(No Model.)

J. FOLEY.

CISTERN ATTACHMENT FOR WATER CLOSETS.

No. 306,072. Patented Oct. 7, 1884.

Fig. 1.

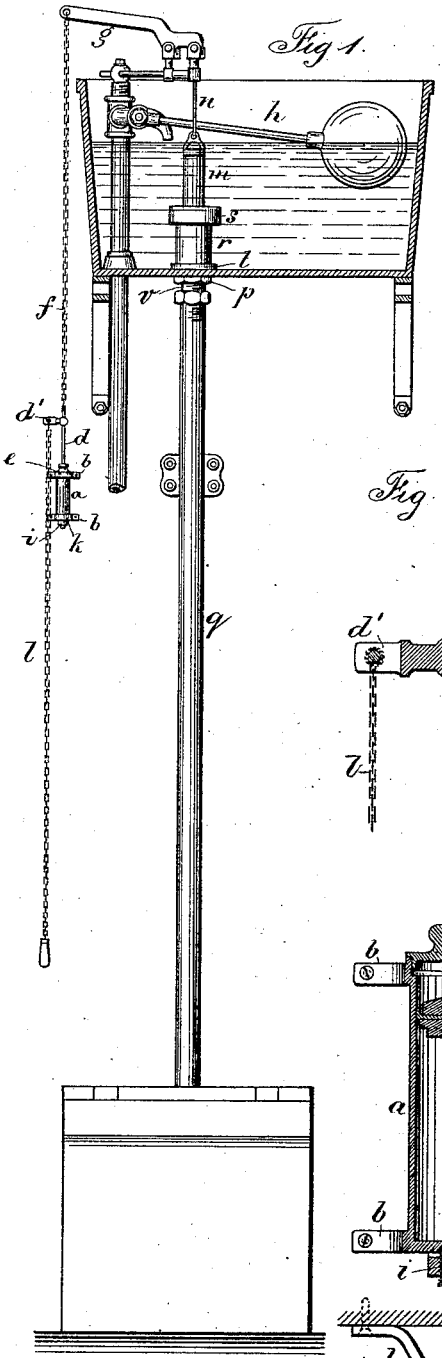


Fig. 2.

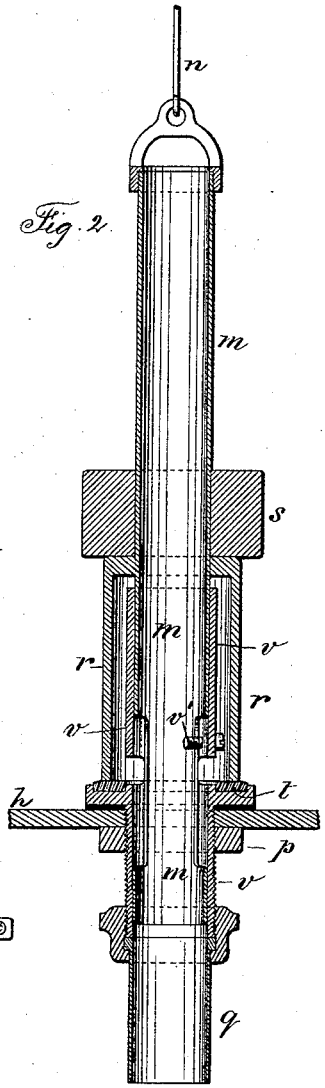


Fig. 3.

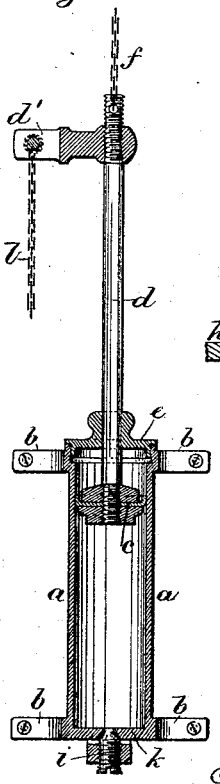
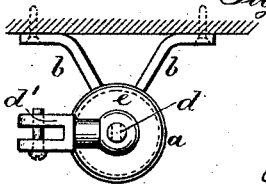


Fig. 4.



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Atty

UNITED STATES PATENT OFFICE.

JAMES FOLEY, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF AND FRED ADEE, OF SAME PLACE.

CISTERN ATTACHMENT FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 306,072, dated October 7, 1884.

