

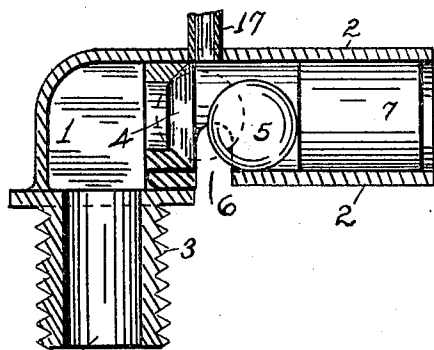
June 3, 1924.

1,496,317

C. B. JOHNSON

FLOAT OPERATED VALVE

Filed May 8, 1922



2a Fig 1

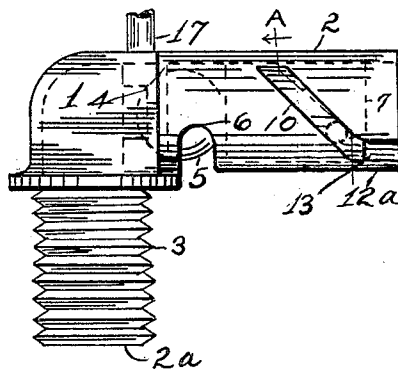


Fig 2

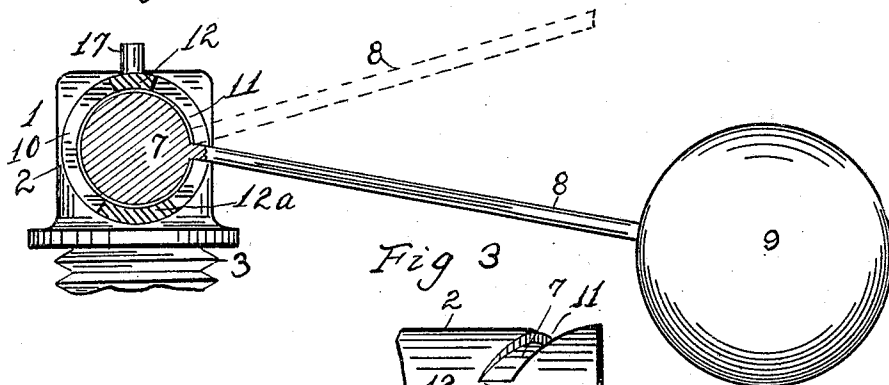


Fig 3

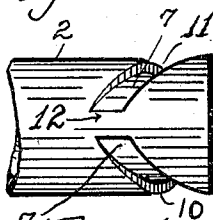


Fig 4

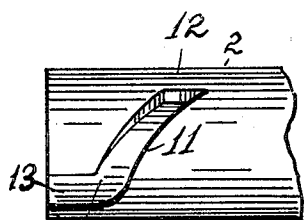


Fig 5



Fig 6

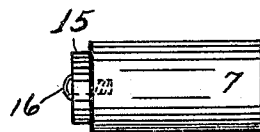


Fig 7

Clarence B. Johnson, Inventor

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UNITED STATES PATENT OFFICE.

CLARENCE B. JOHNSON, OF NORFOLK, VIRGINIA, ASSIGNOR OF TWO-FIFTHS TO J. H. NININGER, OF NORFOLK, VIRGINIA, AND ONE-FIFTH TO JOSEPH LANG.

FLOAT-OPERATED VALVE.

Application filed May 8, 1922. Serial No. 559,208.

To all whom it may concern:

Be it known that I, CLARENCE B. JOHNSON, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Float-Operated Valves, of which the following is a specification.

My invention relates to float operated valves.

The object of the invention is to provide a float actuated valve more particularly adapted to water closet flush tanks and the like which will be very simple, positive in its action and devoid of parts likely to get out of order.

My invention is an improvement on my application for float valves, filed March 25, 1922, Serial Number 546,633.

Further objects and advantages will be more fully described in this specification and fully set forth in the annexed claims due recourse being had to the drawing attached hereto and forming a part of said specification in which:—

Figure 1 is a sectional elevation of my improve float operated valve.

Figure 2 is an outside elevation of the same.

