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WATER SAVING ATTACHMENT FOR FLUSH BOXES

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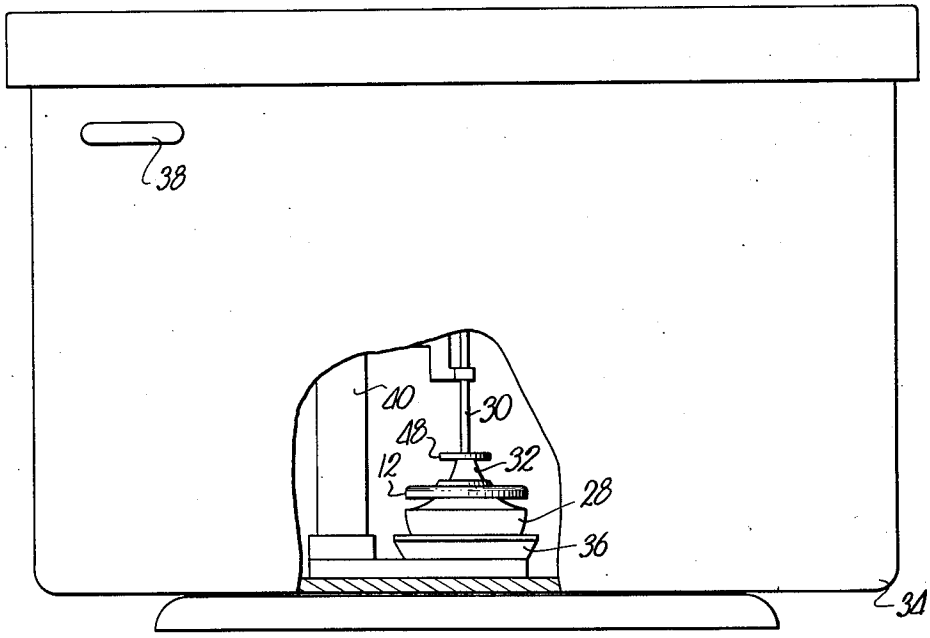

Fig. 1.

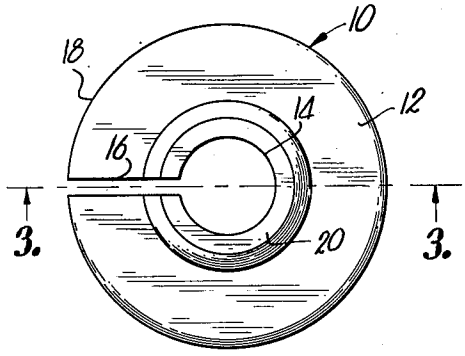

Fig. 2.

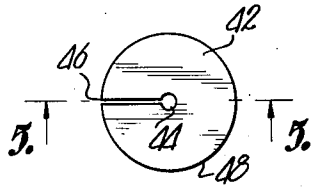

Fig. 4.

Fig. 5.

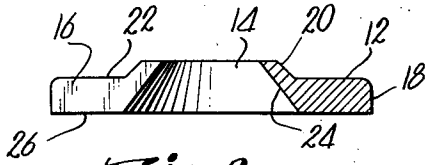

Fig. 3.

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WATER SAVING ATTACHMENT FOR FLUSH BOXES

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This invention relates to a device for use with a conventional water closet for the purpose of controlling the water issuing from the latter whereby a substantial saving of water is obtained each time the water closet is actuated.

In conventional water closets, a predetermined quantity of water is utilized therein and substantially all of the water is utilized each time the water closet is actuated. Over a given interval of time a considerable amount of water is utilized, and in a number of situations it is unnecessary that all of the water be used to accomplish the flushing action of the water closet.

The present invention provides means for controlling the flow of water from the aforementioned water closet so that either a portion of the water or substantially all of the water, may be utilized during the actuation of the water closet, thus providing a means for conserving water in a situation where all of the water is not required.

It is, therefore, the primary object of the present invention to provide means for controlling the flow of water outwardly from a water closet so that only a portion of the water in the water closet may be utilized when the situation demands the same to thereby effect a considerable saving in the water utilized in the actuation of the water closet.

Another object of the present invention is the provision of a means for decreasing the floatability of the flush ball in a conventional water closet, whereby the water issuing from the latter may be controlled to thereby effect a saving in the amount of water used in the actuation of the water closet.

A further object of the present invention is the provision of a member of a relatively high specific gravity which may be placed in engagement with the flush ball of a conventional water closet, whereby the member acts as a weight to cause the flush ball to return to the valve closing position thereof at a faster rate than that attained without the use of the member.

Another object of the present invention is the provision of a slot in the aforementioned member which is fitted over the shiftable rod operably coupled to the flush ball, whereby the member may be easily and quickly seated on the flush ball and thus be in condition for immediate use.

Other objects of the present invention will become apparent as the following specification progresses, reference being had to the accompanying drawings, wherein:

FIGURE 1 is a fragmentary, cross-sectional, side elevational view of a water closet in conventional use, and illustrating the flush ball thereof with the device thereon which forms the subject of the present invention;

FIG. 2 is an enlarged, plan view of the device which forms the subject of the present invention;

FIG. 3 is a cross-sectional, side elevational view taken along line 3—3 of FIG. 2;

FIG. 4 is a plan view of a retaining element which is adapted to be operably coupled with the shiftable rod secured to the flush ball of a conventional water closet so as to maintain the device of FIGS. 2 and 3 on said flush ball; and

FIG. 5 is a cross-sectional side elevational view taken along line 5—5 of FIG. 4.

