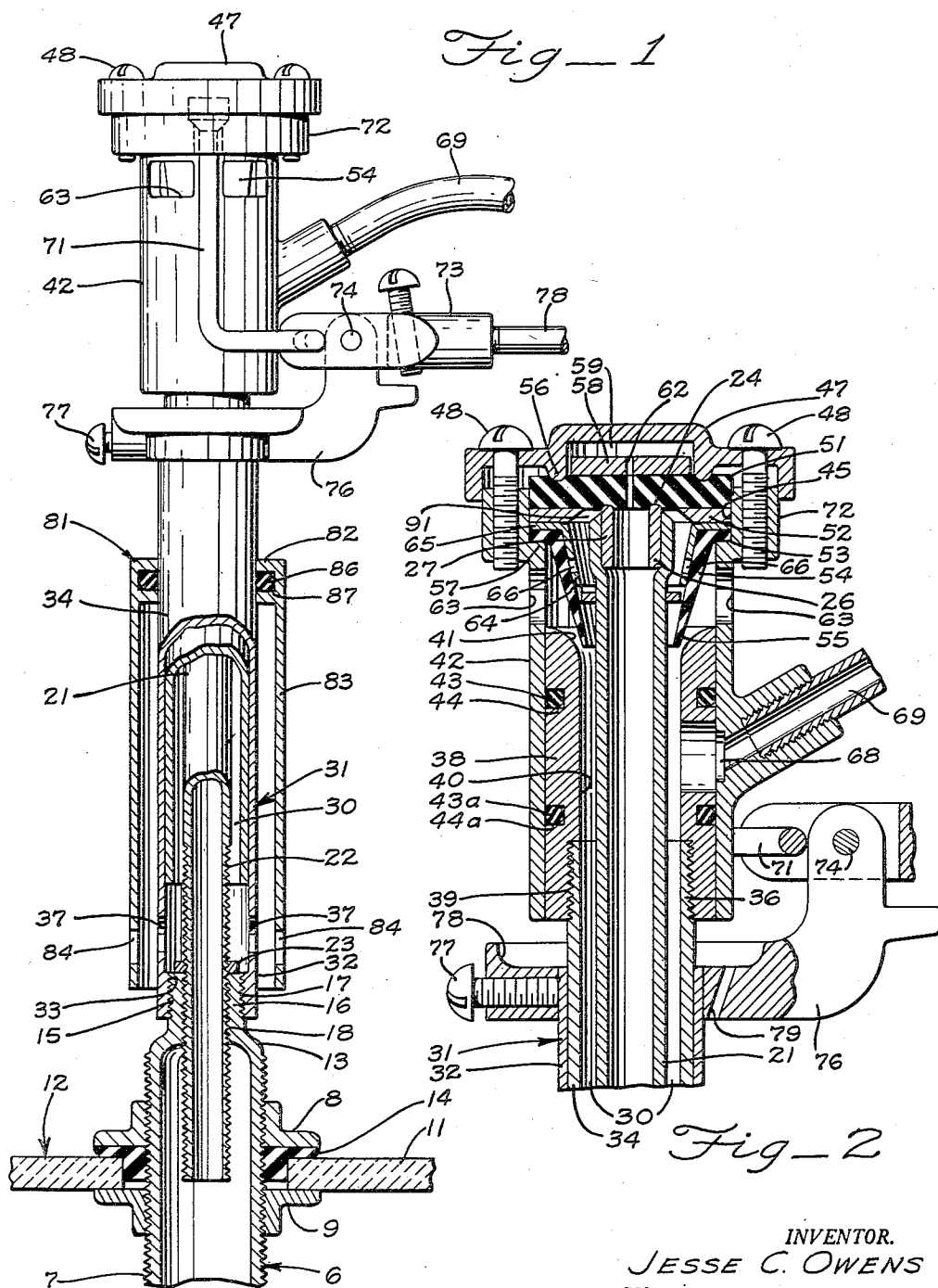


2,827,073

2 Sheets-Sheet 1



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2,827,073

TANK REFILLING VALVE

Filed June 20, 1955

2 Sheets-Sheet 2

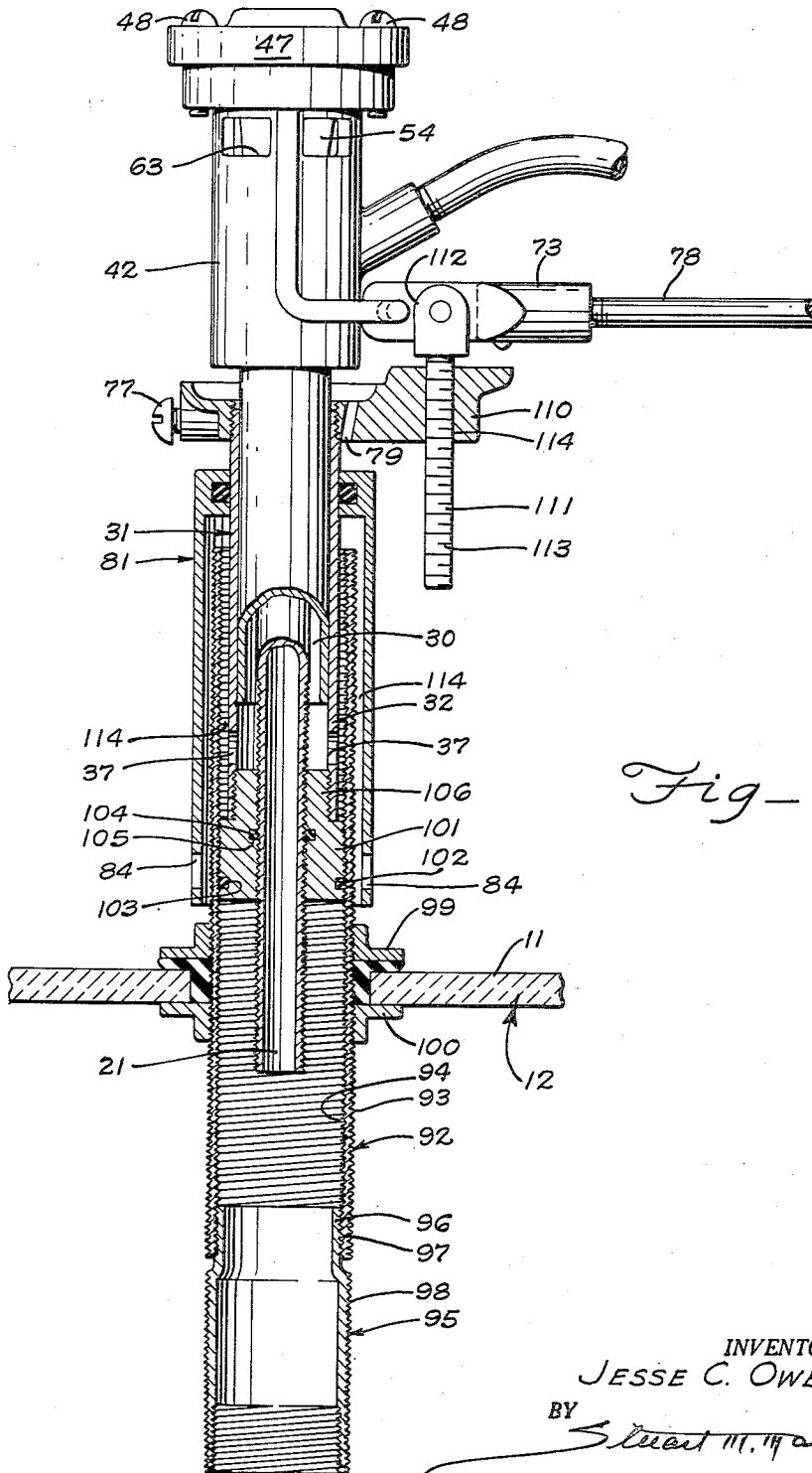


Fig-3

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2,827,073

TANK REFILLING VALVE

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Application June 20, 1955, Serial No. 516,639

15 Claims. (Cl. 137-426)

This invention relates to automatic valves, and more particularly to float-actuated valves of the type commonly employed to control the supply of water to a toilet flushing tank.

An object of the invention is to provide an improved toilet tank refilling valve.

Another object is to provide a toilet tank refilling valve which is adapted for use in connection with a variety of types and/or sizes of toilet flushing tanks.

Another object is to provide a valve of the character described, which is adjustable to meet a variety of different requirements of installation.

A more detailed object in this connection is to provide a toilet tank refilling valve which is adjustable to adapt the same for use in tanks of different dimensions, each of which tanks requires, for optimum flushing characteristics, that it be filled to a depth different from that required by other tanks within the range of adaptability of the valve of the invention.

