June 15, 1937. A. LANCELLOTTE 2,083,955

VALVE ROD GUIDE FOR FLUSH TANKS

Filed Aug. 11, 1936

Fig. 1

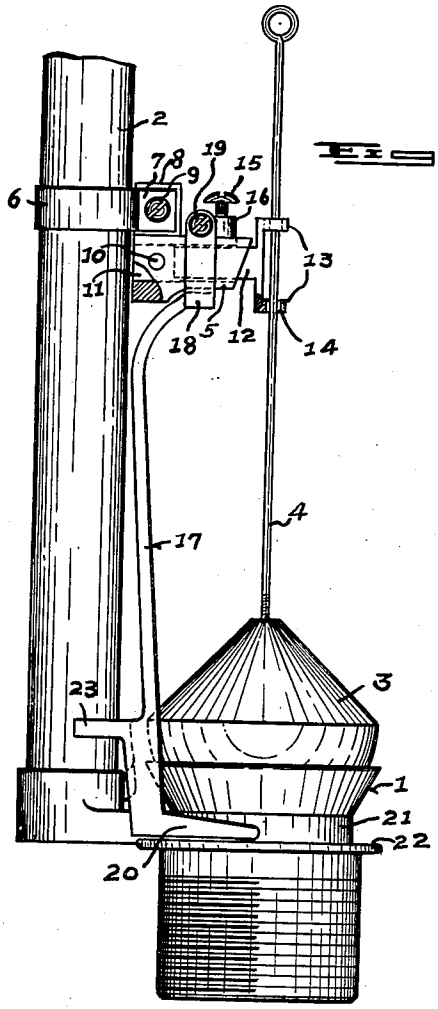


Fig. 2

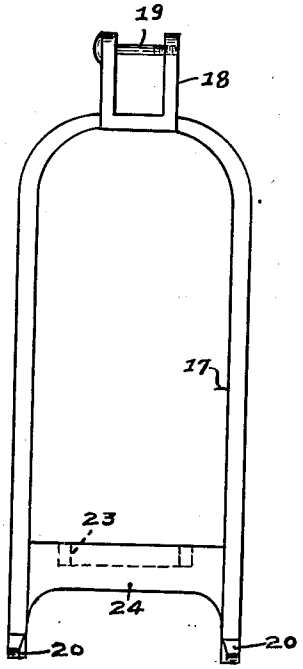


Fig. 3

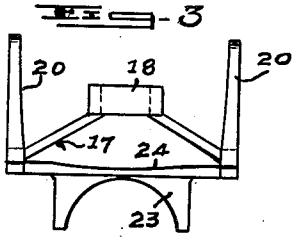
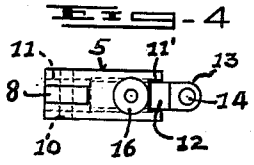


Fig. 4



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VALVE ROD GUIDE FOR FLUSH TANKS

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1 Claim. (Cl. 4—57)

This invention relates to a valve rod guide for a flush tank, and important objects and advantages thereof are to provide a durable and efficient guide mechanism of the character described, which will function to accurately seat the ball valve of a flush tank on its associated valve seat and thus prevent the waste of water, which embodies a novel bracing element, which is simple in its construction and arrangement, and comparatively economical in its manufacture, use and maintenance.

To the accomplishment of these and such other objects as may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts herein specifically described and illustrated in the accompanying drawing, but it is to be understood that changes in the form, proportions and details of construction may be resorted to that come within the scope of the claim hereunto appended.

In the drawing wherein like numerals of reference designate corresponding parts throughout the several views:

Figure 1 is front elevational view of an overflow pipe and valve mechanism provided with a guide constructed in accordance with the invention.

Figures 2 and 3 are, respectively, side and top plan views of the bracing frame embodied in the invention; and Figure 4 is a top plan view of the guide mechanism.

Referring in detail to the drawing 1 denotes a flush tank valve seat provided with the vertically disposed overflow pipe 2, both of which are constructed and arranged in the usual manner well known in the art to which the invention appertains.

