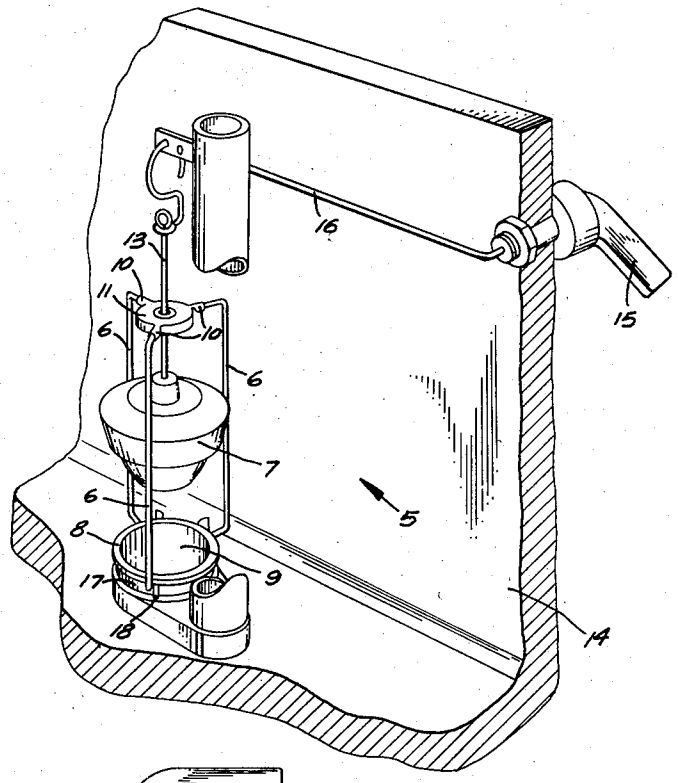
July 21, 1959 J. J. CURRAN 2,895,141

WATER CLOSET BALL VALVE GUIDE

Filed Oct. 15, 1957

FIG. 1.



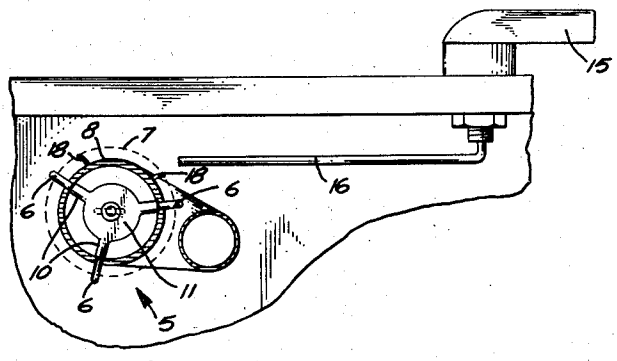


FIG. 2.

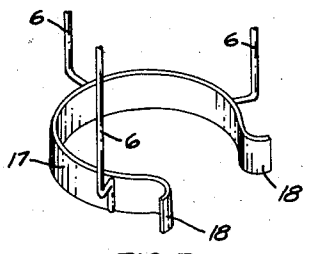


FIG. 3.

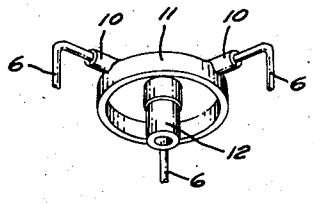


FIG. 4.

United States Patent Office

2,895,141

Patented July 21, 1959

2,895,141

WATER CLOSET BALL VALVE GUIDE

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Application October 15, 1957, Serial No. 690,238

1 Claim. (Cl. 4—57)

Generally speaking, the present invention relates to the water closet ball valve guide art and, more specifically, relates to an improved ball valve guide device which automatically seats the ball valve on the flush pipe.

An object of the present invention is to provide a water closet ball valve guide which is simple to install and foolproof in operation.

Another object of the present invention is to provide an improved water closet ball valve guide which will automatically seat the ball valve on the inlet orifice of the flush pipe.

A further object of the present invention is to provide an improved water closet ball valve guide having mounting means which is easily and quickly attachable to the inlet orifice of the flush pipe.

With the above points in mind, it is an object of the present invention to provide a water closet ball valve guide which virtually completely eliminates the likelihood of the ball valve becoming incorrectly seated on the inlet orifice of the flush pipe.

It is a still further object of the present invention to provide a device of the character set forth in the preceding objects, which is inexpensive, simple, easy to manufacture and of virtually foolproof construction.

