

Feb. 19, 1935.

J. W. PLATT

1,991,907

ADJUSTABLE FLUSH VALVE BRACKET

Filed Feb. 14, 1934

Fig. 1.

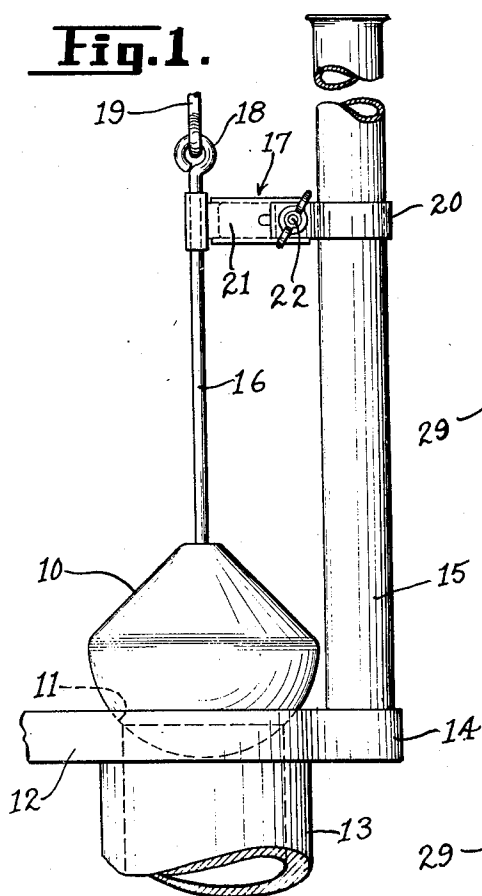


Fig. 2.

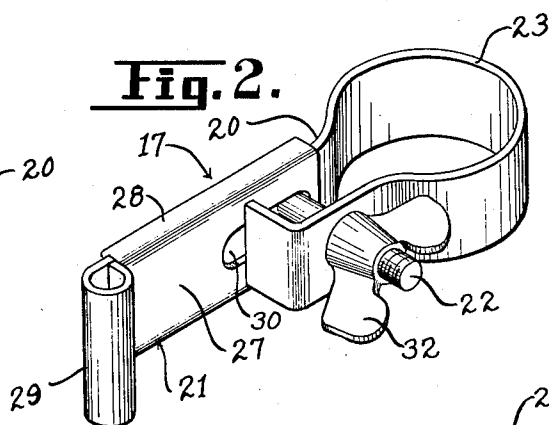


Fig. 3.

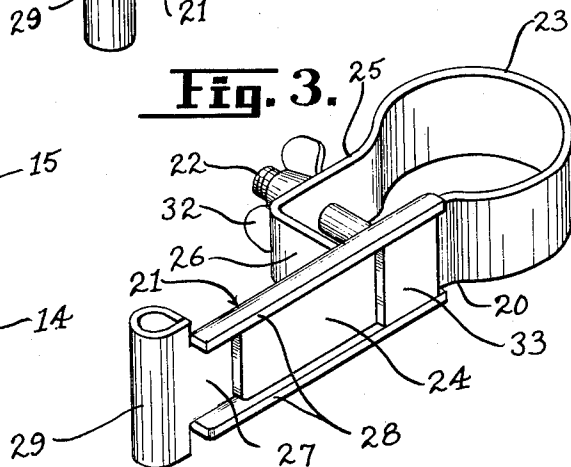


Fig. 4.

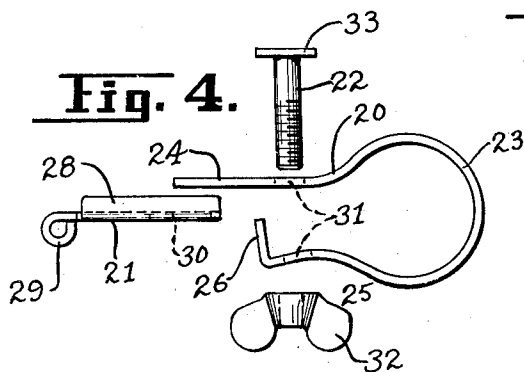
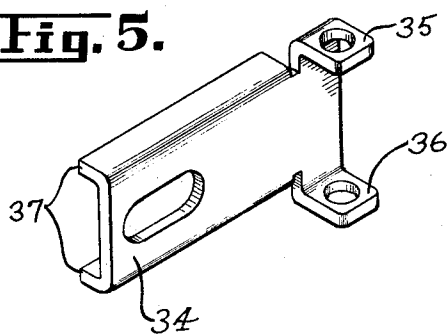


Fig. 5.



