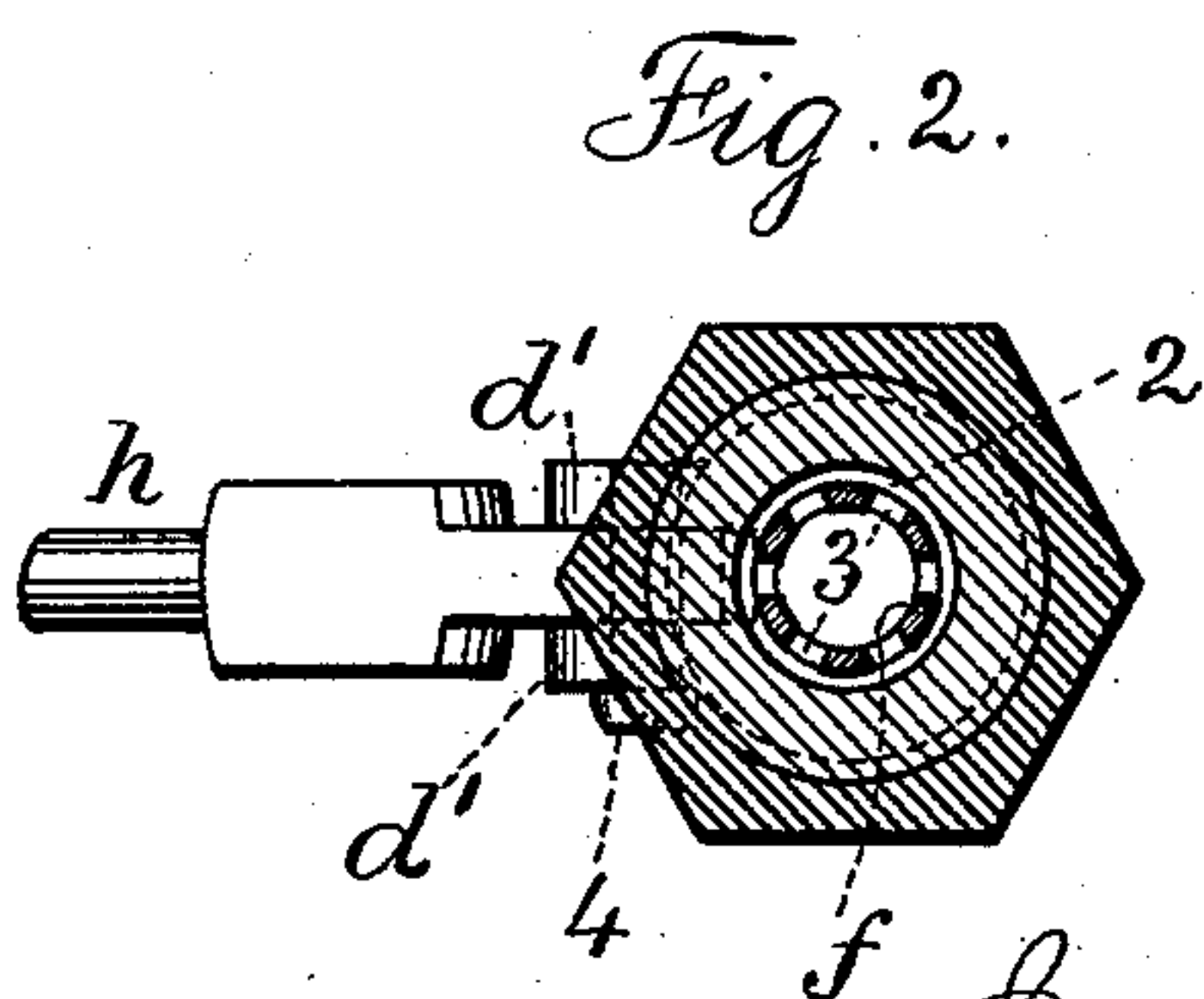
