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SANITARY IMPROVEMENTS.

(See page 296.)

We always hail with satisfaction any improvements in household sanitary appliances—particularly improvements in the construction of water closets—and we have anxiously looked forward to the day when some contrivance might be invented that would no longer necessitate the use of a trap to the soil pipe, and which is generally placed immediately beside the closet pan. It is, therefore, with much pleasure that we bring to the notice of our readers an improvement in the construction of water closets recently invented by Mr. Robertson, Manager of the Montreal Rolling Mills, which entirely does away with the objectionable soil-pipe trap, which, when the double valves are closed, so perfectly seals the basin against any access thereto of gas from below, that, unless they were withdrawn, it would be almost impossible for any effluvia to rise up into the room; it has also another great advantage, viz.: that none of its working parts are likely to get out of order, as it combines great simplicity of action with durability of material, and evidently will last for years without requiring repairs.

We have examined it very carefully, and feel that we can speak highly in its favor. We are aware, too, that it has been tried in places where no other closet would keep down the foul effluvia, and its success has been perfect. We pronounce it to be a first-class closet, nearly all that can be desired, and must in time come into general use.

The inventor, in a modestly-worded circular, describes its action as follows:—

"In pointing out his improvements in Water Closets, he does not desire in the least to detract from the merits of previous inventions, but simply to show how one great objection alone, which the public have to the Trap, has been entirely overcome. The main point of complaint against the Trap has been, that it is always partially full of effeta, which, when in contact with water, decomposes rapidly, forming gases which rise up into the water closet trunk, and escape into the room whenever the closet is used. So well is this fact now ascertained, that the highest sanitary authorities in Great Britain have styled them "*cesspool abominations*;" and yet, heretofore, no closet has been considered sanitary without having some interposition of the sort between the main pipe and the basin. This serious impediment to having a perfectly odorless closet is now completely remedied by his newly patented improvement.

The closet does away with the objectionable trap to the soil-pipe, the action being as follows: In raising the handle, both valves are simultaneously opened, and the water and effeta descend in a body towards the main sewer, leaving a vacuum in the upper part of the soil-pipe, which vacuum is immediately filled from the basin, and before any reaction can take place, the valves close, and are re-sealed with fresh water, therefore it is impossible for any gas to escape upwards. In connection with the valves are two trapped overflows, through which no effeta enters, and which are always filled with fresh water, and every time the basin is emptied fresh water is renewed in both.

But, in addition to the closet being perfectly odorless, it has other advantages, which give it a strong claim to public patronage. *First*, its cost is not any more than any first-class closet now in use *Secondly*, its great strength and simplicity of action combined, there being no wire attachments, or any complicated arrangements, to get out of order.

It has been tested and found to act in the most satisfactory manner, and in situations where other closets have entirely failed to keep down foul gases, it has proved most effectual."

In connection with this water closet Mr. Robertson has invented an AUTOMATIC SUPPLY TANK, which is quite a little gem in its line, and will entirely supersede the lumbersome overhead tank which at present occupies so much room in small closets.

This miniature tank, for ordinary use, does not occupy altogether a cubic foot of space, and can be placed on a bracket in any convenient corner of the room. It is worked by the water closet lever, and will just run out a certain quantity of water and no more—which quantity can be graduated at will—and yet is so strong that it will (according to size) resist a pressure of from 50 to 150 and upwards. It cannot get out of order, for there are no weak points about it, such as springs or wires, everything is direct acting. It is a tank, too, that can never get foul, which is one of the greatest objections to that of the present form,—which from the accumulation of impure matter at its bottom, month after month, so fouls the water that it gives off almost as poisonous gases as the closet it is supposed to wash out and purify.

Even those whose interests the adoption of this tank is likely to affect have fairly acknowledged it to be not only