Another object is to provide a toilet tank refilling valve of the general character indicated, whose standpipe is longitudinally adjustable so as to permit variation in the height at which the discharge end thereof is supported above the tank within which the valve is installed.

A further object is to provide a toilet tank refilling valve including an adjustable standpipe as described, whose hush tube is likewise longitudinally adjustable so that when the standpipe is adjusted to vary the height at which its discharge end is supported within the tank, the hush tube likewise can be regulated so that its lower or discharge end can be disposed to operate with the maximum efficiency regardless of the height to which its upper end is adjusted.

The invention possesses other objects and valuable features, some of which, with those enumerated, will be set forth in the following description of the preferred embodiments of the invention illustrated in the drawings accompanying and forming part of the specification. It is to be understood that variation may be made in the said drawings and description without departing from the scope of the invention as defined by the appended claims.

Referring to the drawings:

Figure 1 is a view in side elevation of a toilet tank refilling valve embodying the principles of the present invention, portions of the figure being broken away and shown in section to disclose the interior construction.

Figure 2 is an enlarged view in transverse, medial, vertical section of the upper portion of the tank refilling valve of Fig. 1.

Figure 3 is a view similar to Fig. 1, illustrating a valve embodying a modified form of the invention.

Referring first to Figs. 1 and 2, the toilet tank refilling valve there illustrated comprises a supply pipe 6 provided with a running thread 7 on its exterior surface, adapted to receive opposed nuts 8 and 9 which may be tightened into clamping engagement with the bottom 11 of a conventional toilet tank 12 so as to secure the supply pipe 6 rigidly to the bottom 11 in position extending

therethrough with the upper end 13 of the pipe 6 disposed inside the tank 12. A washer 14 of rubber or other suitable impervious resilient material is interposed between the inner nut 8 and the tank bottom 11, so as to provide a water-tight seal between the tank and the supply pipe.

Integrally formed upon the upper end 13 of the supply pipe 6 is a nipple 16 of reduced diameter. The exterior surface of the nipple 16 is provided with male threads 17 whereas the bore of the nipple 16 is provided with female threads 18.

A standpipe 21 whose length exceeds the requirements of most installations, and whose exterior surface is provided with a running thread 22, is adjustably mounted in position extending vertically upward from the inlet pipe 6 in axial alignment therewith by engagement of its thread 22 with the female thread 18 of the inlet pipe 6. A lock nut 23, likewise engaged with the threads 22, may be tightened down upon the upper end of the nipple 16 to anchor the standpipe 21 in selected position of axial adjustment so as to predetermine the elevation of the upper end of the standpipe 21 above the bottom 11 of the tank 12. A valve seat 24 (Fig. 2) is provided at the upper end of the standpipe 21 preferably by means of a short tubular sleeve 26 seated within a belled portion 27 defining the upper extremity of the standpipe 21. The sleeve 26 is rigidly secured within the belled portion 27 so that in effect it constitutes a continuation of the standpipe 21.

The sleeve 26 may be composed of metal such as brass, and may be secured in place by soldering. However, as an alternative expedient, the sleeve 26 may be composed of nylon, a suitable plastic such as polyethylene, or similar material, in which event it may be rigidly secured to the standpipe 21 by cement, glue, or other suitable bonding agent, or it may be attached rigidly in position within the bell 27 simply by being fitted so tightly therein that its accidental dislodgment therefrom is prevented.

As best shown in Fig. 1, a two-piece telescopic hush tube 31 is likewise supported from the supply tube 6. The hush tube 31 is of larger diameter than the standpipe 21 to a sufficient extent to leave an ample passageway 30 of annular cross-section between the hush tube 31 and the standpipe 21. The lower portion 32 is provided at its lower end with internal threads 33 which are engaged upon the male threads 17 of the nipple 16 so as to rigidly mount the lower portion 32 of the hush tube 31 thereupon. The upper portion 34 of the hush tube 31 is telescopically received within the upper end of the lower portion 32 and is provided with external threads 36 (Fig. 2) on its upper end at a higher elevation than the upper end of the lower portion 32 of the hush tube. The upper portion 34 of the hush tube 31 fits so tightly within the lower portion 32 that the two portions 32 and 34 remain in selected position of axial adjustment with respect to each other under all normal operational conditions, and yet the upper portion 34 may be slid axially within the lower portion 32 when variation in their overall, effective length is desired. A plurality of ports 37 are provided in the lower portion 32 of the hush tube 31, immediately above the upper end of the nipple 16 and somewhat below the lower end of the upper portion 34.