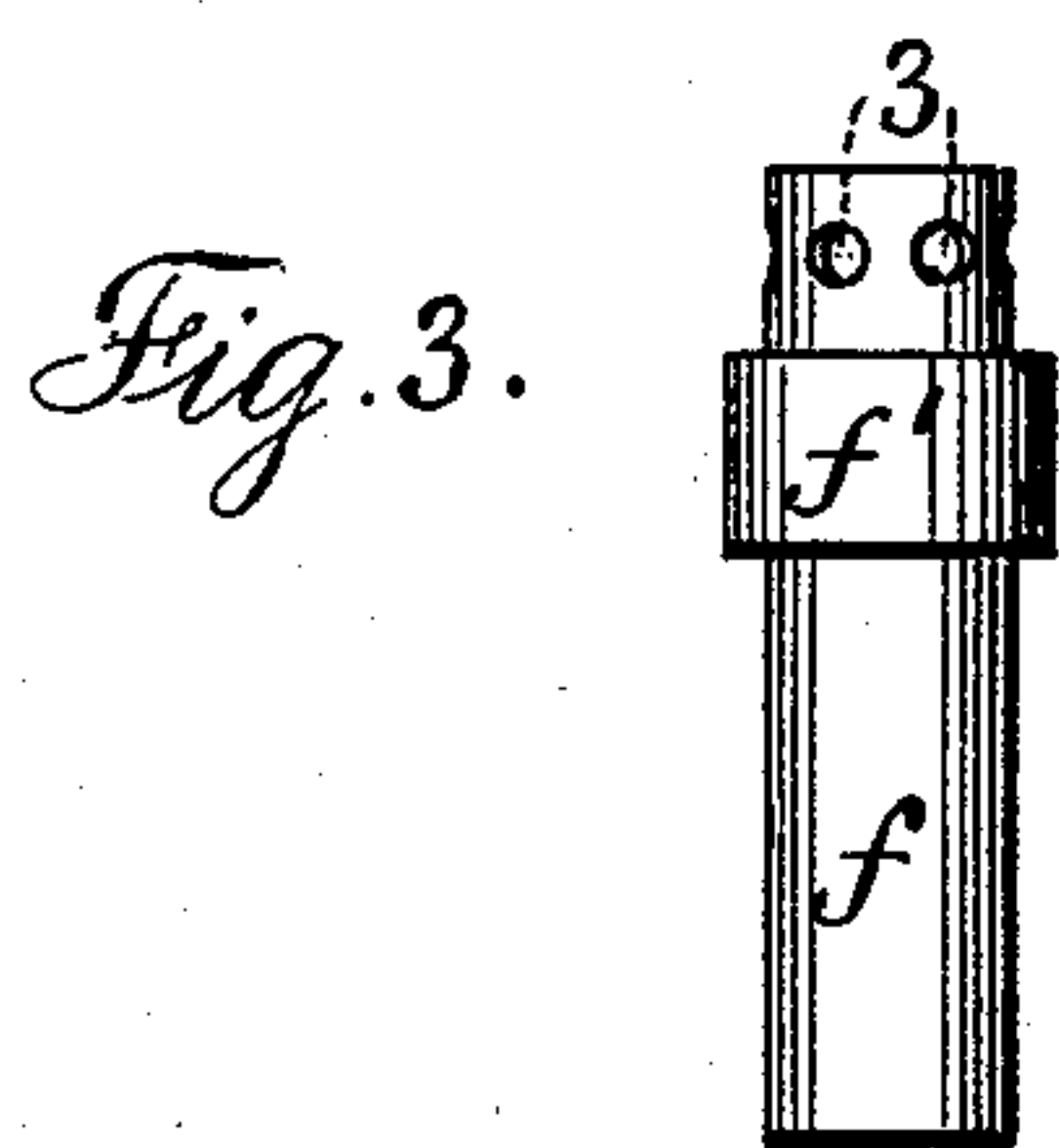