The device which forms the subject of the present invention is broadly denoted by the numeral **10** and comprises a disc-like member **12** having a central opening **14** therein, and a radially extending slot **16** spanning the distance between opening **14** and the annular edge **18** of member **12**. Member **12** is preferably of a material having a relatively high specific gravity such as cast iron or the like, and may be coated with a material rendering member **12** substantially impervious to the deleterious effects of moisture. An arcuate web **20** surrounds opening **14** and is integral with one face **22** of member **12**, web **20** being provided to add structural rigidity to member **12**.

Opening **14** extends through both member **12** and web **20** to present a substantially frusto-conical bearing surface **24** as is clear in FIG. 3, the greatest diameter of opening **14** being at the lowermost face **26** of member **12**.

Member **12** is adapted to be operably coupled to a flush ball **28** which is secured to a rod **30** at the uppermost end thereof, it being noted that flush ball **28** is provided with a frusto-conical outermost surface **32** which is found in conventional flush balls.

Flush ball **28** is adapted to control the flow of water from a conventional water closet **34** issuing through the open end of a conduit **36** when rod **30** is shifted upwardly by the actuation of a handle **38** operably coupled thereto. Supporting structure **40** within water closet **34**, renders rod **30** vertically shiftable so as to shift flush ball **28** into and out of engagement with conduit **36**.

Member **12** is installed over flush ball **28** by inserting rod **30** through slot **16** and into opening **14**. Thereupon, member **12** is lowered to a position whereby the bearing surface **24** substantially complementally engages the outer surface **32** of flush ball **28**. Thus, member **12** decreases the floatability of flush ball **28** by virtue of increasing the effective weight of flush ball **28**.

A disc-like retaining element **42** illustrated in FIGS. 4 and 5, is provided with a central opening **44** therein, and a radially extending slot **46** spanning the distance between opening **44** and the marginal edge **48** of element **42**. Element **42** is inserted over rod **30** after member **12** has been positioned as shown in FIG. 1, so as to limit the upward travel of member **12** relative to flush ball **28**.

Element **42** is provided with a resilient material preferably of hard rubber. Element **42** thus firmly engages rod **30** by virtue of the resilience thereof and remains substantially at a fixed position. As shown in FIG. 1, element **42** is positioned directly above, and in engagement with the apex end of flush ball **28**.

In operation, with member **12** disposed on flush ball **28** and element **42** on rod **30**, water closet **34** may be actuated by the manipulation of handle **38** to thereby elevate flush ball **28** out of closing relationship to conduit **36**. The water within water closet **34** then drains outwardly through conduit **36** so long as flush ball **28** is spaced from the latter.

If handle **38** is immediately released, flush ball **28** thereupon gravitates toward conduit **36** to close the latter in the usual manner. It is clear that only a limited volume of water within water closet **34** is permitted to pass out through conduit **36**, since the floatability of flush ball **28** has now been reduced to make the same considerably less buoyant.

Should the user of water closet **34** desire an increased flow of water from water closet **34**, handle **38** is manually held by the user so that flush ball **28** is prevented from gravitating toward conduit **36**. A greater flow of water then passes through conduit **36** and the amount or volume of the water passing through conduit **36** is determined by the length of time which handle **38** is held by the user.

It is therefore clear that only a portion of the water in water closet **34**, or substantially all of the water therein, may be utilized, depending upon the situation. It is further evident that member **12** disposed on flush ball **28**, provides a means for saving of water flowing out of

flush box **34** and in the interest of economy, this saving amounts to a considerable sum over a given interval of time.

To prevent the unseating of member **12** from flush ball **28**, element **42** is provided thereabove to limit the upward travel of member **12** relative to flush ball **28** to a predetermined distance, this distance being such that member **12** is substantially prevented from being removed from flush ball **28** by the swirling action of the water passing into conduit **36**.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a water-saving device for a flush box having a flush ball suspended from a shiftable rod, a member formed of a material having a relatively high specific gravity and adapted to be operably coupled with said ball to decrease the floatability thereof, said member having a central opening therein and a slot extending from said opening to one edge thereof, said opening and said slot adapted to receive said rod for positioning said member above said ball with a portion of the latter extending through said opening when the member engages said ball and is supported thereby.

2. In a water-saving device as set forth in claim 1, wherein said member is provided with a beveled bearing surface adapted to complementally engage the external surface of the flush ball.

3. In a water-saving device as set forth in claim 2, wherein said member is provided with an arcuate web thereon surrounding said opening, the innermost surface of said web being coextensive with said bearing surface.

4. In a water saving device as set forth in claim 1, wherein is included means adapted to be positioned on said rod adjacent said flush ball for limiting the movement of said member with respect to said rod.

References Cited in the file of this patent

UNITED STATES PATENTS

2,514,062	Hoerig	July 4, 1950
2,589,265	Langdon	Mar. 18, 1952