INVENTOR
John W. Platt.
BY
H. G. Manning
ATTORNEY

UNITED STATES PATENT OFFICE

1,991,907

ADJUSTABLE FLUSH VALVE BRACKET

John W. Platt, Waterville, Conn.

Application February 14, 1934, Serial No. 711,191

7 Claims. (Cl. 4-57)

This invention relates to flush valve guide brackets, and more particularly to a device of this character adapted to guide the valve stem of a ball discharge valve of a flushing tank for water closets and the like.

One object of this invention is to provide a bracket of the above nature in which the valve stem may be adjusted relative to the overflow pipe so as to accurately center the ball flush valve upon its seat in the outlet pipe.

A further object is to provide an adjustable valve stem guide and bracket of the above nature in which the valve stem guide bracket may be quickly and easily adjusted both vertically and horizontally with respect to the overflow pipe and locked simultaneously in adjusted position by the use of only a single clamping member.

A further object is to provide a device of the above nature in which the principal parts may be formed out of flat metal stock, thereby producing an article of greater durability than was possible with the previous types of brackets made by casting.

A further object is to provide a bracket of the above nature which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient in use.

With these and other objects in view, there have been illustrated on the accompanying drawing, two forms in which the invention may be conveniently embodied in practice.

In the drawing:

Fig. 1 represents a side view of the flush valve guide bracket as it appears in use, supported upon the overflow pipe of a flush tank.

Fig. 2 is an enlarged front perspective view of the guide bracket.

Fig. 3 is a rear perspective view of the same.

Fig. 4 is an exploded plan view of the same.

Fig. 5 is a perspective view of a modified form of adjustable valve stem guide also embodying the invention.

Referring now to the drawing in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a rubber ball float valve adapted to fit on a seat 11 formed in a base 12. The valve seat 11 is in communication with an outlet pipe 13 leading to the closet bowl. Extending upwardly from an offset lug 14 on the base 11 is the usual vertical overflow pipe 15.

The float valve 10 is secured to the lower end of a valve stem 16, and is adapted to be centralized upon the valve seat 11 by means of an adjustable

horizontal bracket member generally indicated by the numeral 17.

The upper end of the valve stem 16 is provided with an eye 18 which is adapted to be loosely connected to a pull link 19 which may be manually operated through suitable linkage mechanism (not shown) for lifting the discharge ball valve 10 from its seat to operate the flush whenever desired.

The adjustable bracket 17 consists of three essential parts,—a vertically sliding clamping ring 20, a horizontal sliding adjustable valve stem guide member 21, and a locking bolt 22. The clamping ring 20 is preferably made from flat strip metal stock and is bent to form a circular C-shaped band 23 which is adapted to surround the major portion of the circumference of the overflow pipe 15.

One end of the band 23 is integrally formed with a relatively long straight arm 24, while the opposite end of said band is formed with a shorter arm 25 terminating in a clamping jaw 26 formed at right-angles thereto.

The guide member 21 comprises a flat body portion 27 having a pair of guide flanges 28, 28 along its longitudinal edges for embracing the longer arm 24 of the clamping ring 20. The free end of the guide member 21 is provided with an integral tubular vertical sleeve 29 adapted to guide the valve stem 16 therewithin.

In order to adjustably clamp the guide member 21 in any desired position upon the longer arm 24, the body 27 of the guide member 21 is provided with an elongated slot 30 which registers with a pair of aligned apertures 31, 31 formed in the long and short arms 24 and 25 respectively. The shank of the bolt 22 is adapted to pass through the slot 30 and the apertures 31, 31, and said bolt is adapted to cooperate with a winged nut 32 for clamping the parts of the bracket 17 securely in adjusted position.

As best shown in Figs. 3 and 4, the locking bolt 22 is provided with a special shaped head 33, in the form of a substantially thin rectangular body, which is adapted to be positioned against the back of the long arm 24 with its opposite end edges embraced by the flanges 28 of the guide member 21. By means of this construction, the bolt 22 will be prevented from twisting when the winged nut 32 is being turned.

