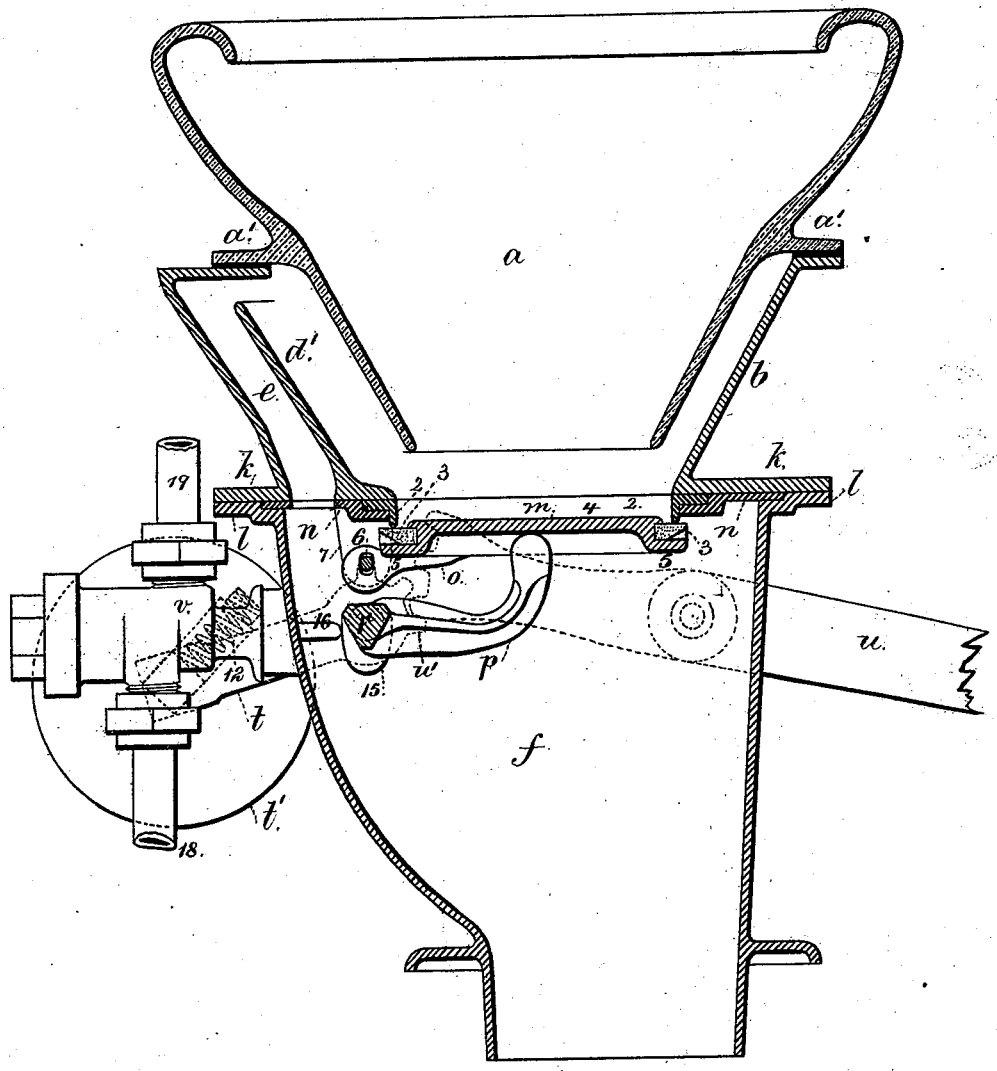
2 Sheets—Sheet 1.

J. DEMAREST.

Water-Closets.

No. 209,870. Patented Nov. 12, 1878.

Fig. 1.



Witnesses
Chas. H. Smith
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Inventor
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2 Sheets—Sheet 2

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Fig. 3.

