

water-shafts are stopped with snow. However this may be, it is quite clear that all movement of gas in the ventilating drain pipes of these parts of Montreal must cease, and the plan, so far as ventilation is concerned, remain inoperative as long as highwater lasts.

I think I have cited illustrations enough to show that, while this plan will operate successfully in many, or even in most cases where the conditions necessary for success can be complied with, yet the universal adoption of it might, nevertheless, for the reasons just given, prove the principal cause of its failure.

Of the conditions requisite for success when the locality and circumstances are favorable, I wish to say a word. One of the most important of these, is the proper arrangement and best means of constructing and supporting this conducting pipe, which has to perform the several services of water conductor, sewer ventilator, and ventilated house drain. It must be obvious, therefore, that the greatest care is required, not only to prevent any settlement of the pipe itself, but also to prevent its continuity and tightness from being deranged by any settlement of the building in which it is placed, for while there may be cases such as those described by Professor Godfrey, at the last meeting, where the up-draught of sewer-air through the drain pipe will be so strong as to render traps unnecessary, for the same reason a few holes or imperfect joints in the pipe would, in such cases, be of no importance, but rather beneficial than otherwise, as helping to ventilate the premises, but in other cases, where the up-draught is not so strong, or may scarcely exist, such imperfections as these, at connections without traps, would be fatal to the success of the plan.

There is also some difference of opinion as to the best material for these drain pipes. Some insist that cast iron is the most suitable; but it parts with heat so copiously, that it is apt to freeze the water passing through it, otherwise it is well adapted for the purpose, especially if it is well coated inside with hot coal tar. Professor Godfrey has used, and strongly recommends, the ordinary glazed earthenware drain pipe, and it certainly is not so liable to freeze up as a metal pipe, but it requires careful construction to prevent the joints from being dislocated by unequal pressure,