Figure 3 is a cross sectional view taken on the line "A" in Figure 2, with an elevation of the float ball and its rod.

Figure 4 is a part plan of the sleeve or tube member of the valve casing.

Figure 5 is a similar view showing a left handed diagonal slot.

Figure 6 is a part elevation and section of the ball valve operating cylinder or plug.

Figure 7 is an elevation of the cylinder showing a flat valve modification attached thereto.

Like reference numerals indicate similar parts in all the views of the drawing.

1 represents the part of valve casing or enclosing shell directly over the threaded portion 3, for connection to a suitable water supply at 2^a.

2 is a cylindrical portion of the casing disposed at right angles to the upright threaded member 3.

The bore or inside diameter of the tube portion 2 is provided with a member having a tapering valve seat 4 close to the upper

part of the member 3 as at 1, in Figure 1 which is adapted to be closed by a ball valve 5.

When the ball is in the position shown in Figure 1 water will flow from the space 1 past the seat 4 and out through the transverse opening 6 into the flush tank (not shown).

As shown in Figure 1, the ball 5 is away from the seat 4 and against the ball operating cylinder or plug 7 due to the water pressure when said cylinder is actuated by means of the hereinafter described diagonal slots, float rod and ball float.

In Figure 2, the ball 5 is against the seat 4 due to the movement of the cylinder or plug 7 to the left, therefore, the water ceases to flow in the tank or other receptacle.

8 is a rod secured to the cylinder 7 at right angles to its axis and by it, the cylinder is given a slight turn during its reciprocating movement to the right and left, by means of the ball float 9 when actuated by the rising and falling of the water level in the tank.

10 and 11 are oppositely disposed diagonal slots placed in the sleeve or tube member 2 and reach nearly around the circumference except for the metal connecting surfaces 12 and 12^a at the top and bottom of the tube or sleeve, respectively.

The two slots adapt the tube for different positions, that in Figure 2 being right handed and Figure 5 is for a left handed operating position.

As described, the slots are formed at an angle to the longitudinal axis of the tube or diagonally except at the lower portions thereof which are turned so as to form short horizontal ends through the extremity of the tube, as shown at 13, Figures 2 and 5, for the purpose of facilitating the removal and replacing of the ball valve actuating plug or cylinder 7, the rod 8 and the ball float 9 in proper working position within the flush or other tank.

14, Figure 6, indicates a concave end of the cylinder 7 adapted to more efficiently receive the ball valve 5.

In Figure 7, I show a modified form of valve operating plug or cylinder in which I provide a flat valve, (with a proper valve seat not shown to correspond to the shape

of the valve), shown at 15 and carried by the plug or cylinder itself and held thereto by means of the screw 16.

17, Figures 1, 2 and 3 are outlets adapted to receive a suitable small pipe or tube used as a trap refiller which is the usual practice in installing and operating water closet flush tanks.

As shown and described, my invention is very practical, cheap, simple and effective and has the advantage of being easily applied and not likely to become disarranged.

As set forth, the plug 7, together with the float 9 and its rod 8, can be applied instantly by inserting the plug in the sleeve 2, pushing the rod near the same in the straight portion 12^a of one of the slots, and then giving a short turn to the plug thereby locking the rod in its proper place in the slot 10 or 11 for ordinary use when controlled by the float 9 actuated by the rising and falling of the water level within the flush or other tank.

I claim:

25 1. In combination with enclosing means

for a valve comprising a tube or sleeve portion having oppositely disposed diagonal slots, a ball valve controlling cylinder in said tube portion, and float and rod means for effecting the operation of the said controlling cylinder by the movement of the said rod in one of said diagonal slots.

2. In a device as described, a horizontally disposed tube or sleeve member having oppositely disposed diagonal slots therein provided with horizontal terminals extending through the end of the sleeve member, a cylinder in said tube for actuating a valve, a float rod extending through one of said diagonal slots and connected to said cylinder for effecting a rotary reciprocating movement of said cylinder when the float rises and falls.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses:

CLARENCE B. JOHNSON.

Witnesses:

J. H. NININGER,

WALTER B. BURROW.