In the modified form of the invention shown in Fig. 5, a stem guide member 34 is disclosed which is identical in all respects with the member 21 of the first form, except that instead of employing a tubular sleeve 29 for guiding the

valve stem, provision is made of a pair of apertured spaced horizontal lugs 35 and 36 formed integral with the upper and lower edges of the body of the sliding member 34 beyond the end of the guide flange 37 thereof.

One advantage of the present invention is that all set screws and attaching devices which might injure the overflow pipe are eliminated.

A further advantage is that the guide bracket may be simultaneously adjusted and clamped both vertically and horizontally without the necessity of using screw drivers, wrenches or other tools.

While there have been disclosed in this specification two forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent is:

1. In a flush valve bracket, a clamping member formed of flat strip metal comprising a circular band and a pair of substantially parallel arms, a horizontally adjustable member having sliding engagement on one of said arms, said adjustable member having means for guiding the stem of a ball float valve, means on said clamping member for holding said adjustable member in horizontally adjusted position, said holding means also serving to simultaneously support said clamping member in vertically adjusted position upon the overflow pipe.

2. In a flush valve bracket, a clamping member formed of flat resilient strip metal, said member comprising a C-shaped circular band for embracing an overflow pipe and a pair of lateral arms integral with the ends of said band, one of said arms being longer than the other, the shorter arm having an inturned gripping jaw, said arms having a pair of alined apertures therein, an adjustable channel-shaped member having guide flanges for slidable engagement on said longer arm, vertical guide means formed on one end of said channel-shaped member for receiving the valve stem of a ball float valve, said channel-shaped member having a longitudinal slot in registry with said apertures, and bolt means passing through said slot and apertures for forcing said gripping jaw against said channel-shaped member to hold it in adjusted position simultaneous with the clamping of said band around said overflow pipe.

3. In a flush valve bracket, a clamping member formed of flat resilient strip metal, said member comprising a C-shaped circular band for embracing an overflow pipe and a pair of lateral arms integral with the ends of said band, one of said arms being longer than the other, the shorter arm having an inturned gripping jaw, said arms

having a pair of alined apertures therein, an adjustable channel-shaped member having guide flanges for slidable engagement on said longer arm, vertical guide means formed on one end of said channel-shaped member for receiving the valve stem of a ball float valve, said channel-shaped member having a longitudinal slot in registry with said apertures, and bolt means passing through said slot and apertures for forcing said gripping jaw against said channel-shaped member to hold it in adjusted position simultaneous with the clamping of said band around said overflow pipe, said bolt having a rectangular head adapted to be embraced by said flanges to prevent twisting of said bolt.

4. In a flush valve bracket, a clamping member formed of flat strip metal comprising a circular band and a pair of substantially parallel arms, a horizontally adjustable strip metal member having sliding engagement on one of said arms, said adjustable member having means for guiding the stem of a ball float valve, and a single means on said clamping member for holding said adjustable member in horizontally adjusted position and serving to simultaneously hold said clamping member in vertically adjusted position upon the overflow pipe.

5. In a flush valve bracket, a clamping member formed of flat strip metal comprising a circular band and a pair of substantially parallel arms, a horizontally adjustable member having sliding engagement on one of said arms, said adjustable member having a vertical tubular sleeve for guiding the stem of a ball float valve, and a single means on said clamping member for holding said adjustable member in horizontally adjusted position, said holding means also serving to simultaneously hold said clamping member in vertically adjusted position upon the overflow pipe.

6. In a flush valve bracket, a clamping member formed of flat strip metal comprising a circular band and a pair of substantially parallel arms, a horizontally adjustable member having sliding engagement on one of said arms, said adjustable member having a pair of alined apertured out-turned lugs for guiding the stem of a ball float valve, and a single means on said clamping member for holding said adjustable member in horizontally adjusted position, said holding means also serving to simultaneously hold said clamping member in vertically adjusted position upon the overflow pipe.

7. In a flush valve bracket, a clamping member formed of flat strip metal comprising a circular band and a pair of substantially parallel arms, a horizontally adjustable member having sliding engagement on one of said arms, said adjustable member having means for guiding the stem of a ball float valve, a bolt and wing nut on said clamping member for holding said adjustable member in horizontally adjusted position, said holding means also serving to simultaneously support said clamping member in vertically adjusted position upon the overflow pipe.

JOHN W. PLATT.