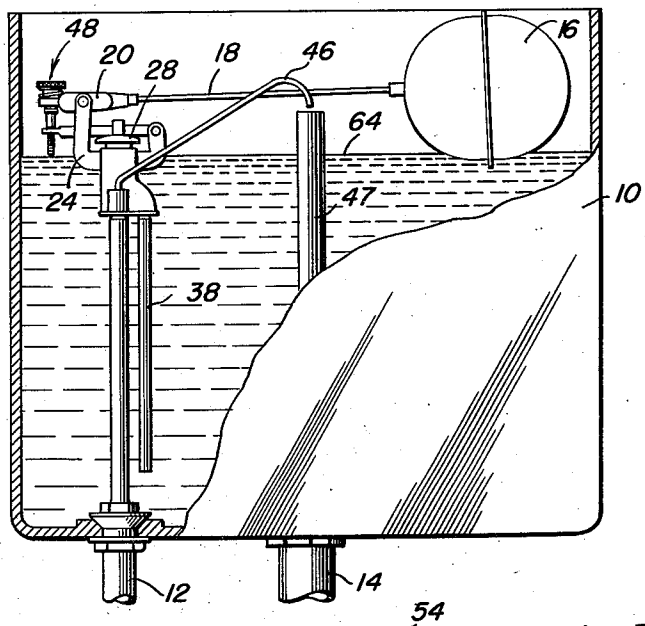
Oct. 16, 1951 L. A. COUTURE 2,571,206

ADJUSTABLE BALL COCK VALVE

Filed July 13, 1948

Fig. 1.



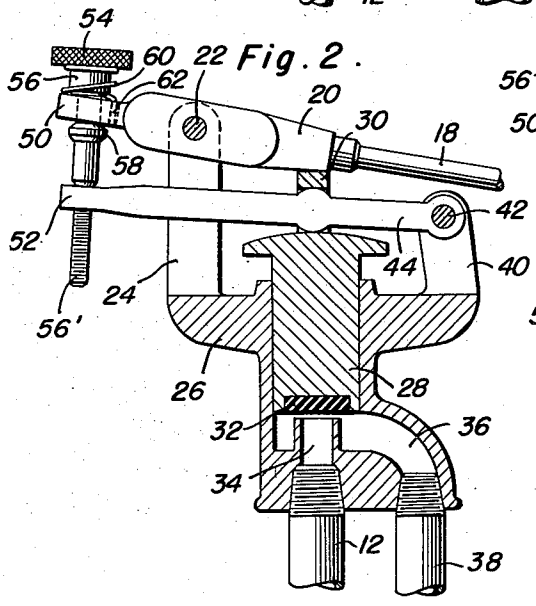


Fig. 2.

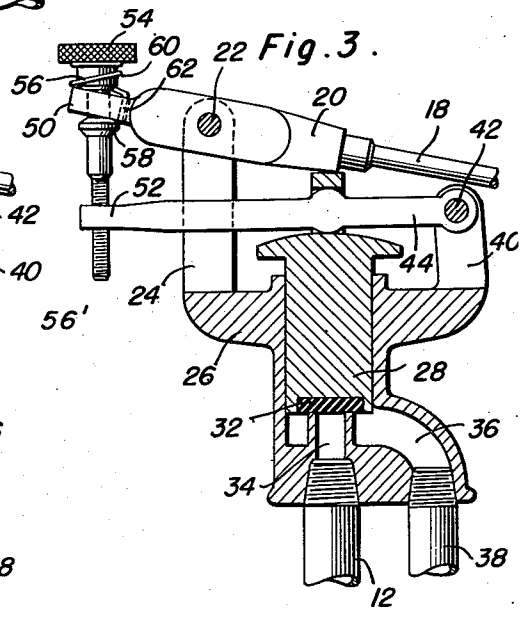


Fig. 3.

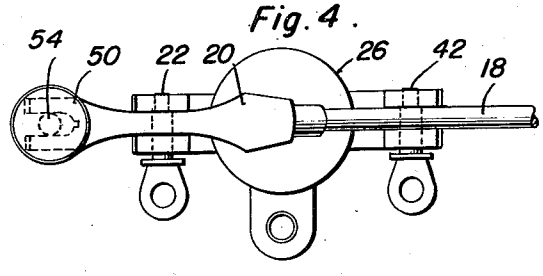


Fig. 4.

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ADJUSTABLE BALL COCK VALVE

Lionel A. Couture, Fall River, Mass.

