

carried from the closets directly to the outside of the house, and downward and onward to the chimney. The downward ventilation was perfect.

In the Toronto Asylum, though there was no scarcity of chimneys with constant powerful draft, they were on the wrong side of the house, and at a considerable distance from the water-closets. Besides as each W. C. shaft contained seven seats, it was deemed inadvisable to throw upon any of the ordinary chimneys so large a requirement as the carrying off of all the foul air of these conveniences. A fire-proof chamber, with a furnace resembling a baker's oven, was constructed in the attick, immediately over the W. C. shaft. This furnace is fed with air coming exclusively from the W. C. pans, through a galvanised iron tube, which commences small at the lowest closet, and is increased in size at each story upwards, where it receives accessions. Reaching the furnace room it gives off at right angles two flues. A large one entering the furnace above the fire, and a smaller below it. On closing the iron feeding door, very little air besides that supplied by these tubes enters the furnace. The draft power is proportionate to the heat, and when this is duly kept up the closet ventilation is satisfactory, but, of course not otherwise.

Had the same system been followed in the new wings, these buildings would have been almost faultless, but as I have before stated "a most wayward and serious blunder was made by the architect, and the plumber who did the work of the water-closets," the consequences of which have already been serious in a sanitary view, and will yet be so in a financial relation, as it will cost ten times as much to remedy the evil as it would to have primarily avoided it.

Ostensibly to save a little outlay in construction, instead of giving to each pan its own trap and ventilating tube neither of these was introduced. The chimerical idea, that one ventilating tube, inserted into the common soil pipe, in the basement, above the lowest closet, would pull down the befouled air of the upper three, seems to have taken possession of the innovators—a little common sense, or a very little knowledge of pneumatics, might have admonished them that the air in a soil pipe, which was to receive the warm water of three baths and as many sinks, to say nothing of other fluids of the temperature of the human body, would be very reluctant to descend to the mouth of the ventilating tube; and that the latter would draw its supply from a lower and denser source. I venture the assertion that the ventilating flue derives its supply solely from the lowest pan. When large quanti-