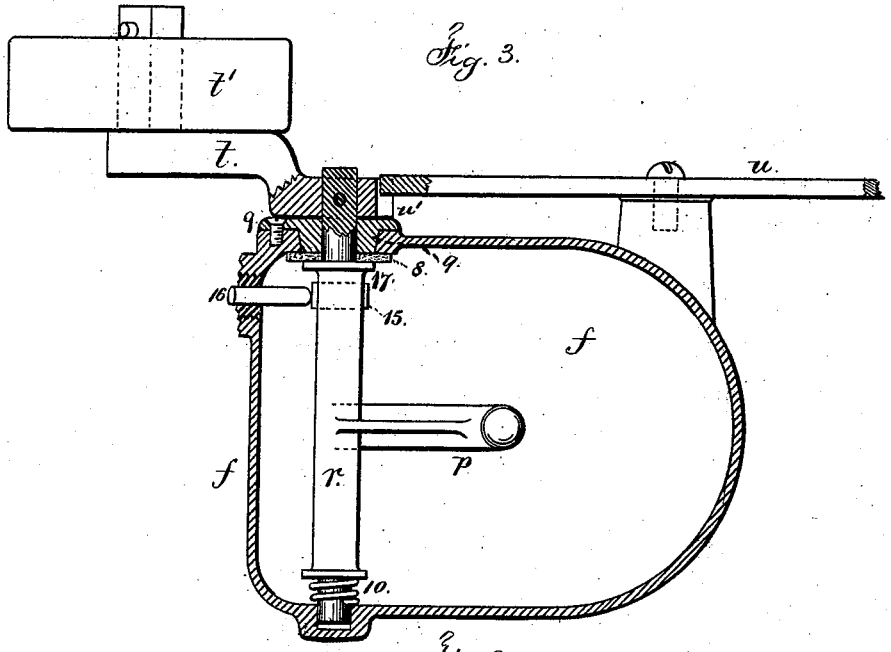
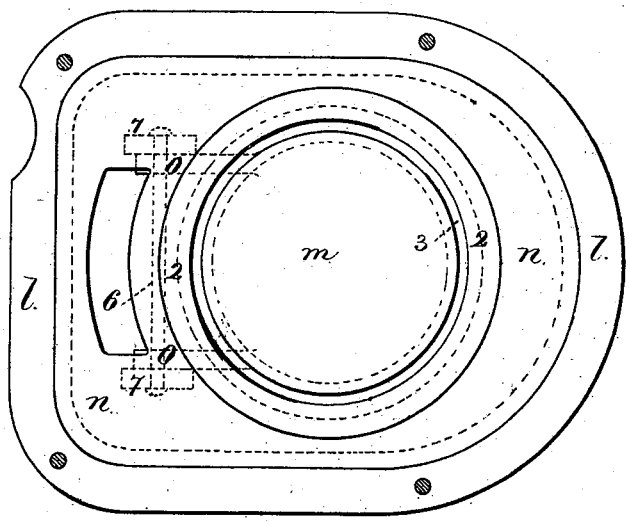


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF NEW YORK, N. Y.

IMPROVEMENT IN WATER-CLOSETS.

Specification forming part of Letters Patent No. **209,870**, dated November 12, 1878; application filed July 5, 1878.

To all whom it may concern:

Be it known that I, JOHN DEMAREST, of the city and State of New York, have invented an Improvement in Water-Closets, of which the following is a specification:

My improvement relates to that class of closets in which a valve is employed, closing upwardly against a seat beneath the basin, and there is an overflow between the lower end of the basin and the receiver, upon which the basin rests.

In the drawing, Figure 1 is a vertical section of the closet. Fig. 2 is a plan of the valve-seat. Fig. 3 is a section of the spindle of the valve-lever.

The basin *a* is of the usual conical form, open at the bottom, and provided with a flange, *a'*, that rests upon and is cemented to the upper end of the hopper *b*, which hopper is conical in shape, and sufficiently large to surround the lower end of the basin and leave an overflow-water space between the two parts, and at one side of this hopper there is an enlargement, forming a channel that opens over the top of the overflow-dam *d'* to the descending water-way *e*, that leads the overflow-water into the receiver *f* behind the valve, hereinafter described, so as to wash out such receiver at this portion, which, in water-closets heretofore made, frequently becomes coated with offensive matter.