By referring to Fig. 2, it will be observed that a head 38 of generally cylindrical form is rigidly secured upon the upper end of the upper portion 34 of the hush tube 31 by female threads 39 engaged upon the threads 36 of the hush tube. An axial bore 40 extending completely through the head 38 communicates at its lower end with the passageway 30 provided by the bore of the hush tube 31. A flaring counterbore 41 is provided at the upper end of the bore 40. A hollow cylindrical valve body 42 is slidably mounted upon the exterior surface of

the head 38, preferably two spaced gaskets 43 and 43a being seated within annular recesses 44 and 44a, respectively, in the outer circumferential wall of the head 38, to provide a sliding, fluid-tight seal between the head 38 and the valve body 42. A counterbore 45 is formed at the upper end of the valve body 42. A cap 47 is rigidly but removably secured to the upper end of the body 42 as by a plurality of round head machine screws 48. A valve disc 51 of suitably resilient material such as rubber or neoprene, an annular backing plate 52 and the annular flange 53 of a tubular anti-siphonic seal 54 are clamped between an annular bead 56 on the under face of the cap 47 and the shoulder 57 at the bottom of the counterbore 45. When the screws 48 are tightened the valve disc 51, the backing plate 52 and the flange 53 are tightly secured to the body 42 for movement therewith. A disc-shaped plate 58 is loosely accommodated within a recess 59 in the under surface of the cap 47 and rests by gravity upon the upper surface of the valve disc 51. A bleeder hole 61 of small diameter extends axially through the valve disc 51 in such position that its lower end communicates with the bore of the standpipe 21 when the valve disc 51 is pressed into engagement with the valve seat 24. A similar hole 62 through the plate 58 establishes communication between the bleeder hole 61 in the valve disc 51 and the recess 59 above the plate 58. The anti-siphonic seal 54 is formed of resiliently flexible material such as rubber or neoprene and is of frusto-conical shape. The flange 53 is formed at the upper, larger end of the seal 54 which is of sufficient length for its smaller, lower end to extend into the counterbore 41 of the head 38. Consequently, the seal 54 is disposed in embracing relationship, but is radially spaced outward from, the upper end of the standpipe 21 and the bell 27 at the upper end thereof. The seal 54 is adapted to be expanded, particularly at its lower end, by fluid pressure within the same, so that the lower end 55 is adapted to make fluid-sealing engagement with the counterbore 41 of the head 38 when fluid pressure exists within the seal 54, but when fluid pressure within the seal 54 is relieved, the lower end 55 thereof contracts substantially to the position illustrated in Fig. 2 wherein free communication is established between the bore 40 of the head 38 and a series of ports 63 which are provided in the valve body 42 above the head 38. However, when thus fully contracted the lower end 55 of the anti-siphonic seal 54 still is spaced a substantial distance from the outer surface of the standpipe 21, with the result that communication is established between the interior of the anti-siphonic seal 54, around its lower end and through the ports 63 to the outside atmosphere. Therefore, in the event that interruption occurs in the supply of water under pressure to the supply tube 6, and the pressure therein drops to sub-atmospheric, there will be no possibility of the development of siphonic conditions within the valve. Any tendency toward the development of sub-atmospheric pressure within the valve will be overcome by free entry of atmospheric air to the interior thereof through the ports 63 and around the lower end 55 of the seal 54. However, when the valve 51 is lifted off the seat 24 and water under pressure is permitted to flow from the standpipe 21 past the valve seat 24 to the interior of the tubular seal 54, the lower end 55 of the latter will be expanded into contact with the enlarged portion 41 of the bore 40 of the head 38 so as to prevent water from escaping through the ports 63. Consequently, the major portion of the water delivered to the interior of the valve past the valve seat 24 can escape from the valve head 38 only through the lower end of its bore 40 into the bore 30 of the hush tube 31. A metal core 64 is mounted in telescoped relation within the conical seal 54 by a flange 65 gripped between the flange 53 and the annular plate 52. A series of holes 66 are formed in the core 64, and water passing through the holes 66 impinges against the inner surface of the seal

54 and thereby assists in expanding the seal 54 into position to close the ports 63. The portion of the water which does not pass through the holes 66 is guided by the core 64 toward the bore 40 of the head 38.

A radially extending passage in the head 38 communicates with a port 68 in the valve body 42 and through it with a conventional refill tube 69 which communicates with the bowl of the toilet served by the tank 11.