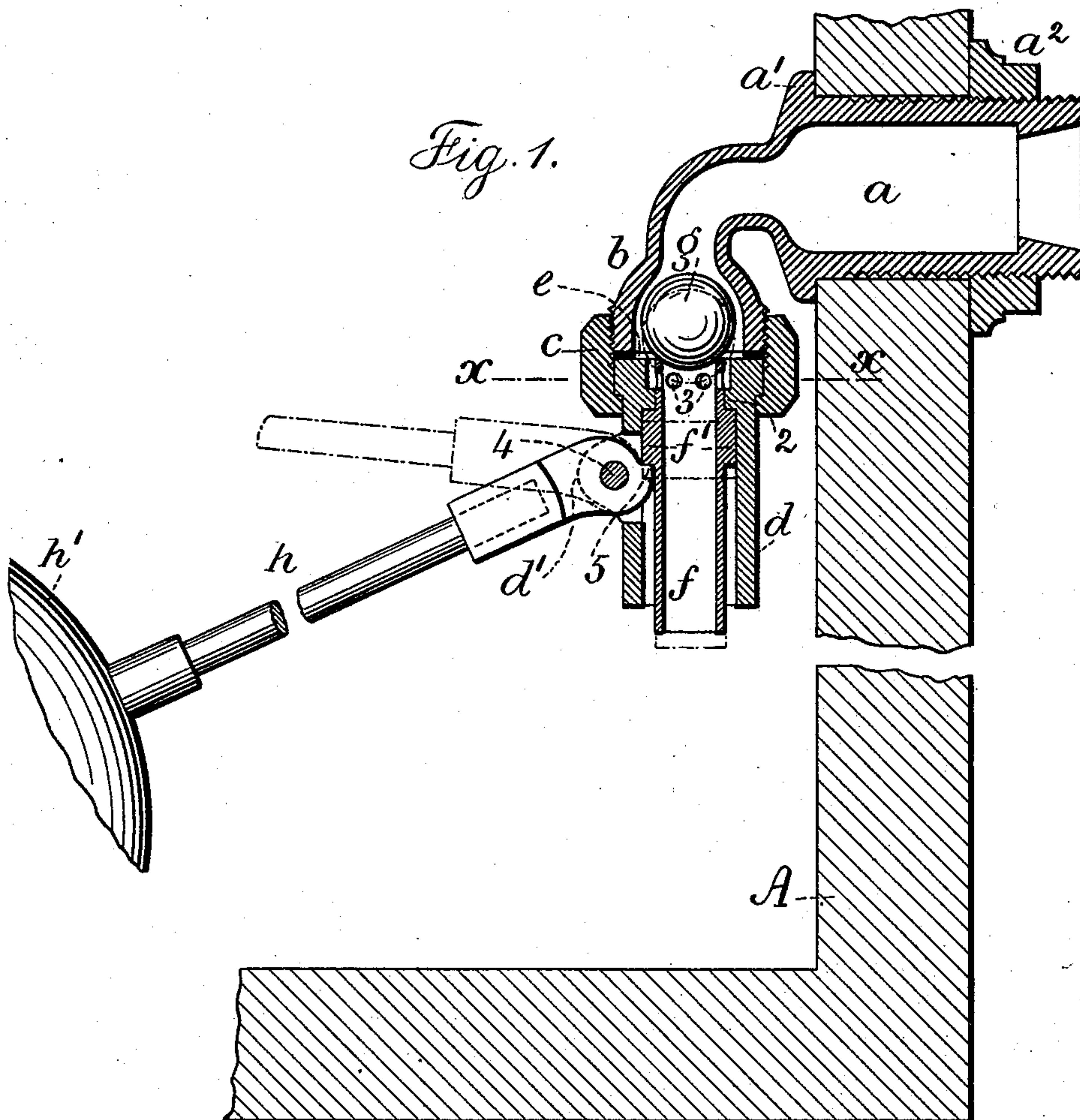


