Oct. 20, 1953 J. S. AGNEW 2,655,665

FLUSH CONTROL DEVICE FOR WATER TANKS

Filed Oct. 25, 1950 2 Sheets-Sheet 1

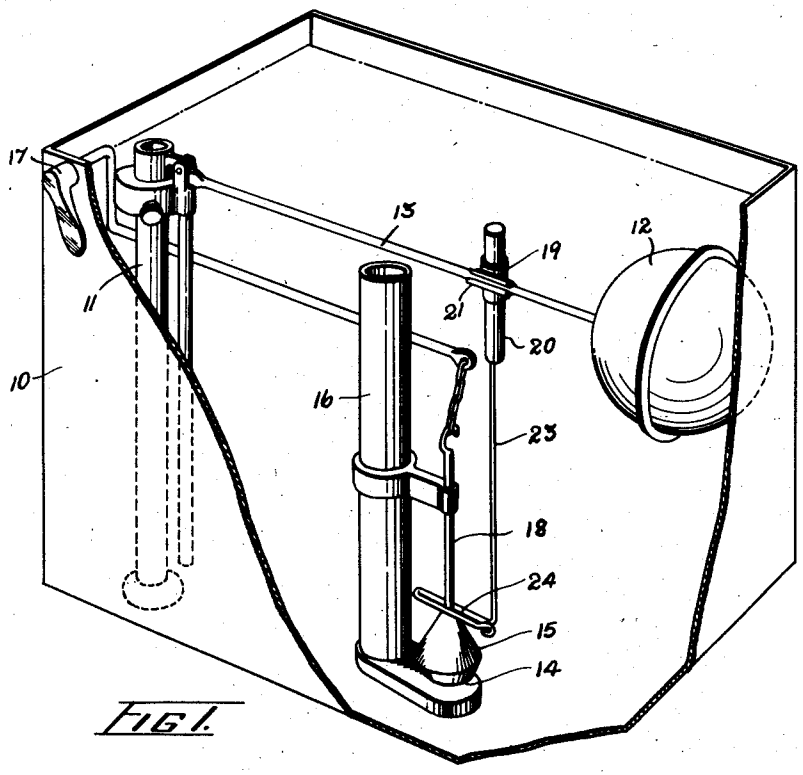


FIG 1.

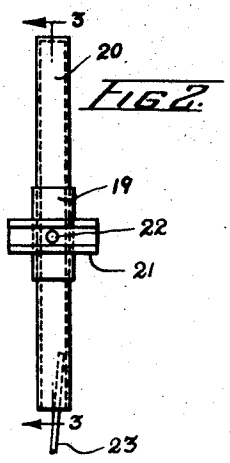


FIG 2.

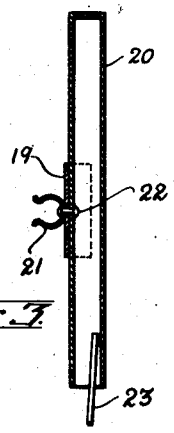


FIG 3.

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Oct. 20, 1953 J. S. AGNEW 2,655,665

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Filed Oct. 25, 1950 2 Sheets-Sheet 2

FIG 4.

