barbarous, although cheap method of disposal. I am not inclined to find much fault with local authorities for adopting it, as I consider it is the most sensible way of dealing with the sewage, where it can be done without harm to others, under the present unsatisfactory state of the question. I do, however, think it is incumbent upon all engineers concerned with this subject to endeavor to devise some more satisfactory method of disposal. I am strongly of opinion that our attention should be given, as much as possible, to devise some means whereby all fœcal matter, urine, etc., may be returned to the land in its natural condition, to fertilise it, and to repay with interest that which has been taken from it. This cannot be done so long as we rely almost wholly on the water-carriage system. A system which, while it affords the readiest means of removal of our filth, also destroys all its great manurial value, and is, in my opinion, a sinful waste of the products of nature. I think that the combined efforts of the scientific chemists and engineers are required, the one to render such matter in the dwelling at once innocuous and inodorous, the other to devise some ready means for its discharge therefrom into suitable receptacles, which may be removed daily and conveyed direct to the land, without in any way creating a nuisance. I think that pneumatic or electric power should in future be so easily manipulated as to enable future engineers to accomplish this purpose. Seeing what a valuable commodity water is, how difficult and expensive it is to obtain a plentiful supply at the present time, and how the absolutely necessary consumption must largely increase with the present growth of our population, the time, in my opinion, is not far distant when the large consumption of pure and clean water now expended on the water-carriage method of removal of sewage will be considered a wilful waste, and public opinion will demand from engineers that some more scientific and rational method shall be devised by them. As one having had experience of both the first and second methods, I am able to say, from my own experience, with reference to the second method, that, in my opinion, there has not yet been devised a wholly satisfactory system for the application of sewage to the land in such a condition as to obtain the fullest beneficial results from this waste product of animal life. It is not my intention to make distinctions between the several methods that are in vogue, or to advocate one system in preference to another, but I wish only to remark that, in my opinion, the great cause of failure in each case is the increase of volume and the loss of value consequent upon the dilution effected by the water-carriage system. I therefore feel convinced that a great revolution of opinion and practice will eventually arise, and that future generations will be astonished at our insane waste of the valuable products of animal life, so necessary for the reproduction of vegetable life; and at our ignorance in using such a valuable necessity of life as pure water, to enable us easily to effect that waste. I regard this question as one of the most important that should engage the attention of engineers and local authorities entrusted with the health, wealth and prosperity of the whole community. It is one well worthy of the best labors and intellect and both chemists and engineers in the interest of public health, and as one which will bring to them its own reward in increased and increasing opportunities for work and practice.

NOVEL INSURANCE SCHEME.

The corporation of the city of Glasgow hove adopted a somewhat novel scheme of fire insurance; the purpose or object of it is to secure artizans indemnity against loss by fire in their dwellings. The proposed scheme, which is virtually industrial fire insurance, says the Insurance Post, will take the form of taxation, tenants whose rents are under £10 per annum only being dealt with. The proposed tax will not exceed 1d in the £, *that is to say, a tenant paying an annual* rent of £6 would be taxed to the extent of 6d. The rate of compensation will be in proportion, a maximum limit of £50 being observed; in other words, the amount of damage recoverable being fixed at the rate of £5 for every £1 of rent. While the plan seems a reasonable one, no doubt there will be found difficulties in working it. A large number of collectors and appraisers will be indispensible, the loss of adjustments of this class of the community being, as a rule, remarkably difficult to deal with. If, however, the Glasgow corporation, which has always shown a great amount of sagacity, can work their industrial fire insurance at a profit, the system will soon be adopted by other large municipalities.

LAYING ASPHALT GUTTER STRIPS.

The work of laying asphalt strips along the gutters of granite-paved streets in New York City for the convenience of bicyclists, and to aid the Street-Cleaning Department in keeping the gutters clean, is now in progress on Hudson street, which connects the asphalt pavement on Eighth avenue with the asphalt pavements in the lower business portion of the city. The granite blocks are removed from 4-foot strips adjoining each curb, and enough of the square stones laid flat on their sides to cover the old sand foundation and form a base for the asphalt without incurring expense for concrete. The vertical space gained by turning the blocks on their sides gives room for the binding course and asphalt, bringing it flush with the remainder of the pavement. At the cross-streets the strip is widened out and carried back to the building line to take in the crosswalks. The old stone crosswalks have been in poor condition for some time and this was found to be the cheapest way of repairing them. A liquid coating along the lower edge of the strip to protect it from water completes the work.

QUEER PAVEMENTS.—In Liverpool and Manchester, England, developments have been in progress in the manufacture of paving slabs from the residue falling from the grate bars of the city refuse destructors. After the clinkers are crushed and molded into shape the slabs are worked under hydraulic pressure, and in one instance, at least, have been laid and doing very satisfactory service for two or three years.

WATER MAIN BROKEN BY LIGHTNING.—A curious freak of lightning is reported from East Gloucester, Mass., by superintendent of water works John W. Moran. During a thunder shower there on September 6th lightning struck the water main on Mount Pleasant avenue and broke it in nine places in a distance of 2,000 feet. These breaks were all that were evident after the storm, but a fuller examination will be necessary to ascertain the exact extent of the damage.

The amount of granolithic sidewalk *now fronting the business places and* homes of citizens of Blenheim, Ont., is over 64,000 square feet. The cost has been over $8,000, to be paid in twenty annual payments.