(No Model.)

J. L. MOTT, Jr.  
VALVE FOR CLOSET CISTERNS

No. 571,168.

Patented Nov. 10, 1896.



Witnesses:  
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Chas. Smith

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Atty



# UNITED STATES PATENT OFFICE.

JORDAN L. MOTT, JR., OF NEW YORK, N. Y., ASSIGNOR TO THE J. L. MOTT  
IRON WORKS, OF SAME PLACE.

## VALVE FOR CLOSET-CISTERNS.

SPECIFICATION forming part of Letters Patent No. 571,168, dated November 10, 1896.

Application filed May 8, 1896. Serial No. 590,668. (No model.)

*To all whom it may concern:*

Be it known that I, JORDAN L. MOTT, Jr., a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Improvement in Valves for Closet-Cisterns, of which the following is a specification.

The various water-pressures met with in different localities have heretofore made it necessary to provide valves of sizes adapted to the pressure, and difficulty has arisen in keeping said valves tight and preventing them leaking.

The object of my invention is to overcome these difficulties, and also to lessen concussion as the valve closes.

In carrying out my invention I construct the valve for closet-cisterns adapted for use with various pressures of water, and I employ a ball-valve that is positively seated to shut off the supply of water when the cistern is sufficiently filled, and which when the water falls in the cistern is, through the medium of the float and its lever-arm acting upon a vertically-movable tube or tubular lifter, raised off its seat to permit the ingress of water to the cistern. The upper end of the vertically-moving tube is perforated and the surrounding valve-seat is enlarged to form an annular recess for the passage of the water as the same flows from the supply into the cistern.

In the drawings, Figure 1 is a vertical section and partial elevation illustrating my improvement. Fig. 2 is a sectional plan at  $x x$  of Fig. 1, and Fig. 3 is an elevation of the vertically-movable tube or tubular lifter.

A represents part of the closet-cistern. The hollow body  $a$  of the valve is provided with a flange  $a'$  and screw-threaded exterior, and extends through the cistern at the desired locality, and a nut  $a^2$  clamps the same in place. With the hollow body  $a$  is an integral neck and flaring or enlarged portion  $b$ , the exterior of which at the lower end is screw-threaded. The portion  $b$  holds and confines the ball-valve, with room for the passage of water.

The screw-coupling  $c$  receives the sleeve  $d$ , and their flanges engage each other, and a washer  $e$  above the sleeve  $d$  comes between the said sleeve and the end of the flaring por-

tion of the neck  $b$  to form a tight joint when the parts are connected by the coupling  $c$ .

The sleeve  $d$  is cut through at one side and provided with lugs  $d'$ , and a pin 4 pivotally connects the arm  $h$  and float  $h'$  to said lugs, and the inner end of this arm is provided with a projection 5.

The sleeve  $d$  is provided with an internal annular rib 2, and the tubular lifter  $f$  with a collar  $f'$ . The collar  $f'$  moves freely in the lower part of the sleeve  $d$ , and its lower edge rests upon the projection 5 of the lever-arm  $h$ , and in the position shown in Fig. 1 the upper end of the collar  $f'$  stops against the annular rib 2 and the upward movement of the tubular lifter is arrested and the extent to which the ball-valve is elevated is determined.

The upper end of the tube  $f$  extends above the rib 2 and is provided with perforations 3, between which tube and the adjacent surface of the sleeve  $d$  there is an annular recess above the rib 2.

The rubber ball  $g$  may be of any degree of hardness, according to the pressure, a harder ball being required with a heavy pressure of water than with a light pressure.

In the position of the parts, Fig. 1, the cistern has but little water, and the descent of the float and lever-arm has elevated the tubular lifter and raised the ball-valve off its seat, thus leaving a free passage for the water around the ball, down through the annular recess and the perforations 3, and down the tubular lifter  $f$  into the cistern.

As the float and its lever-arm rise by the accumulation of the incoming water the tube  $f$  is allowed to descend and the water is gradually cut off and finally stopped by the ball  $g$  coming upon its seat at the upper end of the sleeve  $d$ , and the pressure of the water supply will hold the ball firmly upon its seat until raised by the descent of the float at the next discharge of the water from the cistern.

This device is simple in construction and positive in action, and having few parts is not liable to get out of order.

I claim as my invention—

1. The combination with the downward supply-pipe and the removable sleeve  $d$ , and coupling  $c$ , screwed upon the supply-pipe, of

a float and a lever pivoted upon the sleeve *d*, a ball-valve having its seat at the upper end of said sleeve *d*, a tubular lifter *f* acted upon by the float and its lever, a stop to limit the upward movement of the tube as it lifts the ball-valve, there being openings through the upper end of the tubular lifter and an annular waterway around the same, substantially as specified.

10 2. The combination with the water-supply pipe, coupling *c*, and sleeve *d*, having the internal rib 2 of the tubular lifter *f*, and collar *f'*, sliding within the sleeve *d*, there being openings at the upper end of the lifter  
15 and a valve that is above and raised by said lifter, substantially as specified.

3. In a valve for closet-cisterns, the com-

bination with the float and pivoted arm, the coupling *c*, ball-valve *g*, and tube *d*, having a seat for the ball at its upper end and an internal annular rib 2, the tubular lifter *f* having a collar *f'*, and perforations 3, adjacent to the upper end, the rib 2, surrounding the tube and acting as a stop for the collar *f'*, and leaving an annular recess outside the tube adjacent to the perforations 3, substantially as set forth.

Signed by me this 1st day of May, A. D. 1896.

JORDAN L. MOTT, JR.

Witnesses:

H. VAN ATTA,

AUGUSTUS W. MOTT.