

dwellings, and will be given pretty much as they were taken down and (in some cases) corrected by subsequent experience.

I am, Sir, yours, &c.,

JAMES H. SPRINGLE,

Architect and Civil Engineer.

MONTREAL, July, 1875.

Note 1.—*On Sewer Gas.*—Every householder in a sewered city like Montreal should clearly understand when he provides that modern convenience—a water closet—for his dwelling-house, that he introduces directly into said dwelling, and most frequently into the immediate vicinity of the sleeping apartments of the same, a tubular branch of the common sewer of his street, and that whatever of effluvia or foul gases, or vermin, are generated or find place in the sewer, can also—unless hindered by some clever expedients of the plumber, which will be noticed hereafter—pass directly up from the sewer to the water-closet, the bath-room, and such bedrooms as have fixed wash-stands, and in a greater or less degree, to all the apartments of the house.

Moreover, this branch sewer is exposed to a number of risks and casualties from which the common street-sewer is exempt. It is frequently made of lead very little thicker than stout brown paper. By the ingenuity of the plumber it is passed underneath kitchen floors, behind *stud* partitions and between floors and ceilings; at every turn it is liable to have its joints broken and displaced by the carpenter who has to cover it up out of sight; so that, irrespective of trapping and ventilating, it requires the greatest care and the closest watching, to keep this branch sewer and the works attached to it, intact, after it has been fixed in place by the plumber.

When it is considered in addition to the above that cheap and, consequently, defective plumber's work is very prevalent, it is not surprising that ninety out of every hundred dwellings, having water-closets, are troubled more or less with sewer effluvia; and, <sup>we say</sup> if it should be found that this effluvia shifts to different parts of <sup>the</sup> house with changes of the wind, sometimes appearing in the living rooms at the lower parts of the house, at other times in the sleeping rooms and occasionally at opposite sides of the house, it is pretty certain that the branch sewer or soil pipe is