MUNICIPAL DEPARTMENT

THE USE AND MISUSE OF WATER.*

(Concluded.)

STOP-TAPS.

The insertion of a stop-tap on each service should be looked upon as sine qua non. It will facilitate the detection of waste or leaky fittings, and prevent the emptying of mains, so common in some towns, to enable repairs to be effected. The general use of stop-tops pre-supposes that an effective system of inspection is in operation, so as to prevent light lead pipe and indifferent fittings being used. If there is no such control it would be better for the corporation or company to do the repairs themselves. The waterworks engineer manages his works as well for a company as for a corporation, but I suppose there will be a consensus of opinion that the supply of such an essential as pure water should be in the hands of the local authority. It is a question as to whether the water and sanitary arrangements of the household should be under the immediate control and actually maintained by the local authority, first on the score of public health, and next in order to secure efficiency and economy in those works in which the general community has a direct interest.

The competition amongst plumbers and the desire of householders to get the work done cheaply leads to the use of much inferior material and bad workmanship, and this often means disease and deteriorated health, if not death. Under the Public Health Acts the local authority exercises certain powers in regard to house drainage, and there is a limited control over the lengths of lead pipes, taps, &c.; but from an engineering or sanitarian point of view, the control does not go far enough, and, as a matter of fact, a house may be built in any large town in this country and the sanitary arrangements pass the usual inspection, yet upon examination a terrible state of things might exist The author does not wish to undervalue the great progress being made, but he speaks from an intimate acquaintance with this particular branch of work and from dozens of cases which have come to his knowledge during the last ten years or so. Is it desirable to repair waterworks fittings at actual cost price? Many authorities wash their taps free, and no doubt it pays to do so. Should winter bursts be repaired at cost price?

UNIVERSAL USE OF METERS.

It has been suggested that every house should be supplied by meter, but this would involve a capital outlay of several million sterling, besides a good round sum yearly for maintenance. The author does not believe in a metered system. The very poor require to be taught to use, not to stint, the water. If we are to secure a healthy community its individuals must be kept healthy, and to be healthy one must be kept clean. There are disease centres in every town, and we need to cleanse them. A man may live in a mansion fitted up to sanitary perfection, but unless his neighbor in the slums is helped to a clean, healthy home, and taught the common laws of health, the mansion and its inmates will sooner or later suffer. Isolation is a splendid thing to stop the spread of disease, but we want, if possible, to prevent the very origination or the development of the germ of disease itself. The waterworks engineer can do much in this way, and is doing much now. If water had to be paid for by meter instead of by a rate, we should get people going without their bath to save the money. Money making is a disease with certain individuals, and there are hundreds of people who put up with a most insanitary appliance rather than pay the water rate for a proper w.c.

The public health is a matter left in the hands of the local authorities, and, in populous centres at least, the immediate removal of decomposing matters is a necessity, and can only be accomplished by an efficient water-carriage system. The water-rate, therefore, should be such as will include the water for a w.c. or two according to rental. In many towns a charge of 10s. a year for every w.c. is made. There is no blame to the water companies, but the local authorities of such towns are to blame if they do not arrange with the water company for the supply, and, if necessary, pay for the water to the w.c.'s. Where the pail or pan system is in operation the local authority has to remove the contents, and therefore it is a reasonable request on the part of a ratepayer to be supplied with water for sanitary purposes at the lowest possible figure. Although one is not in favor of meters, it is to be regretted that some people are able to deliberately waste water without being made to pay for it. Paying seems to be the only object lesson in economy with certain individuals.

* A paper by R E W Berrington, C E, F G S (Wolverampton) read at the Nottingham Meeting of the British Association of Water Engineers

COMBINATION OF BRICK PAVEMENT AND MACADAM ROAD.

Engineers are generally well aware that a macadam road is the most expensive road to maintain that can be built when the traffic is at all heavy unless it has a top finish of crushed granite. The Engineering News places the cost of a 16 foot macadam road with telford bottom at about $5,000 per mile. Roads which cost such a sum are out of the question in purely agricultural districts.

In Monmouth, Ill., a combination of brick pavement and macadam is being tried which appears to have considerable merit. The Monmouth Daily Review says. "The ground was prepared for it by grading and being allowed to stand for two months. It was treated to an occasional scraping so that it would pack evenly, and when the contractors were ready to lay brick it was as hard and even as a floor. The first thing was setting the curbing. This was made of 2×6 in. oak plank set 7 feet apart and held by oak stakes 18 in. long and put down every four feet. Inside this was put a 5 in. bed of sand. This was evened up and the single course of No. 1 paving brick made by the Galesburg Paving Brick Co. was put down. They were set on edge and made a fine roadbed. Outside the curb 2 feet of the crushed rock was laid, grading it up to make an easy approach. This makes a road 11 feet wide and the finest in the land. The earth road on each side was graded and worked, making it in all 40 feet wide and affording tracks on each side for use in dry weather."

Three thousand feet of this road have been built at a cost of 88.3 cents per running foot, which is very little greater than the first cost of a macadam road of the same width. The life of such a road would probably be several times greater than that of the best macadam, since the heavy traffic would follow the brick roadway almost exclusively.

In locations where brick is quite expensive, instead of laying a roadway entirely of brick, two strips from 16 to 20 inches in width are laid so that vehicles could follow them as they would follow a line of rails. This arrangement would also afford two excellent paths for bicyclists and ought to gain the support of that important body of agitators for road improvement.

There can be no doubt that if the proper steps were taken such roads could be built all over the United States in a few years, at a very low cost, by employing the criminals and paupers of our cities, counties and states. It is a kind of work that would bring that class as little as possible into competition with other labor and should long since have been adopted as a means of relieving the tax payer of the cost of their maintenance. Where suitable clay could be found they might also be employed in manufacturing the paving brick.

THE WINDSOR WATERWORKS CASE.

The action for an injunction brought by certain citizens of Windsor to prevent the water commissioners of that city from spending $20,000 in making improvements to their waterworks, on the ground that the city had already expended nearly the statutory limit on the waterworks, and that in order to make these improvements they will have to draw on the water rates of the city, which it was claimed they had no right to do, was dismissed at Toronto by Mr. Justice Meredith, who dissolved the injunction at present in force. The action has been abandoned by the citizens, who instituted it. The point raised was of much importance to all the towns and cities of the province.

The city of Victoria, B. C., has 66,361 feet of sewers, or over twelve and a half miles.