

MUNICIPAL DEPARTMENT

WATER METERS.

It is interesting to note the change in engineering thought and opinion that has taken place during the past twelve years on the question of suppressing the waste of water by the use of water meters, says Fire and Water. Time was when engineers of prominence opposed the use of meters on the ground of their possible interfering with sanitation, which, to say the least, justified the encouragement of waste of water by careless administration of local conditions of distribution. These men, however, are now the advocates of meters for use in checking that very waste of water. The educational influence of the use of a water meter has developed practical, common sense views as to what may reasonably be considered a fair per capita daily consumption of water. On this subject there is quite a diversity of opinion—one of which involves the idea of maximum and minimum rates. Chief Trautwine, of the water bureau of Philadelphia, evidently bases his views on the question upon a range of figures of daily consumption, which should be liberal and lavish at whatever cost to the city. He does not believe that restrictive measures should be adopted that would hinder the lavish use of water. On the contrary, he says it is "far better to have a gallon wasted than to discourage the proper use of a pint." He takes the position that "meters should not be applied to dwellings, except where waste of water is found to be going on"; "only water wasted should be charged by meter, not the water used." Now, the determination of the factor of waste is of variable character. Water is about the cheapest commodity sold, and it would seem that Mr. Trautwine feels that Philadelphia can afford to be liberal in the matter of establishing the limit or degree of waste and what shall be charged as waste. A figure of rates based upon an assumed amount of water allowed, liberal in quantity, for legitimate use, is likely to ensue in first-class cities, and all above that amount may be considered as strictly wasted. In order to reach this determination, the meter appears to be the only means of attaining a satisfactory and definite conclusion. The remaining feature of the problem would appear in what may be determined an upset price for the use of a reasonable and liberal given amount of water, determined by meter measurement, in consideration of a price paid for the privilege. In cities where all water is pumped, the disposition will set arbitrarily in the direction of greater cost and charge for use and waste of water than if it were obtained exclusively by a gravity system of a natural order. Pumping and storing water is more expensive than simply gathering and im-

pounding and distributing it by natural gravity conditions. The question of filtration is a serious one, and, if it is one of necessity, heroic measures may be adopted to prevent waste of filtered water. It may safely be asserted that no city can afford to waste filtered water without incurring an abnormally large yearly deficit, as well as falsely educating water consumers up to the idea that they may waste water without regard to the consequences attendant upon such a course. Our river and lake cities which depend upon such sources for their supply of water have been taught to believe that, inasmuch as rivers and lakes are practically inexhaustible, they can waste water as they please. Philadelphia, Chicago, and Buffalo are notable examples of this. Their pumping expenses are practically twice as great as they ought to be, simply because more than one-half of the water pumped is wasted. Nothing short of a complete well-ordered metered system, therefore, will save them from financial bankruptcy; and, indeed, there is nothing so beneficial in its influence upon the water taker as the fact that a water meter, outside of its mechanical action, is a most potent educator in the direction of stopping waste of water.

SEWER VENTILATION.

The City Engineer of Bristol has contributed the results of his researches regarding sewer ventilation summed up in an opinion that, if the drains from houses are disconnected from the sewer by intercepting traps, no emanations from the sewer can reach the house-drains unless the trap is ineffective, and if the house-drains are ventilated (presumably by having the vertical pipes open above the roof) any sewer gas going through the trap passes away through the ventilating shafts of the houses. Where sewers are properly constructed, with rapid falls, the sewage is not retained sufficiently long for decomposition to set in and no sewer gas is evolved. The question of sewer ventilation, he added, is a vexed one subject to much difference of opinion, but he does not consider that the effect produced in those places that have adopted some means of ventilation for their main sewers is sufficient to warrant interference with a system which works in a satisfactory manner. Many persons who talk of sewer ventilation do not consider that it

means, if properly carried out, thousands of openings direct from the sewer on to the surface of the streets, with other vents carried up houses, trees, or specially designed posts at the sides of the footpath, discharging their gases at the level of the bedroom windows. For every complaint made of smells from a street gully, there would be one hundred smells from the ventilators, and the state of things would be worse for the public health. The inference from this is, that ventilation of the sewers is desirable; that this ventilation through the medium of the vertical lines in house system must not be tolerated; but, where the accumulation of sewer gas forces the seal of the main drain or "intercepting trap," no harm can come of it, as the escaping or invading sewer gas is carried away above the roof, through the open pipe. What, then, is the use of the trap on the house-drain, if it does not "intercept" the sewer gas, and why have it there if no harm accrues from the fact of the sewer gas entering the house system and passing away above the roof?

An artificial stone has been invented that is a non-conductor of heat, cold, and noise. It is especially intended for roofs and floors, says an exchange. The fact that a floor can be laid in a flat that will prove a non-conductor of sound should certainly fall like a benediction on the ears of those who dwell in apartments and have been made the unwilling participants of all the sorrows and joys of their near neighbors. The so-called stone is made of purified paper pulp mixed with various other ingredients to harden it. Papyristile is the name of this thrice welcome invention, and Fr. Gehre, a civil engineer of Zurich, is the blessed inventor. The preparation is as hard as stone, but much lighter in weight. It is noiseless and inexpensive.

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The death is announced of Mr. A. D. Williams, town clerk of Uxbridge, Ont. For the past forty years he had been closely identified with the municipal and business interests of the town, being the first and only clerk the corporation ever had. The cause of his death was an attack of apoplexy.

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