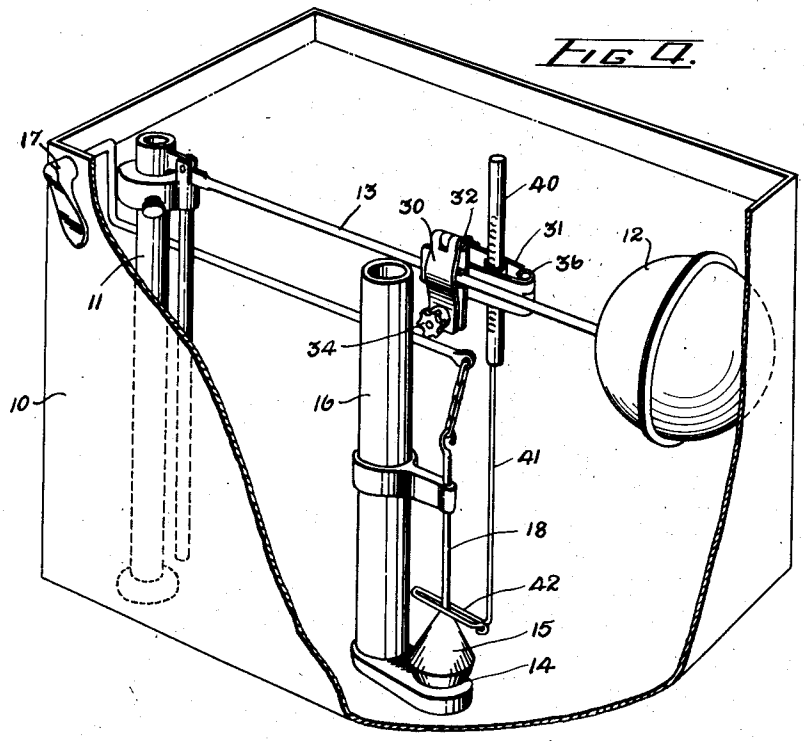


FIG 5.

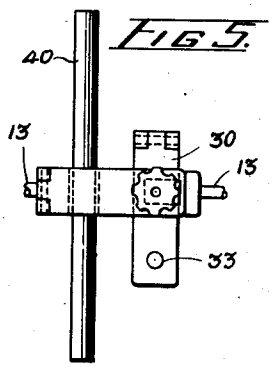
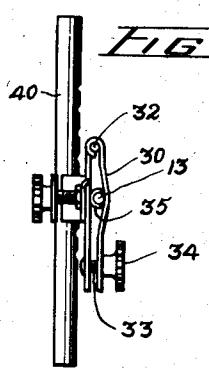


FIG 6.



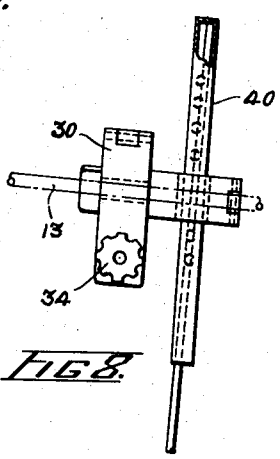


FIG 8.

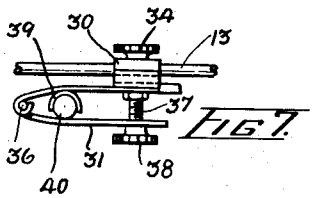


FIG 7.

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2,655,665

FLUSH CONTROL DEVICE FOR WATER TANKS

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Application October 25, 1950, Serial No. 192,013

1 Claim. (Cl. 4—41)

1

This invention relates to a device for regulating the amount or quantity of water used in flushing a water closet and in particular to provide a means whereby a partial flush or a full flush may be obtained at will.

In my copending United States application Serial No. 170,420, now abandoned, I have therein described a device which can be applied to the flushing apparatus of a water closet for controlling the amount of water used at each flushing operation.

The object of the present invention is to provide a device of much simpler construction than that disclosed in my previous application but which will effectively regulate the amount of water to be discharged at each flushing operation.

The advantages of the present construction and the manner in which the same is used will be apparent by reference to the following description and the accompanying drawings which describes and illustrates a preferred exemplification of the same.

Figure 1 is a cut-away perspective view showing the device applied to a flush tank;

Figure 2 is a front elevation of the device;

Figure 3 is a cross-sectional view on the line 3—3 Figure 2;

Figure 4 is a cut-away perspective view showing an alternative construction of that shown in Figure 1;

Figure 5 is a rear view of the device shown in Figure 4;

Figure 6 is a side elevation of the device shown in Figure 5.

Figure 7 is a top view of Figure 5;

Figure 8 is a front elevation of the device showing the relative position of the parts when the ballcock has dropped to a predetermined level.

Referring first to the modification shown in Figures 1, 2 and 3, the apparatus therein illustrated comprises a flush tank 10 in which is mounted the usual operating mechanism comprising a ballcock 11 having a float 12 carried on a control arm 13, a discharge outlet 14, a flush valve 15 closing the discharge outlet 14, an overflow pipe 16, and an operating handle 17 which through the usual lever arrangement is connected to the stem 18 of the flush valve 15 for unseating the flush valve to initiate the flushing operation.

