

P. C. ROWE.
Water-Closets.

No. 138,287.

Patented April 29, 1873.

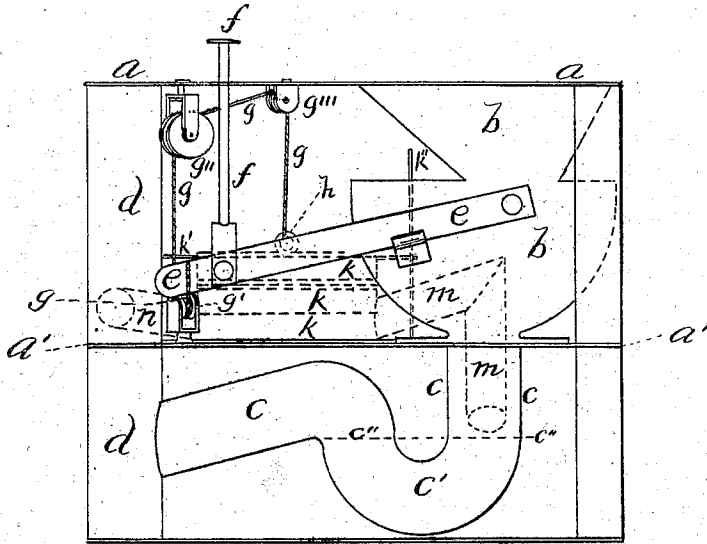


Fig. 1.

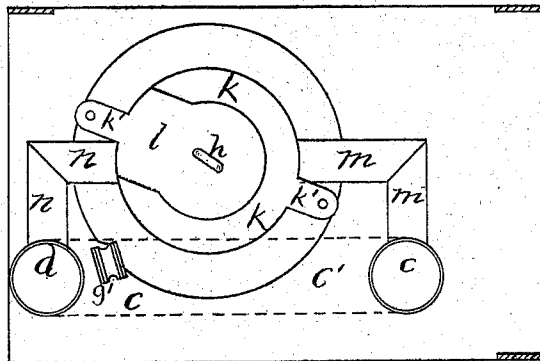


Fig. 2.

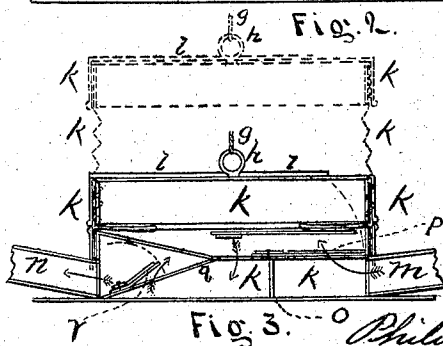


Fig. 3.

WITNESSES

D. J. Butler.
E. H. Ober.

INVENTOR

Philip C. Rowe
By his Attys
Henry W. Williams & Co.

UNITED STATES PATENT OFFICE.

PHILIP C. ROWE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN WATER-CLOSETS.

Specification forming part of Letters Patent No. **138,287**, dated April 29, 1873; application filed March 1, 1873.

To all whom it may concern:

Be it known that I, PHILIP C. ROWE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and valuable Device for Preventing the Escape of Foul Air from Water-Closet Fixtures, of which the following is a specification:

The particular object of this invention is to remove the foul and tainted air which is above the "trap," and to convey it to the other side of the trap into the soil-pipe, or wherever it is desirable it should be. Unless some device is used for so doing the foul air must necessarily pass into the room, as it cannot descend and pass through the water in the trap and thence to the soil-pipe. This result is accomplished by means of a sort of bellows, so arranged that when the excrement is let down and the stream of water turned on the bellows fills itself with the foul air arising from the excrement or from any other cause, and when the pan is again raised into its former position and the water shut off the bellows closes and forces the foul air into the soil or other pipe the other side of the trap.

In the accompanying drawing as many of the fixtures connected with an ordinary water-closet are shown as are necessary to embody my invention and to exhibit it in connection with its surrounding parts.

Figure 1 is a front elevation. Fig. 2 is a plan of the bellows and its connecting-pipes. Fig. 3 is a vertical section of the bellows, showing its interior arrangement.

Similar letters of reference indicate corresponding parts.

a shows the height and position of the seat. *a'* shows the height and position of the floor. *b* is that portion into which the excrement falls and the stream of water flows. *c* is the pipe leading to the soil-pipe. *c'* is the trap. *c''* is the water-mark. *d* is the soil-pipe, (supposed to extend, in this case, to other fixtures above.) *e* is the lever, which serves to pull down the pan and let on the water after the closet has been used. *f* is the rod which works the lever *e*, and is pulled up by the person using the closet. *g* is a cord or its equivalent. One end of this

cord is attached to the lever *e*. The cord *g* then passes under the pulleys *g'*, and over the pulleys *g''* and *g'''*, and is attached at its other end to the ring *h*, which is fixed in the bellows. *k* is a bellows, having its sides made of some flexible material, the bottom of which is fixed to the floor. It is expanded and filled by having its top drawn up by the cord *g*. *k'* *k''* are projections, each having a hole in its center, through which an upright rod or guide extends, *k'''*. These are intended as guides to the bellows *k* when expanding and contracting. *l* is a weight, placed upon the top of the bellows *k* to facilitate its contraction. *m* is a pipe leading from the pipe *c* above the water-mark *c''* of the trap *c'* to the bellows *k*. *n* is a pipe leading from the bellows *k* to the soil-pipe *d*. The partition *o* forces the air entering the bellows through the pipe *m* to lift the valve *p* in the direction of the broken line, while the air passing out of the bellows lifts the valve *r* in the partition *q*, (in the direction of the broken line,) and thus enters the pipe *n*.

The practical operation of the invention is as follows: When the air in *b* and *c* above the water-line *c''* becomes foul the pull *f* is drawn up, and not only lets the excrement fall down into the trap *c'*, but also, by means of the cord *g* and pulleys *g'* *g''* *g'''*, lifts the upper portion of the bellows, and, consequently, expands them. They immediately fill with air, which rushes in from *b* and through the pipe *m*, pushing up the valve *p*. The bellows are then full of as much foul air as they will hold, and pure air has passed into *b* from the outside. When the rod *f* is suffered to drop the weight *l* forces the bellows into its old position, and the air in it is pushed into the pipe *n*, raising the valve *r*, and passes into the soil-pipe *d* or any other pipe, if desired. This operation may be repeated, if necessary.

I do not propose to confine myself to the exact arrangement of pulleys shown and described, as a lever might, perhaps, be used which would answer the purpose perfectly well. Neither do I propose to confine myself to the exact arrangement of valves in the bellows shown in the drawing.

I have described this invention in connection with what is called a "pan" closet. If a hopper is used and a cock turned, the same principle may be used in connection with it, the bellows working automatically, as in the case described.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination and arrangement, with a water-closet, of a bellows or its equivalent, having pipes connecting with the excrement-chamber and soil-pipe, and operated by the pull or cock, as the case may be.

PHILIP C. ROWE.

Witnesses:

HENRY W. WILLIAMS,
E. H. OBER.