

Sept. 20, 1932.

J. WERNER

1,878,613

FLUSH BOX

Filed Aug. 23, 1929

Fig. 1,

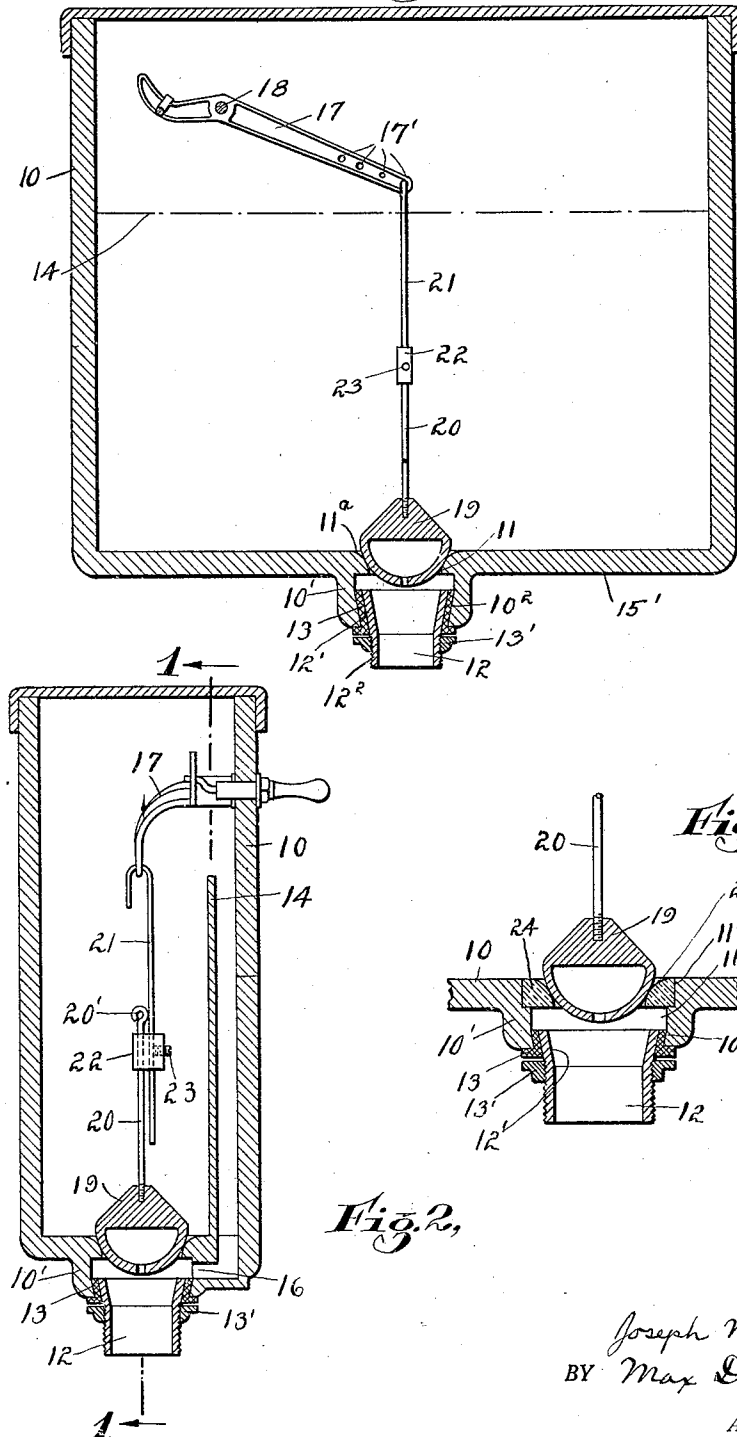


Fig. 3,

INVENTOR.
Joseph Werner
BY Max D. Ordmann
ATTORNEYS.

UNITED STATES PATENT OFFICE

JOSEPH WERNER, OF PERTH AMBOY, NEW JERSEY

FLUSH BOX

Application filed August 23, 1929. Serial No. 387,887.

The present invention is a continuation in part of my application Serial Number 217,192 filed September 2, 1927, which relates to flush boxes.

5 One of the main novel features of my invention resides in the provision of a special construction on the bottom of the flush box whereby metal valve seats are entirely eliminated.

10 Still another object of the invention resides in the provision of novel means for suspending the valve body from the operating lever so that it will be rectilinearly guided into operative position without the use of any fixed guides.

15 A further object is to provide a novel suspending means for the valve body which may be readily adjusted to any size of tank.

20 With the above and other objects in view my invention consists in the novel construction, combination and arrangement of parts as will be hereinafter more fully described and defined in the appended claims.

