

C. H. ZWERMANN.
FLUSHING DEVICE.
APPLICATION FILED MAY 19, 1909.

943,131.

Patented Dec. 14, 1909.

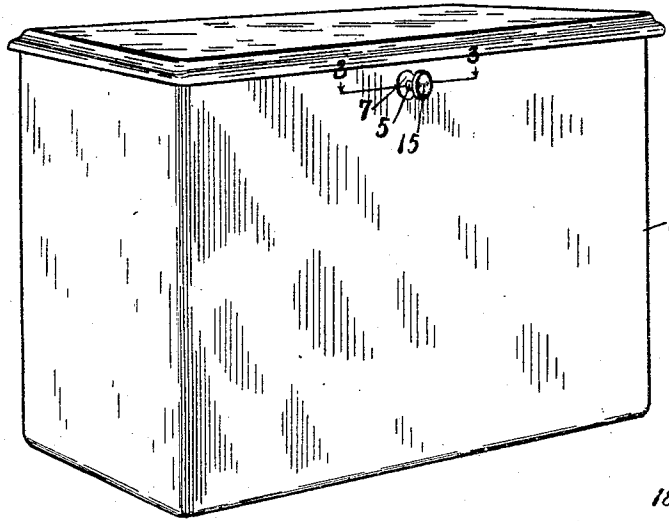


Fig. 1

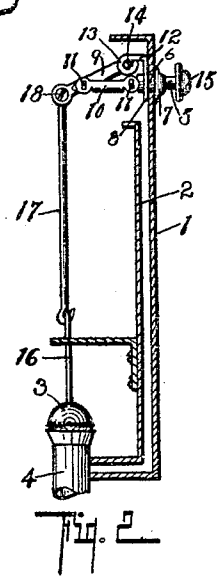


Fig. 2

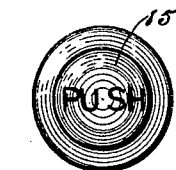


Fig. 6

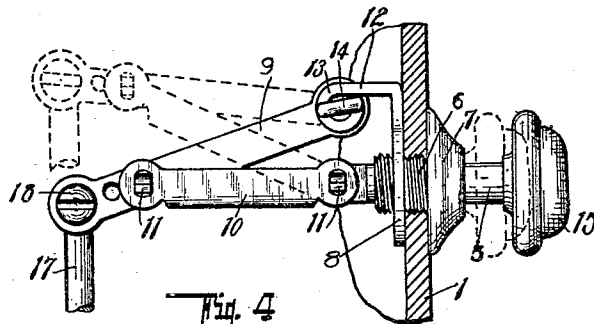


Fig. 4

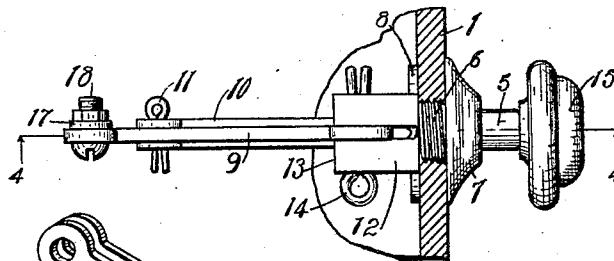


Fig. 3

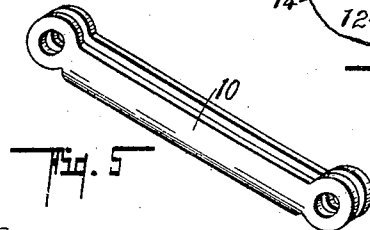


Fig. 5

Witnesses
T. Gertrude Gallman
Clara Ellen Braden

By

Inventor
Carl H. Zwermann
Rappell & East

Attorneys

UNITED STATES PATENT OFFICE.

CARL H. ZWERMANN, OF KALAMAZOO, MICHIGAN.

FLUSHING DEVICE.

943,131.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed May 19, 1909. Serial No. 497,060.

To all whom it may concern:

Be it known that I, CARL H. ZWERMANN, a citizen of the United States, residing at the city of Kalamazoo, county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Flushing Devices, of which the following is a specification.

This invention relates to improvements in flushing devices.

My improved flushing device is particularly designed and adapted for use on the so-called "low down" water closet tanks, although it is desirable for use in other relations.

The main objects of this invention are to provide an improved flushing device for water closets which is easily applied, is simple and economical in structure and not likely to get out of repair.