A bail 71 (Fig. 1) rigid with the enlarged upper portion 72 of the valve body 42 extends vertically downward therefrom to a position somewhat above the lower end of the body 42 where the bail 71 extends laterally for engagement with the inner end of a substantially horizontal lever 73 which is pivotally mounted as by a pin 74 upon a bracket 76. The bracket 76 is slidably mounted upon the upper end of the lower portion 32 of the hush tube 31 and is adapted to be secured in selected position of adjustment thereon by a set screw 77. The outer end of the lever 73 has a rod 78 rigidly connected thereto. This rod 78 carries a conventional float (not shown) so positioned with respect to the valve that when the water level in the tank 12 reaches the desired "full" level, the lever 73 will have been turned to such position that the valve body 42 is drawn downward far enough to seat the valve disc 51 on the valve seat 24 and thus prevent further flow of water through the standpipe 21.

The upper surface of that portion of the bracket 76 which surrounds the upper end of the hush tube 31 is formed with a saucer-shaped depression 78 (Fig. 2), from the bottom of which a drain vent 79 leads to a position closely adjacent the outer surface of the lower portion 32 of the hush tube 31. Thus, any water entrapped within the depression 78 will flow smoothly down the outer surface of the hush tube and be prevented from splashing as it is delivered to the interior of the tank 12. Hence, the saucer-shaped depression 78 serves to entrap what small quantity of water might escape between the head 38 and the valve body 42, and to deliver it in the manner described to the outer surface of the hush tube. In this manner the bracket 76 co-operates with the other features of the valve in minimizing any gurgling and splashing noises coincident with refilling the tank 12 upon completion of a flushing operation. Another detail which contributes toward this same end is a supplementary hush tube 81 (Fig. 1), the upper portion of which is provided with a head 82 slidably mounted upon the hush tube 31. The body portion 83 of the supplementary hush tube 81 depends from the head 82 in the form of a cylindrical apron surrounding the principal hush tube 31. The lower end of the body portion 83 of the supplementary hush tube 81 is provided with a series of ports 84 spaced outwardly from, and so offset with relation to the ports 37 of the principal hush tube 31 that water rushing from the hush tube 31 is intercepted by the supplementary hush tube 81 and thus caused to flow smoothly either through the ports 84 of the latter or downwards through the open lower end of the same. A gasket 86 seated within an annular recess 87 in the bore of the head 82 tightly fits the exterior surface of the inner hush tube 31 and thus retains the supplementary hush tube 81 in any position of adjustment, although the gasket 86 permits the hush tube 81 to be vertically adjusted by sliding movement of the same with respect to the inner hush tube 31.

When installing the valve of Figs. 1 and 2 in the tank 12, the parts should be so adjusted that the valve body 42 is mounted as high as possible within the tank 12 while still leaving ample clearance between the upper surface of the cap 47 and the under surface of the top (not shown) of the tank 12 to permit the full extent of vertical movement of the valve body 42 in response to actuation of the float (not shown) at the outer end of the rod 78. A considerable degree of latitude is provided in the valve construction described, to permit of such mounting of the valve body 42, with the result that the valve of the present invention is adapted for installation within

toilet flush tanks of various dimensions. Not only can the supply tube 6 be so mounted in the bottom 11 of the tank 12 that it extends for various distances upward beyond the tank bottom 11, but further latitude as far as elevation of the valve body 42 is concerned, is provided by the running thread 22 on the exterior surface of the standpipe 21. This permits the standpipe 21 to be mounted in the nipple 16 at the upper end of the standpipe 6 to extend for any selected distance, within limits, above the upper end of the standpipe. When the proper elevation for the upper end of the standpipe 21 has thus been attained, and the parts locked in their then position of adjustment by means of the lock nut 23 and the two nuts 8 and 9, the lower portion 32 of the hush tube 31 should be mounted upon the external threads 17 of the nipple 16. The bracket 76 should then be mounted upon the upper end of the lower portion 32 of the hush tube after which the lower end of the upper portion 34 of the hush tube should be inserted into the upper end of the lower portion 32, the head 38 and valve body 42 having been previously installed upon the upper end of the upper portion 34.

The upper portion 34 should then be telescoped into the lower portion 32 far enough to bring the valve disc 51 into closing engagement with the valve seat 24, whereupon the lever 73, previously engaged upon the bail 71, should be connected to the bracket 76 by means of the pin 74. The bracket 76 should then be so adjusted on the upper portion 34 of the hush tube 31 that the lever 73 supports the rod 78 and the float (not shown) at its outer end in the position they will occupy when the tank 12 is full.