The hopper *b* is flanged at its lower end, such flange *k* resting upon and being bolted to the flange *l* at the upper end of the receiver *f*, and in the top of the receiver is a recess that receives the plate *n*, forming the seat for the valve. This plate is preferably made with an opening large enough to receive a ring, 2, that is secured in and preferably projects below the plate for the valve *m* to close against. The joints between the flanges and this plate are cemented.

The valve *m* is made of an elastic ring, 3, below the porcelain or enameled surface 4 and above the flange 5, and the arms *o* from this valve *m* extend to the hinge-pin 6, that passes also through lugs 7 on the under side of the plate *n*. The holes for this pin 6 are sufficiently large to allow the valve to accommodate itself to its seat.

The valve-lever *p* is an arm extending from the axis *r* and pressing against or near the center of the valve at the under side, to close it upwardly against its seat. The axis *r* is provided with a shoulder, 17, (see Fig. 3,) and washer 8, that is pressed against the plate 9, so as to prevent the escape of smell around the axle, and the spring 10 acts to keep these parts in contact. The plate 9 is removable, and it is secured to the side of the receiver *f* by screws. This allows for the parts being put together. Outside the receiver the axle *r* receives a crank-arm, *t*, with a weight, *t'*, to counterpoise the valve *m* and the water supported by it. This weight *t'* is preferably provided with a spring, 12, between the weight and its arm, to lessen concussion; but the arm may be cast with an enlargement to form the weight.

There are teeth, *u'*, around the hub of the crank-arm, acted upon by teeth at the end of the pull-lever *u*, so that the valve is operated by the pull in emptying the contents of the closet. It is to be understood that an ordinary water-closet pull is connected with this lever *u*.

The valve that supplies water to the closet is screwed to the side of the receiver, and a cam, 15, upon the axle *r*, operates upon the stem 16 of the valve when the closet-pull is moved.

Water is supplied into the valve-case *v* by the pipe 18, and conveyed from the same by the pipe 19 to the closet.

The axle *r*, with the shoulder 17, washer 8, spring 10, and removable plate 9, may be used as the axle of the pan in a pan-closet.

I claim as my invention—

1. In a water-closet, the combination, with the conical hopper *b* and receiver *f*, of the separate plate *n*, introduced at the joint beween the hopper and receiver, and having an opening beneath the lower end of the basin *a*, and the valve *m* closing upwardly beneath such plate *n*, substantially as set forth.

2. The valve *m*, with its spindle within the receiver *f*, and the receiver and plate, having an opening above the spindle, in combination with the overflow-dam *d'* and the water-way *e*, which empties behind the valve, for the purposes and as set forth.

3. The receiver *f* of the water-closet, the

valve-seat, and the overflow *e* above the valve-seat, in combination with the valve *m*, having an elastic face and loose hinge, and the arm *p*, acting against the center of the valve, the axle *r*, and the actuating-arm of the axle outside of the receiver *f*, substantially as set forth.

4. The combination, with the valve or pan in a water-closet, of the actuating pull-lever *u*, pinion-teeth *u'*, counterpoise *t'*, axle *r*, and lever-arm *p*, substantially as set forth.

5. The axle *r*, introduced within the hopper or container of the water-closet, and having a shoulder, 17, and washer 18, in combination with the plate 9, against the inside of which the washer rests, and the spring 10, as and for the purposes set forth.

6. The case *v* of the water-closet valve, provided with a screw at one end around the stem 16, in combination with the water-closet receiver *f*, into which the stem passes and the case screws, and the cam 15 on the axle *r* within the receiver, acting against the stem 16, substantially as set forth.

Signed by me this 19th day of June, A. D. 1878.

JOHN DEMAREST.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.