Further objects, and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The structure described constitutes one effective embodiment of my invention. Other embodiments would be readily devised by those skilled in the art. The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this invention, in which:

Figure 1 is a perspective view of a structure embodying the features of my invention. Fig. 2 is a detail side elevation of the valve operating means, the tank wall being shown in vertical section to show the relation of the parts in use. Fig. 3 is an enlarged detail section taken on a line corresponding to line 3—3 of Fig. 1. Fig. 4 is a detail vertical section taken on a line corresponding to line 4—4 of Fig. 3. Fig. 5 is a perspective view of the link 10. Fig. 6 is a front view of the push rod button.

In the drawings, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, 1 represents the outer or tank casing and 2 the tank proper.

The valve 3 is of the well-known ball type adapted to seat downwardly in a suitable seat provided therefor in the upper end of the outlet pipe 4. The actuating or push rod 5 is arranged through the wall of the tank, it being preferably provided with a supporting sleeve 6. The outer end of the sleeve is provided with a head 7. The sleeve is preferably threaded through the wall, as is illustrated.

On the inside, the sleeve is provided with a clamping nut 8. The push rod 5 is connected to the swinging arm 9 by means of the link 10. This link is preferably U-shaped in cross section, as illustrated, and is bifurcated at its ends to receive the end of the push rod and to embrace the arm 9.

The pivots 11 for connecting the link to the arm and to the push rod are preferably cotter pins. The link 10, being U-shaped in cross section, is very strong in proportion to the weight of material therein, and also the arm 9 may swing into it, see the drawing. The arm 9 is preferably supported on the arm 12 of the clamping nut 8, the arm being bifurcated to receive the arm and being turned into a knuckle 13 to receive the supporting pivot 14 for the arm. This construction holds the parts in alinement and prevents the turning of the push rod so that the button 15 thereof is always kept right side up.

The arm 9 is connected to the valve stem 16 by means of the link 17, the upper end of the link being pivotally secured to the arm by means of the bolt 18, and having a hook engagement with the upper end of the valve stem.

My improved flushing device is very simple and economical in structure, and is, at the same time, very durable and efficient in use. By forming the parts as I have illustrated, they may be mainly formed of stampings,—that is, the clamping nut, the arm 12 and the link 10 may be formed by die work. A further advantage is that the structure is very quickly assembled or applied for use, and the parts are all so connected that they maintain their operative relation and effectiveness, even though subjected to severe usage.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a tank, of a

valve; an operating means for said valve comprising a push rod; a supporting sleeve for said push rod arranged through the wall of said tank; a clamping nut for said sleeve; a swinging arm pivotally mounted on said nut, said nut being provided with a projecting arm bifurcated to receive said swinging arm and having its end rolled into a pivot knuckle; connections for said swinging arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod and said arm and U-shaped in cross section, whereby said arm may swing into the same.

2. The combination with a tank, of a valve; an operating means for said valve comprising a push rod; a supporting sleeve for said push rod arranged through the wall of said tank; a clamping nut for said sleeve; a swinging arm pivotally mounted on said nut, said nut being provided with a projecting arm bifurcated to receive said swinging arm and having its ends rolled into a pivot knuckle; connections for said swinging arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod and said arm.

3. The combination with a tank, of a valve; an operating means for said valve comprising a push rod; a supporting sleeve for said push rod arranged through the wall of said tank; a clamping nut for said sleeve; a swinging arm pivotally mounted on said nut; connections for said swinging arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod and said arm and U-

shaped in cross section, whereby said arm may swing into same.

4. The combination with a tank, of a valve; an operating means for said valve comprising a push rod; a supporting sleeve for said push rod arranged through the wall of said tank; a clamping nut for said sleeve; a swinging arm pivotally mounted on said nut; connections for said arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod and said arm whereby said push rod is held against rotation.

5. The combination with a tank, of a valve; an operating means for said valve comprising a push rod; a swinging arm; connections for said swinging arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod and said arm and U-shaped in cross section, whereby said arm may swing into the same.

6. The combination with a tank, of a valve; an operating means for said valve comprising a push rod; a swinging arm; connections for said swinging arm to said valve; and a connecting link for said push button to said swinging arm, said link being bifurcated at its ends to engage said push rod whereby said push rod is held against rotation.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

CARL H. ZWERMANN. [L. s.]

Witnesses:

CLARA E. BRADEN,

F. GERTRUDE TALLMAN.