The apparatus by which a partial flush of the flush tank is accomplished comprises the following parts, namely, a collar 19 into which is fitted a tubular member 20 which has its upper end

2

closed to form a stop. The tubular member 20 fits into the collar 19 with a fairly tight fit so as to hold the member in any position to which it may be moved within the collar for effecting an adjustment of the amount of water used at each flushing operation. The means for mounting the collar 19 on the arm 13 comprises a U-shaped clamping member 21 which is pivotally connected to the collar 19 by a pivot pin 22. The arms of the bracket 21 are resilient so that they can be sprung over the arm 13 and tightly grip the same to hold it in its position. Associated with the tubular member 20 is a push rod 23, the upper end of which is adapted to extend into the tubular member 20 and the lower end being bent at right angles thereto and reversely upon itself to form a terminal loop 24 through which passes the stem 18. That portion of the rod 23 which is meant to form the terminal loop 24 encircles the stem 18 and rests upon the top of the flush valve 15.

Referring now to the modification shown in Figures 4, 5, 6, 7 and 8, the device therein illustrated consists of a pair of hinged clamping members 30, 31. As will be seen by reference to the drawings, the member 30 is formed of two plate members hinged together at one end by a hinge pin 32 and removably attached together at the other end by screw 33 and thumb nut 34. Secured to one of the two parts forming the clamping member 30 is a U-channel 35 which is adapted to embrace the arm 13 of the ballcock 11.

The member 31 is formed of two parts connected together at one end by a hinge pin 36 and at the other end by screw 37 and thumb nut 38. Attached to one of the two parts forming the member 31 is a U-channel 39 which is adapted to receive a tubular member 40. Associated with the tubular member 40 is a push rod 41 which has its lower end bent at right angles to form an arm 42 which engages around the stem 18 and rests upon the valve 15. The members 30, 31 are pivotally connected together so as to allow the member 31 to move on its pivot as the float rises and falls to prevent the push rod 41 from binding in the tubular member 40.

The action of the device is very simple. Either of the modifications shown in the drawings is attached to the arm 13 but in order to avoid repetition the operation of the same will be described with reference to the modification shown in Figures 1, 2 and 3. In that modification the tubular member 20 is inserted in the supporting member 19 and held in relative position by friction. The clamping member 21 is then applied to the arm 13

by merely pressing the same over that arm. The resiliency of the member 21 is sufficient to hold the clamping member 21 against longitudinal movement on the arm 13. The push rod 23 is then placed in position by inserting the upper end into the tubular member 20 and the lower end engaged around the stem 18. The tubular member 20 is then adjusted relative to the supporting member 19 by moving it up and down to the position desired to allow a predetermined quantity of water to pass out of the tank during the flushing before the valve 15 is pushed to its seat by the rod 23. To obtain a partial flush, the operating handle 17 is actuated to lift the valve 15 from its seat and immediately released. When the water has fallen a predetermined distance, the member 20 will push the rod 23 downwardly to force the valve 15 back on its seat. To obtain a full flush, all that is necessary is to hold handle 17 with the valve 15 off its seat until the tank is empty.

What I claim as new and desire to protect by Letters Patent of the United States is:

A water saving device for use in combination with the flushing mechanism of a flush tank for a water closet having a discharge opening in the bottom of the tank, a flush valve including an operating stem closing said opening and a ballcock including a float and an arm supporting the float for automatically refilling the tank after each flushing operation, said device comprising a bracket removably attachable to said arm, a tubular collar pivotally connected to said bracket permitting said collar to be adjusted angularly relative to said arm, a tubular member having a closed upper end carried in said collar whereby said tubular member may be adjusted in a vertical direction relative to said arm, and a push rod having its upper end arranged to enter said tubular member and its lower end formed with a terminal loop to encircle said stem and be supported on the flush valve, said rod and tubular member cooperating to effect a premature closing of the flush valve.

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