Other and allied objects will be apparent to those skilled in the art after a careful perusal, examination and study of the accompanying illustrations, the present specification, and the appended claim.

To facilitate understanding, reference will be made to the hereinbelow described figures, in which:

Fig. 1 is a fragmentary perspective view of the present invention installed in the water closet and with the ball valve being guided into a fully seated position with respect to the inlet orifice of the flush pipe;

Fig. 2 is a top plan view of the present invention installed in the water closet, with the ball valve shown in phantom for drawing simplification reason;

Fig. 3 is a fragmentary perspective view of the bottom mounting clip; and

Fig. 4 is a fragmentary perspective view of the top guide and support member.

Generally speaking, the ball valve guide, indicated generally at **5** in Figs. 1 and 2, can be said, in one preferred version of the present invention, to consist of three symmetrically spaced, upright ball valve guide bars **6** which effectively encompass the ball valve **7**, whereby the ball valve **7** may be automatically seated on the inlet orifice **8** of the flush pipe **9**, as best illustrated in Fig. 1. The ball valve guide **5** is installed within a pre-existing water closet **14** which includes a handle **15** and an actuating arm **16** which is attached to the handle **15** at one end and to the valve guide arm **13** at the opposite end. It should be noted that the ball valve guide **5** is not to be specifically limited to pre-existing water closets **14**.

The upper ends of the guide bars **6** are attached to the symmetrically spaced support sleeves **10** of the top guide and support member **11**, as best shown in Figs. 1, 2, and 4. The top guide and support member **11** includes a downwardly directed central tubular member **12** wherein the ball valve guide arm **13** reciprocates. The

central tubular member **12** maintains the valve guide arm **13** in correct vertical alignment, while at the same time the guide bars **6** insure that the ball valve **7** is directly over the inlet orifice **8**, thereby eliminating any possible shifting or tilting of the ball valve **7** and automatically providing a perfect seating of the ball valve **7** with every flushing.

A partly annular bottom mounting clip **17** is resiliently attached to the inlet end **8** of the flush pipe **9**, as best illustrated in Fig. 1. The bottom mounting clip **17** is partly open and has outwardly curled open ends **18**, whereby the ball valve guide device **5** may be quickly and easily installed without costly installation and also to obviate the need for many tools, as shown in Fig. 3. The lower ends of the upright guide bars **6** are fixedly attached to the bottom mounting clip **17**.

Numerous modifications and variations of the present invention will occur to those skilled in the art after a careful study hereof. All such properly within the basic spirit, scope and/or teachings of the present invention are intended to be included and comprehended herein as fully as if specifically described, illustrated and claimed.

For example, it is obvious that the mounting clip of the present invention may be modified so as to be fixedly mounted to the inlet orifice of the flush pipe. Also the top guide and support member and the upright guide bars may be modified substantially. The ball valve guide may be mounted directly to the overflow pipe in some versions of the present invention.

The exact compositions, configurations, constructions, relative positionings, and cooperative relationships of the various component parts of the present invention are not critical, and can be modified substantially within the spirit of the present invention.

The embodiment of the present invention specifically described and illustrated herein is exemplary only, and is not intended to limit the scope of the present invention, which is to be interpreted in the light of the appended claim, with due consideration for the doctrine of equivalents.

I claim:

A water closet ball valve guide, comprising: three symmetrically spaced, upright ball valve guide bars cooperable for encompassing a ball valve and having substantially horizontal inwardly bent resilient upper and lower ends; a top guide and support member including a downwardly directed central hollow tubular portion, in which a ball valve guide arm is vertically reciprocable, and three symmetrically spaced radially outwardly directed substantially horizontal support sleeves whereto the inwardly bent substantially horizontal upper ends of said upright ball valve guide bars are attached; a partly annular resilient bottom mounting clip, whereon the inwardly bent substantially horizontal lower ends of said upright ball valve guide bars are substantially equiangularly attached, cooperable for resilient attachment to the inlet end of a flush pipe; said bottom mounting clip being partly open with two of said inwardly bent substantially horizontal lower ends of said upright ball valve guide bars attached to said clip on each side of the open portion thereof, and with the third of said inwardly bent substantially horizontal lower ends of said upright ball valve guide bars attached to said clip at a location substanally opposite the open portion thereof; said top guide and support member being fixedly vertically spaced above said bottom mounting clip a predetermined distance.

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