25 In the accompanying drawing which forms part of this specification and in which similar reference characters denote corresponding parts, Fig. 1 is a longitudinal vertical section of the flush box on line 1—1 of Fig. 2 seen in the direction of the arrows; Fig. 2 is a cross section thereof; and Fig. 3 is a slightly enlarged sectional view of a modified construction of the flush valve seat.

35 Referring to the drawing more in detail, 10 denotes the tank of the flush box which is made preferably of porcelain, china or other suitable non-corrosive material. This tank is provided at its bottom with a circular opening 11, the edges 11^a of which are circularly rounded to form a valve seat. Below this seat is provided a hollow extension 10' having a discharge opening 10² arranged in vertical alignment with the valve seat 11^a. This opening is conical or tapered and is adapted to receive a spout 12 formed with a correspondingly shaped flange 12' at one end and with an external thread 12² at its opposite end. The tapered flange of said spout is tightened in the conical opening by means of a rubber washer 13 or the like and a nut 13', while the external thread of said spout

serves for the attachment of a flush pipe leading from the tank to the bowl (not shown).

The tank 10 is also provided with an integral wall 14 extending longitudinally thereof at the rear of the valve seat 11^a and forming with the rear wall of the tank an overflow chamber. The bottom 15' of said chamber terminates in the hollow extension 10' of the tank and communicates through a passage 16 with the space between the valve and the discharge opening. The provision of this overflow chamber above described eliminates leakage generally occurring at joints and because of its comparatively large size avoids clogging through foreign matter or sediment.

70 17 denotes the usual manual lever which is fulcrumed at 18 to the tank and which projects into the latter serving for the operation of the flush valve. The latter comprises a hemispherically shaped weighted valve body 19 of rubber or the like which is provided centrally with a vertically projecting stem in form of a rod 20 of non-corrosive material, the upper free end of which is formed with a stop 20' in form of a loop or the like. The stem is suspended from said lever 17 by means of a wire 21 or the like, one end of which is hooked-shaped and adapted to engage one of a series of perforations 17' provided in said lever. The said wire 21 is coupled to stem 20 by means of a coupling box 22 which is provided with two openings in which the wire 21 and stem 20 may slide. A set screw 23 adapted to project into the opening for wire 21 is provided in order that the said coupling block may be positioned at any desired point on said wire 21, thus making the device adjustable for different sized tanks. The opening for stem 20 is so arranged with respect to the opening for wire 21 that the stem 20 is in alignment with the point of suspension of said wire from said lever 17 whereby the stem 20 will be capable of moving vertically relative to the member 21 and be rectilinearly guided in said block. This structure eliminates fixed guides and thereby simplifies manufacture.

In Figs. 1 and 2 the valve seat is shown

as formed integrally with the tank. Instead, a valve seat of glass or other non-corrosive material may be employed. In such case the opening in 11 is countersunk as at 11^b and valve seat 24 in the form of a ring with the rounded valve seat edges 24^a is adapted to be cemented or otherwise fixed in the said countersunk portion 11^b of said opening. The other structure remains the same. With my improved tank and either the integrally formed or inserted glass seat I have provided a non-corrodable permanent structure in which metal has been eliminated entirely.

It is obvious that my construction may be modified in various ways without departing from the spirit of my invention. I therefore do not wish to restrict myself to the details shown and described.

What I claim is:—

1. In a flush box, a tank having a discharge port in its bottom, a valve for controlling said port comprising a valve seat which is independent of pipe leads to said port, a valve body cooperating with said seat and having a rigid stem projecting therefrom, a stop at the free end of said stem, a connecting block slidably mounted on said stem, a connecting member adjustably connected to said block and provided at its free end with a suspending hook so bent as to have the suspending point of the hook in axial alignment with said stem and means in said tank from which said valve body is freely suspended whereby the latter may be displaced vertically.

2. In a flush box having a tank with a discharge port at its bottom, a valve for controlling said port, said valve including a valve body adapted to close said port, said body having a rigid stem projecting therefrom, a stop at the free end of said stem, a connecting block slidably mounted on said stem, a connecting member slidably mounted in said block, setting means for fixing said member at a given position in said block, said member being provided at its free end with a suspending hook so bent as to have the suspending point of the hook in axial alignment with said stem and means in said tank from which said valve body is freely suspended whereby the latter may be displaced vertically.

3. In a flush box, a tank having a discharge port in its bottom, a valve for controlling said port comprising a valve seat, a valve body cooperating with said seat and having a rigid stem projecting therefrom, a connecting block slidably mounted on said stem, a connecting member adjustably connected to said block and provided at its free end with a suspending member so formed that the suspending point thereof is in axial alignment with said stem and means in said tank from

which said valve body is freely suspended by said suspending member whereby the latter may be displaced vertically.

In testimony whereof I affix my signature.

JOSEPH WERNER.