Application filed January 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES FOLEY, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Cistern Attachments for Water-Closets, of which the following is a specification.

In my Patent No. 282,876, August 7, 1883, a variable pneumatic chamber is shown for causing the cistern-valve to close gradually, thereby allowing the water to run from the cistern into the closet during the time that such valve is closing. The variable character of this pneumatic chamber arises from the difference of time occupied in the movement of the piston according to the size of the air-inlet. I combine with the variable pneumatic chamber a cistern-valve of peculiar construction, that allows a preliminary wash to be admitted to the closet, and then the valve may remain elevated while the closet is occupied, with but little loss of water, and then the valve is allowed to open fully and to close gradually when the pull on the valve by the closet-seat or by a platform is relieved on rising from the closet.

In the drawings, Figure 1 is an elevation representing the improvement as applied on a cistern. Fig. 2 is a section in larger size of the valve; Fig. 3, of the pneumatic chamber; and Fig. 4 is a plan of the variable chamber.

The pneumatic chamber consists of the cylinder *a*, having legs or supports *b*, by which it is attached to the wall or other convenient place. The cup-leather piston *c* is within the cylinder *a*, and the piston-rod *d* passes through the head *e*, and is connected to the rod or chain *f*, leading to the lever *g* of the cistern *h*. The cock or screw-valve *i* in the bottom head, *k*, can be adjusted to admit atmospheric air with more or less rapidity, and there is an arm, *d'*, extending laterally from the upper end of the rod *d*, and to this arm a wire or chain, *l*, is connected and passes to the seat of the closet, to a platform, or to the closet-pull. When this chain or wire *l* is drawn down, the piston *c* is easily moved, because the cup-leather closes away from the sides of the variable chamber to allow the confined air to pass by freely; hence the cistern-lever *g* is drawn down easily, and the weight at the other end and the valve raised; but when the wire *l* is liberated the weight and valve fall but slowly, because the atmosphere can only draw into the variable chamber below the cup-leather piston as the valve *i* admits it to pass in. There is a tube, *m*, suspended from the weighted end of the lever *g* by a wire or chain, *n*, and bail. This tube *m* passes into a tube, *v*, that goes through the bottom of the cistern, and is provided with a flange and valve-seat, *t*, around the tube at the inside of the cistern-bottom, and with a clamping-nut, *p*, below the cistern-bottom. This tube *v* is made tight with the cistern by suitable cement or washer. The pipe *q*, leading water to the closet, is connected with the lower end of this tube *v* by a coupling or solder. There is around the tube *m* and over the seat *t* the cylindrical valve *r*, that rests at its lower end upon the seat *t* when the valve is closed. The valve-cylinder *r* is longer than the part of the tube *v* that rises in the cistern, and the upper end of *r* is contracted and fastened to or made with the tube *m*, and the weight *s* gives the necessary pressure to close the valve to its seat. In the tube *m* there are one or two long slots, and in the tube *v* there are corresponding slots or ports; but they are shorter. The parts are made and proportioned so that the slots in *m* and *v* coincide when in their normal position; but as the valve *r* is lifted off its seat the ports in *v* are closed by the tubular portion of *m* being drawn sufficiently high to cover and close these openings in *v*; hence when the valve is being lifted off its seat the water rushes, as a preliminary wash, through the slots in the tubes into the closet; but when the valve *r* and tube *m* have been fully lifted the water is cut off and so remains until the valve begins to descend, when the slotted portion of *v*, coinciding with the slotted portion of *m*, allows the water to run freely to the closet until the valve *r* reaches its seat *t* and excludes a further supply to the closet. The screw *v'* keeps the tube-slots in their proper position in relation to each other, and limits the upward movement of the tube *m*.

This valve and cistern attachment is very

simple, efficacious, and not liable to become out of order. The tube *m*, being open at the top, may serve as an overflow to the cistern.

I claim as my invention—

1. The combination, with the cistern, of a valve, *r*, the tube *v*, and the slotted tube *m* within the tube *v*, a chamber, a piston and rod within the same, and a lever connected to the piston-rod, substantially as set forth.

2. The combination, with the valve *r*, of the slotted tube *m*, the tube *v*, to pass through the bottom of the cistern and provided with slots or ports, and the valve-seat *t* around the tube *v*, substantially as set forth.

Signed by me this 25th day of January, A. D. 1884.

JAMES FOLEY.

Witnesses:

GEO. T. PINCKNEY,

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