A ball valve 3, of the usual construction, is carried at the lower end of a valve rod 4 and engages in the valve seat 1 to control passage of the flushing water through the latter.

My improved valve rod guide mechanism comprises a laterally extending, horizontally disposed support 5, which is connected to the overflow pipe 2 by a clamping band 6. The latter surrounds the overflow pipe, and is provided with a pair of apertured ears 7, which are secured to an apertured lug 8 by means of a screw 9. The lug 8 is formed integral with the top of the support and extends vertically upward at the inner end of the latter. The lug 8 is considerably narrower than the width of the support, and is adapted for connecting the latter to an overflow pipe of the conventional diameter. The inner end of the support is provided with a transversely extending aperture 10 to allow the apertured ears 7 of the clamp band to be attached against the respective sides of the support, by the screw 9, in the event that an oversize flowpipe is used in conjunction with the improved guide.

The support 5 is provided with a longitudinally extending passage 11 open at both ends, for the reception of a shank 12 carrying a pair of vertically aligned guide bearings 13 at the outer end thereof. The guide bearings are spaced from each other, and each is provided with an aperture 14 through which the valve rod 4 is extended to allow the free vertical shiftable movement of the latter.

The shank 12 and the support passage 11 are preferably rectangular-shaped in transverse cross section, to prevent the possible rotation of the former in the latter. The shank 12 is longitudinally adjustable in the passage 11 to allow and facilitate the proper alignment of the pair of guide bearings 13 with the ball valve 3 and valve rod 4. The outer end of the support 5 is provided with a vertically extending slot 11′ to allow a lengthened adjustment movement of the shank in said support. The shank is secured in the adjusted position by a set screw 15 threadedly mounted in a boss 16 on the top of the support 5 adjacent to the outer end of the latter.

The support 5 is held in its horizontally connected position with the overflow pipe 2 by a novel, substantially rectangularly-shaped bracing frame 17, which is positioned between the support 5 and the valve seat 1 adjacent to the overflow pipe 2.

The upper end of the bracing frame 17 is provided with an outwardly projected, vertically extending U-shaped connecting member 18, which engages the bottom and sides of the support 5 between the boss 16 and the lug 8.

The connecting member 18 is secured to the support 5 by a screw bolt 19, which extends transversely across the top of the support and is engaged in the suitably apertured and threaded projecting free ends of the connecting member.

The lower end of the bracing frame 17 is provided with a pair of spaced, outwardly projecting feet 20, which partially surround and engage the neck 21 of the valve seat 1, and seat on the shoulder 22 of the latter, as clearly shown in Figure 1.

A rearwardly projecting yoke 23 is carried

by the lower member **24** of the bracing frame **17**. The yoke **23** is spaced from the lower end of the bracing frame and engages and partially surrounds the overflow pipe **2**.

The bracing frame **17** is positioned so as not to interfere with the operation of the ball valve **3** in the valve seat **1**, and not only serves to brace the support **5** in its proper position, but also serves as a bracing structure for the overflow pipe **2**.

It will be obvious that in the use of my improved guide mechanism, the vertically aligned guide bearings **13** may be readily adjusted to any necessary position, by the adjustment of the shank **12** in the support passage **11**, in the manner stated, and by the adjustment of the clamping band **6** on the overflow pipe **2**, to maintain the valve rod **4** in the proper vertical position to accurately seat the ball valve **3** on the valve seat **1** at all times, and thereby prevent water waste from leakage due to an imperfectly seated valve.

What I claim is:

The combination with a flush tank valve mechanism including a valve seat, a valve rod and an overflow pipe, of a horizontally disposed support provided with a longitudinally extending passage, a clamping band surrounding the overflow pipe and connected with said support for attaching the latter to the overflow pipe, a shank mounted in said passage and longitudinally adjustable in the latter, means carried by said support and operable to engage said shank for securing the latter in the adjusted position, a pair of spaced vertically aligned guide bearings for the valve rod carried at the outer end of said shank, and a bracing element connected with said support resting on said valve seat and engaging the overflow pipe for bracing said support.

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