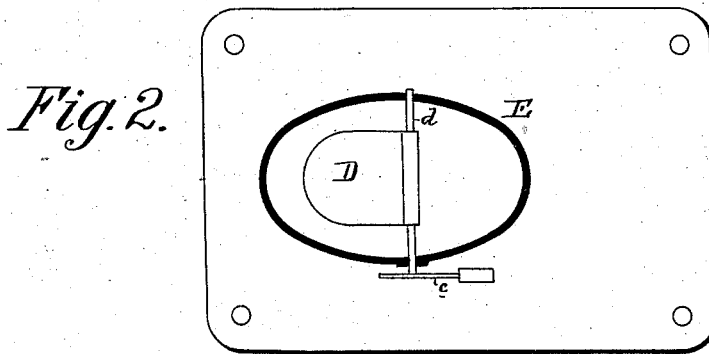
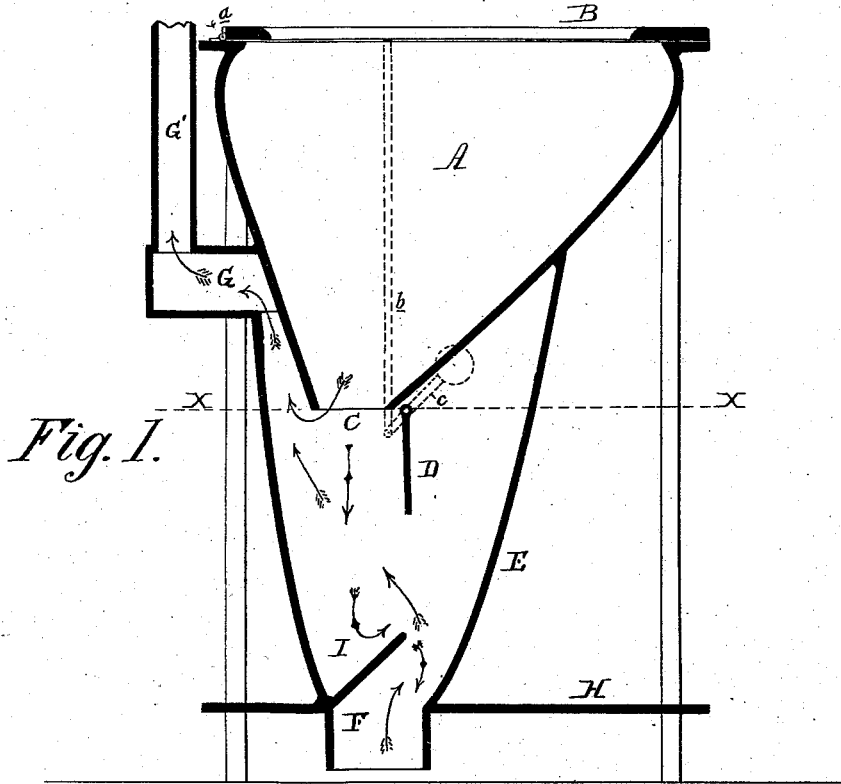


G. R. MOORE.  
WATER AND AIR CLOSETS.

No. 194,100.

Patented Aug. 14, 1877.



Witnesses { *Edward Bernald*  
*John Parker*

Inventor  
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# UNITED STATES PATENT OFFICE.

GEORGE R. MOORE, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN WATER AND AIR CLOSETS.

Specification forming part of Letters Patent No. **194,100**, dated August 14, 1877; application filed June 30, 1877.

*To all whom it may concern:*

Be it known that I, GEO. R. MOORE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Water and Air Closets, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to improve water and air closets mainly by providing a nearly-balanced self-closing bottom to the hopper, whereby much of the foulness of the pan water-closet is avoided, and the efficiency of the ventilating-pipe from the container to the draft-flue is increased.

Among the evils of the pan water-closet is the constant accretion of mephitic matter upon the outside of the discharge end of the hopper, which stands ordinarily in the water of the pan as a trap. This matter is, of course, out of sight; but every time the pan is swung in use by the hand-pull, a draft of foul air is fanned out into the room.

There is sometimes found by examination a foul light-colored spongy accretion nearly half an inch thick at the place referred to, when all visible parts of the closet, with its bright silvery pan, are entirely clean.

My devices for the objects indicated may be easily described.

Figure 1 shows in vertical transverse section a hopper and container with my devices combined, and having a hinged closet-seat shown in its proper place. Fig. 2 is a horizontal section taken in the line *xx* of Fig. 1, giving also the plan view of the bottom portion of the skeleton frame in which the closet is placed.

A is the hopper; B, the closet hinged seat; C, the discharge end of the hopper; D, the balanced, self-closing, loosely-fitting bottom for partially closing the discharge end of the hopper when its open space is not otherwise occupied. It is not designed to fit closely or to hold any water. It is so slightly balanced to close itself that anything falling upon it with but slight weight will turn it down. Its object is not at all that of the ordinary pan, (to close the passage by trapping,) but specifically to increase the draft of the air-passage to the flue by decreasing the inlet of air at this point.

I have provided a rod, *d*, which is jointed to the bottom D, and operated for opening the same by the hinged seat B.

E is the container; F, the post of the container reduced to the proper size for the soil-pipe; G, an inclosed air-passage to G', and to any flue which may be used for ventilating the closet; H, the floor. I is a diaphragm in the container, and is placed beneath the discharge end of the hopper. It is intended to be of use in case any small articles of value are accidentally dropped into the hopper. They will here be temporarily detained, and may be recovered before reaching the soil-pipe.

The arrows with bulge at the center show the direction of fecal discharges, and the other arrows the direction of sewer-gas and air-currents to the draft-flue.

A very slight draft in the pipe G', aided by the self-closing bottom D in reducing the air-space at C, is the best protection I have found against the escape of sewer-gas into apartments where water and air-closets are used. As this simple flat plate or self-closing bottom holds no liquid up to the outside of the hopper, (as by the ordinary pan is done,) no decomposing matter is there collected. It does not close so tightly as to prevent a constant flow of air past it to the flue, thus ventilating the apartment in which the closet is placed.

I claim—

1. A water or air closet provided with a ventilating-flue, and with the loosely-fitting self-closing bottom D at the outlet of the hopper A, substantially as and for the purpose herein set forth.

2. In combination with the hopper A, the self-closing bottom D, provided with the opening-rod *b*, extending up to the hinged seat B, at a point where the same is nearly closed, and by which it is then operated, and then only, substantially as and for the purpose herein set forth.

3. In combination, the self-closing bottom D, air-flue G, hopper A, and container E, substantially as and for the purpose herein set forth.

4. In combination, the container E, provided with the diaphragm I, the hopper A, and flue G, substantially as and for the purpose herein set forth.

GEO. R. MOORE.

Witnesses:

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