

(No Model.)

J. DEMAREST.
Water Closet Valve.

No. 232,008.

Patented Sept. 7, 1880.

Fig. 1.

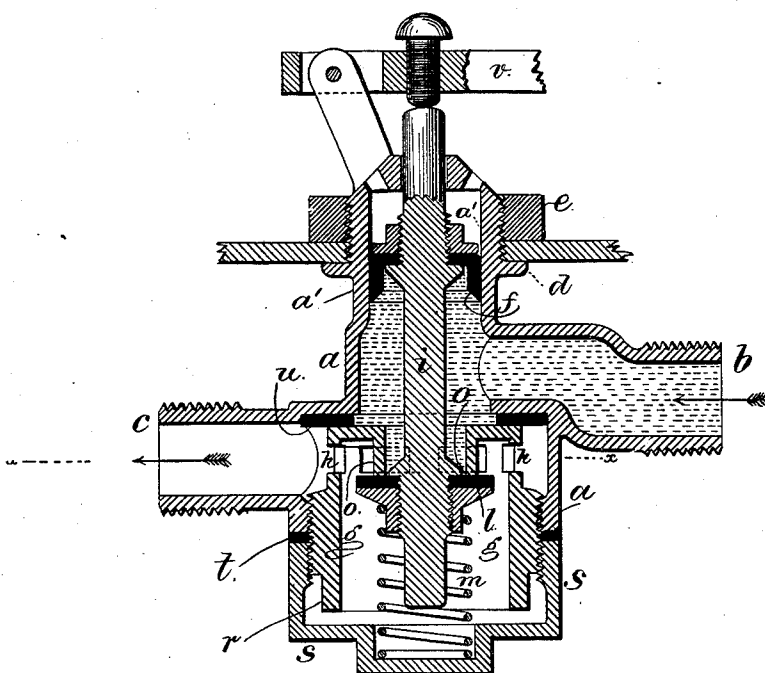
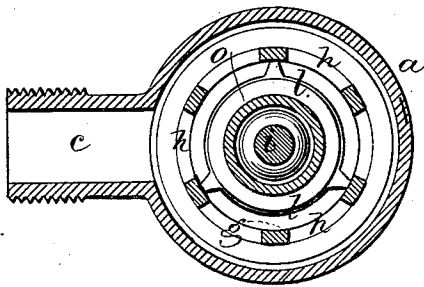


Fig. 2.



Inventor:

Witnesses:

Chas H. Smith,
William G. Mott.

John Demarest.
per Lemuel W. Perrell,
attg.

UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF NEW YORK, N. Y.

WATER-CLOSET VALVE.

SPECIFICATION forming part of Letters Patent No. 232,008, dated September 7, 1880.

Application filed July 22, 1880. (No model.)

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 Valves for Water-Closets, &c., of which the following is a specification.

This valve closes against the pressure of water in consequence of the column of water acting against a cup-leather piston of larger area than the valve.

My present invention relates to the combination, with the valve-case, of a removable cap and removable valve-seat and guide-cylinder, whereby the valve and cylinder can be taken out of the case for cleaning or repairs without disturbing the connections to the supply or delivery water-pipes.

In the drawings, Figure 1 is a vertical section of the valve complete, and Fig. 2 is a sectional plan at the line *x x*.

The case *a* is provided with inlet-pipe *b*, for the water-pipe to be coupled or connected to, and with the outlet-pipe *c*, leading to the water-closet or urinal that is to be washed with the water. *d* is a flange, and *e* a nut, by means of which the valve-case is attached to the cistern portion of the water-closet or to the hopper or other point of connection.

The upper part of the case *a* forms a parallel cylinder, *a'*, for the cup-leather piston *f* upon the valve-stem *i*, and the lower portion of the case *a* is of larger diameter than the part *a'*, so as to receive within it the removable cylinder *g*, the upper part of which is mortised to form water-ways *h*, and the top of the cylinder is contracted by an inward flange, and terminates as a tubular valve-seat, *o*, of less diameter than the cup-leather *f*.

The valve *l* upon the stem *i* closes against the seat *o*. The spring *m* is sufficient to lift the weight of the valve, stem, and piston, and overcome the friction. The projecting lower part, *r*, of the cylinder *g* has a polygonal exterior, so that it can be grasped by a wrench for screwing or unscrewing the cylinder *g*, and a base-cap, *s*, closes the bottom of the valve-

case. There are washers at *t* and *u* to make the parts water-tight.

When at rest the valve *l* is kept tightly to its seat by the pressure of water acting between the valve and the piston against the superior area of the piston, the spring *m* aiding in this operation. When the valve-stem is pressed upon endwise the valve is moved from its seat, and the water flows through the valve-seat and the openings or mortises *h* into the pipe *c*, that leads to the closet.

When the endwise pressure upon the valve-stem is released the spring *m* and the water-pressure act to close the said valve, and there will not be any hammering action of the valve upon its seat, because the closing of the valve against its tubular seat will lessen the area of the valve that is exposed to the pressure of water, and the pressure will continue to act upon the cup-leather piston that is of larger area.

The valve *l* has projecting guard-fingers around its periphery, to act within the cylinder *g* and maintain the valve in a central position as it is moved endwise of the cylinder or case.

The lever *v* is employed as the means for giving end motion to the valve-stem and valve. This lever may be operated by a float, as in my Patent No. 199,418.

I claim as my invention—

The combination, in a self-closing valve, of a case having a cylinder, *a'*, a cup-leather, *f*, in that cylinder, a removable guide-cylinder, *g*, and a valve-seat thereon, a valve within the removable cylinder having guide-fingers, and a stem connecting the valve and cup-leather, substantially as set forth.

Signed by me this 15th day of July, A. D. 1880.

JOHN DEMAREST.

Witnesses:

AUGUSTUS W. MOTT,
LOUIS P. BECK.