I think a better designed post would add materially to the appearance of the streets, and that the improved appearance would be well worth the small extra cost.

Valves.—Like other waterworks goods, valves are made good and bad, light and heavy. It is always poor policy to buy these goods solely because they are cheap. Hardly any of our systems have enough gate valves, and in most towns, too, one can find both right and left-hand valves, valves with babbitt seats, and others with composition seats. As in the case with other parts of the water system, they are liable at times to get rough handling, and they must be heavy to withstand the rough usage; in particular the valve spindle and packing nuts should be heavy and the composition valve seats perfectly true, and preferably screwed in.

Valve boxes for main valves should be good and strong, and the cover in particular should be heavy, and at the same time capable of being easily removed.

Services.—In nothing, perhaps, is there more difference of opinion than with regard to the material to be used for services. Galvanized iron services are, perhaps, the most common in use, and in the writer's opinion they are the poorest of any, the only quality which recommends them is the extremely low first cost, a quality which seems to appeal unfailingly to the average councilman. The average life of a ¾-inch galvanized pipe is about twelve years, and after that length of time in use they will be found practically filled with rust and mud. The weak points are, of course, the ends where pipes are joined, as there is no protective coating at these places to prevent the water attacking the iron.

The writer's preference is for heavy lead service, as this kind has good lasting qualities and gives good satisfaction wherever used. Unfortunately, lead service cannot be used in all places, as some waters attack the lead, and thus render their use dangerous. However, it does not often happen that a water of this kind is used for domestic consumption, and in case of any suspicion an analysis of the water by a capable chemist will determine beyond doubt whether lead services can safely be used or not.

Various other services are sometimes used, such as cement-lined, lead-lined, block tin-lined, enamelled, etc., all of which have their special advocate, but the average superintendent would do well to satisfy himself thoroughly before adopting any kind of patented service pipe for general use.

Cocks should be used both at the main and the sidewalk, and this is often not done, one cock either at the main or the sidewalk being made to do duty for both. However, I think the advantage gained in case of accident to the service in having a cock next the main will well repay any town for the extra expenditure, and the convenience of having a cock in the sidewalk will be appreciated by any superintendent who has much turning off and on to do. The cocks should be of heavy pattern and good finish.

Service boxes should be fitted tight to the cocks so as to prevent mud entering the box and filling over the top of the cock. A simple telescope pattern is best, and the top should be fitted with a neat and strong cap, held on by a brass bolt

General.—Water pipes can be laid on as crooked a cowpath as ever existed, provided the supply of short pipe and sleeves is ample. It is bad practice nevertheless, for it is hard to keep any record of such pipes, and nothing is more exasperating than to lose track of the location of any part of the system of pipes.

Not enough attention is paid to the location of distribution mains in the streets. They should be a uniform definite distance from the boundary of the street, and the walves should be installed in some position capable of being easily found.

Where at all possible, water pipes should be laid to grade. By doing this, air pockets are avoided and the flow in the pipe is better. This applies to the distribution pipes as well as the main pipe line. As a usual thing not enough air cocks are used; every summit should be fitted with an air vent, and they should be automatic in their action. Enough blow-off pipes should be installed to completely empty the pipe lines, and in the distribution system it is a decided advantage to have blow-off branches placed so as to scour the pipes and clean out all mud and sediment thoroughly.

Maintenance.—Records.—I have before spoken of the necessity of laying all water mains on definite lines, so that their location may be known exactly. It is even of more importance that the location of all valves should be known beyond a shadow of a doubt, as they may be wanted in a hurry, and it is most exasperating to require to use a valve and find that its location is uncertain. This, of course, applies to all cocks on service, and, in fact, to any part of the system which is underground.

When a water system is first installed it seems a simple matter to keep a record in a blank book of each valve and fixture as it is installed, but after a time, when the number of services increases, this method is apt to become cumbersom, and soon the book becomes intelligible only to the one who made it. Now, I do not want to reflect at all on the correctness of the records, for I know full well that all good superintendents take a pride in having as accurate information regarding their system as can be obtained, but I do think that each town should have records that can be readily understood by any person, whether he is very familiar or not with the system. There are several methods of keeping records that are good, but the writer's preference is for the card system, in that it is, perhaps, more flexible than any other, and permits of the records being arranged in any one half dozen ways. As regards the records of service branches, there would be a card for each premises connected, and on it a diagram showing the relative position of the water main and the building, with measurements taken to locate the cocks. It is most convenient generally to file these cards by "streets," and when arranged in this way it takes but a moment to find any card required. These card records should be kept in the vault, where they cannot be lost by fire, and as each service is added the superintendent has only to make out the proper card and put it in its proper place in the box. Thus a duplicate set of records is really kept, for the superintendent has his book of notes, taken on the ground, and besides there is a complete record filed in a safe place, which are intelligible to anyone looking them up. Records of main valves can be kept in much the same way.

Water Charges.—In writing this paper I have no intention of discussing the means of raising revenue, and yet, perhaps, it can well be given a passing notice. Of course, it cannot be expected that all towns can have the same water rates, since the charges must be dependent in large measure on the cost of installation of the system, and also on the cost of maintenance. It is apparent that a town which has to go many miles for its water supply must charge more to its citizens than another town which has a supply almost within its limits, and also a place which gets its water by gravity can afford to charge less than any other town which is compelled to pump its supply, and consequently has large maintenance charges.

One can find flaws in any method of assessing all kinds of rates and taxes, but a person who studies the water rates of the Nova Scotia towns must be struck with the great variance of the charges and the ingenuity displayed in trying to overcome the defects of flat rates. The majority of the Nova Scotia towns make a fixed schedule of prices for all classes of buildings, without regard to the quantity of water consumed; others, again, base the rates on the assessment of the property and add a schedule for extra fixtures, while still another group try to overcome some defects in the first two methods by making a sliding scale of charges, dependent on the number of rooms and the number of inmates. Again, some places assess a fire rate, while the majority do not do so. Since the first result of installation of a water system anywhere is to reduce the fire insurance premiums, it would seem only fair to charge a fire rate on all properties on streets in which water mains are laid, thus reducing considerably the amount to be charged for water