

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.

WASTE OF WATER.

The practically unlimited supplies of water available for public use have led to great indifference about the enormous quantities of it which are wasted wherever waterworks are in operation, says the Insurance & Finance Chronicle. The cost of water to consumers is enhanced by this waste, but a more serious effect of it is to lower water pressure which, when a fire occurs, leads to inefficiency on the part of fire brigades and to heavy losses by property owners and insurance companies. Sir Frederic Bramwell—who is admittedly the greatest hydraulic engineer of the age—made a special study of water waste, and read a report of his observation about three years ago to the British Association of Civil Engineers. While engaged in this study he visited Canada, and as the result of his examination of the water supply of one of our largest cities he declared that the waste was enormous, and the working expenses 50 per cent. too large for the work done. To Liverpool, if we remember rightly, is due the credit of first adopting a system of street inspection through the night, by which any waste going on in mains or private service pipes can be detected and located. In that city the water consumption should be above the average from its liberal supply to public fountains, the purposes of sanitation, and the large private demand for houses, etc. Yet the consumption is only about 23 Imperial gallons per head daily, which is less than one-third of what is consumed legitimately and by waste in many cities. In Liverpool the consumption is allotted thus: 5 gallons per head daily for trade purposes; 3 gallons for fountains, street watering, sewer flushing, etc.; and 15 gallons for houses, hotels, offices, stores, etc., including all waste, making a total of 23 gallons per head daily. Sir Frederic Bramwell constructed a diagram which shows that 75 per cent. of water supplies run to waste. This diagram gives the consumption for each hour of the 24. From midnight to 6 a.m., and from 9 p.m. to midnight, the consumption

is shown to be very large, the maximum is reached at noon, and this keeps up, with small fluctuations, until 6 p.m. Yet, with all the demand for water during the day, for morning and evening baths, for washing, cooking, etc., the consumption generally is shown by Sir Frederic to be not double of what it is in the hours when the population as a whole are asleep! In one section of London, the efforts of a waterworks engineer resulted in reducing the consumption of water over 60 per cent., thus saving a waste of 2 millions of gallons daily. In some cities in the States it is known that the average daily supply per head is three times what can possibly be legitimately used. Philadelphia in 1890 had a consumption of 131 gallons per head daily, which is at least 100 gallons per head daily in excess of what could possibly be legitimately used. Yet complaints have been loud and deep that the supply of water in Philadelphia is defective, the mains too small, and the whole service inadequate for such a city! The normal consumption of water required for all purposes by cities of various classes, such as those purely residential, and those having factories, workrooms, and so on, ranges from 20 to 23 Imperial gallons per head per day. Mr. Deacon, in Harper's Weekly, presses upon the citizens of Brooklyn the urgency of stopping the waste in that city. There are many places in Canada where the above facts might be considered, and acted upon with considerable advantage.

MOSAIC SIDEWALKS IN BOHEMIA.

Since about 1860 the sidewalks of Prague and of other cities of Bohemia have been made in a mosaic of light and dark limestone cubes, which are considered of pleasing appearance. This industry flourished most about fifteen years ago. Then the competition of artificial stones and chamottes made itself strongly felt. But in the quaint, picturesque capital of Bohemia, the mosaic pavement is still in favor. The origin of this custom is curious. During the forties, water pipes were made of red Slavonetz marble, bored; the pipes did not answer, and a mason, Zák, is said to have hit upon the happy thought of utilizing the stone pipes in the manner mentioned. For some time afterwards limestone was actually brought to Prague, there to be converted into mosaic. It is rather curious, too, that Dr. F. Katzer, who directs attention to this in-

dustry, is chief of the Museo Paraense in Brazil. His articles in the "Oesterr. Zeitschrift für Berg- und Huttenwesen" have, however, a more practical than artistic interest. He deals with the matter from the lithochreological standpoint; that is, he examines the hardness and firmness of the stones, their wear under friction and under blows, etc. There is too little done in this respect, and too little agreement concerning the methods of testing paving and other materials.

ELECTRICAL WATER METER.

There has been so much complaint of theft of water from the mains of the city of Chicago that, at the request of Mr. McGann, commissioner of public works, Alexander Prussing has devised an electrical recording water meter intended to defeat the schemes of the dishonest. By the new method the dials register in the city hall and not on the individual meters. The clockwork, actuated by the passage of the water consumed through the service pipe, is removed and replaced by a simple pin, which moves with every revolution of the water wheel or every stroke of the piston and makes and breaks an electrical contact, thus registering with unflinching accuracy on the dial in the water office. An attempt to interfere with the operation of the device by short-circuiting would instantly give an alarm in the water office by causing a bell to ring and an indicator to record the number of the meter being operated upon. The same bell alarm system is used to prevent the meter from being opened, the removal of the cover infallibly breaking the circuit and setting the bell going.

The cost of installing this system would be great, but the inventor seems confident that it would pay.

RESERVOIR-WALL CLEANING APPARATUS.

According to a description and illustrations in the London Engineer, an apparatus designed by the Superintendent of the Eastbourne Waterworks has been in use several years for cleaning the vegetable growths from reservoir walls and sides without the use of scaffolding and at half the usual cost. A rolling platform is made to travel around the coping, which it overhangs 2 or 3 feet to support a windlass and light frame or ways that extends down to the bottom of the reservoir. In these ways a cylindrical wire brush, with horizontal axis parallel to the reservoir wall surface, is moved from top to bottom by differential hoists by which it is suspended and is simultaneously revolved against the surface to be cleaned by means of sprocket chain connection with the two-man windlass or crank on the travelling platform above. For reservoirs with sloping banks the vertical ways are dispensed with, and the brush is handled by the chain connections alone.

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