Application July 13, 1948, Serial No. 38,444

2 Claims. (Cl. 137—104)

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This invention relates to improvements in supply valves and it pertains more particularly to valves of this character as applied to flush tanks for water closets.

In valves of this character when used in flush tanks, the opening and closing of the valve is accomplished through the medium of a float whose movement is responsive to the rise and fall of the water in the tank, and a compound lever carrying the valves.

The primary object of the invention is to provide a means for adjustably varying the distance between the first or bottom link and the second or upper link of the compound lever so that the flow of water from the source of supply to the tank may be adjusted to a complete range of from full open to full closed position.

Yet another object of this invention is to provide an adjusting thumb screw extending through the first and second links of the compound lever and a tension spring carried by the thumb screw to prevent any change in adjustment due to vibration after the adjustment has been set.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawing, wherein:

Figure 1 is a side elevational view of the device of the instant invention shown associated with a ball cock valve in a water closet which has been partly broken away;

Figure 2 is a vertical sectional view through the valve body and a portion of the compound lever, some parts being shown in elevation, illustrating the valve in open position;

Figure 3 is a view similar to that shown in Figure 2 illustrating the valve in a closed position; and

Figure 4 is a top plan view of the device of the instant invention associated with a ball cock valve.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specification reference characters indicate corresponding elements throughout.

Indicated generally at 10 is a water closet having the conventional water inlet conduit 12 and the water outlet conduit 14.

Positioned within the water closet 10 is the conventional ball cock valve which consists of a

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float 16 to which is secured an actuating rod 18 to which is secured at the end opposite the float a compound lever consisting of a link 20 which is pivoted as at 22 to a lug 24 carried by a valve body 26. Slidable in the valve body 26 is a valve stem 28 the top of which is provided with an apertured collar 30. The valve stem 28 carries at its bottom end a valve 32 which overlies the opening 34 of the water inlet conduit 12. The valve body is additionally provided with an arcuate conduit 36 which is communicated with a water inflow conduit 38.

Secured to the valve body 26 at the end opposite the lug 24 is another lug 40 to which is pivoted by means of pivot pin 42 a link 44 which extends through the apertured collar 30 and underlies the link 20. The ball cock valve also includes the conventional overflow pipe 46 and water receiving conduit 47.

The device of the instant invention indicated generally at 48 consists of the following. Secured or integral with the link 20 is a bifurcated extension 50 while the link 44 is also provided with an extension 52 having an internally threaded aperture at the end thereof.

Extending through the furcations of the link 50 and the aperture in the link 44 is a set screw consisting of a knurled head 54 and a reduced externally threaded portion 56 which portion extends through the internally threaded aperture of the link extension 52. Beneath the knurled head 54 is a member 56 which abuts the upper surface of the extension 50 and a spaced enlarged member 58 which abuts the under surface of the extension 50. About the member 56 and interposed between the knurled head 54 and the upper surface of the extension 50 is a tension spring 60, one end of which 62 extends into the space between the furcations of the extension 50. This tension spring prevents any change in adjustment due to vibration after adjustment has been set.

In practical operation, the device of the instant invention functions in the following manner. By setting the adjusting screw at any desired position the distance between the extension 50 and the extension 52 may be varied as desired. As the water level 64 in the water closet drops, the float 16 falls with it and after falling to a predetermined level, the link 20 pivots about the pin 22 lifting the set screw which in turn lifts the link 40 which pivots about the pivot pin 42. The valve stem is consequently raised opening the valve 32 as shown in Figure 2. Water enters the valve body and flows through the conduit 38

into the closet. As the level rises, the float 16 rises and the valve stem eventually moves down to close the valve 32. It will be readily understood by those skilled in the art that adjustment of the set screw will vary the opening and closing of the valves 32 at predetermined levels.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having thus described the invention, what is claimed as new is:

1. In a ball cock valve including a valve body, a valve slidable in said body, a first link pivoted to said body engaging said valve, and a second link pivoted to said body above said first link; a means for adjustably varying the distance between said first link and said second link, said means including an extension on said first link having an internally threaded aperture therein, a bifurcated extension on said second link, and a

set screw extending through the aperture of said first link and between the furcations of said second link, said set screw including a knurled head, a first member beneath said knurled head abutting the top surface of said second link, a second member spaced from said first member abutting the under surface of said second link, and a screw threaded portion engaging the aperture in said first link.

2. The combination of claim 1 and a spring about said first member interposed between and affixed to the knurled head and the upper surface of said second link.

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