When so adjusted, lowering the level of the water within the tank, as when the toilet associated with the tank 12 is flushed, and the consequent lowering of the float, causes the lever 73 to turn clockwise. This causes the bail 71 to lift the entire valve body 42, thus removing the valve disc 51 from sealing engagement with the valve seat 24. Water is thus permitted to flow from the supply pipe 6 and through the standpipe 21 through the central hole 91 of the annular plate 52 into the interior of the anti-siphonic seal 54. Since this member is yieldable, its lower end 55 is expanded into engagement with the counterbore 41 of the head 38, preventing escape of water through the ports 63, and directing all the water downward into the bore 40.

As hereinabove mentioned, a small portion of the water will be diverted by the re-fill tube 69 to the bowl of the toilet, while the major portion of the water flows downward through the passageway 30 and the ports 37 to the interior of the secondary hush tube 81, whence it escapes through the ports 84 and through the open bottom end of the secondary hush tube 81 to the interior of the tank 12.

As the tank 12 fills with water supplied thereto through the valve of the invention, the float gradually turns the lever 73 counter-clockwise, imposing tension on the bail 71 and lowering the body 42. This continues until the valve disc 51 is pressed onto the seat 24, thus shutting off the supply of water through the standpipe 21. Initially, the pressure of the valve disc 51 against the valve seat 24 is caused solely by the mechanical leverage induced through the agency of the buoyancy of the float. Immediately after the valve disc 51 thus shuts off the supply of water, however, the hydrostatic pressure of the water within the standpipe 21 develops within the recess 59 above the disc-like plate 53, inasmuch as a small quantity of water can pass from the standpipe 21 through the orifices 61 and 62. Such hydrostatic pressure imposed upon the upper surface of the valve disc 51 causes the same to be pressed even more tightly against the valve seat 24, thereby providing added assurance against leakage of water between the valve disc 51 and the seat 24 when the valve is closed.

Fig. 3 illustrates a modified form of valve incorporating

the principles of the present invention. In this instance the supply pipe 92, in addition to the running thread 93 on the exterior surface thereof, is provided with running threads 94 on its interior surface. This permits a tubular extension 95, the upper end 96 of which is of reduced diameter and is provided with male threads 97 corresponding to the threads 94, to be secured to the lower end of the supply pipe 92 as an extension thereof, thereby effectually increasing the usable length of the supply pipe.

The extension 95 is provided with exterior threads 98 of the same diameter and pitch as the exterior threads 93 of the supply pipe 92 so that the nuts 99 and 100 can be used anywhere throughout the entire combined lengths of the supply pipe 92 and the extension 95. This permits the supply pipe 92 to be mounted within the tank 12 with the upper end of the supply pipe 92 at a greater distance above the bottom 11 of the tank 12 than the length of the supply pipe 92.

Being interiorly threaded throughout its entire length, the supply pipe 92 is adapted to receive a bushing 101 therein in any desired position of vertical adjustment within the longitudinal confines of the supply pipe 92. A gasket 102 is fitted within an annular recess 103 in the exterior surface of the bushing 101 and makes sliding engagement with the threads 94 of the supply pipe 92 to assist in fractionally retaining the bushing 101 in selected position of adjustment and also to prevent leakage of water between the supply pipe 92 and the bushing 101. Another gasket 104 seated within an annular recess 105 in the interior circumference of the bushing 101, provides similar frictional resistance to motion of the bushing with respect to the supply pipe, and prevents leakage therebetween. In this modification of the valve of the invention, the standpipe 21 is the same as that of the previously described modification and is threaded through the bushing 101 so that it can be adjusted to any desired position of vertical extension above the upper end of the supply pipe 92.

The hush tube 31 of this modification is likewise similar to that previously described, its outer, lower portion 32 being vertically engaged upon a nipple or reduced portion 106 extending upward from the bushing 101.

An additional adjustment is likewise provided for the mounting of the lever 73 carrying the float rod 78. Instead of being pivoted directly to the bracket 110 which, as in the previously described modification, is adjustably mounted upon the upper end of the outer hush tube section 32, the lever 73 is pivotally mounted upon the upper end of a pin 111. The upper end of the pin 111 preferably is bifurcated to receive the lever 73 between the two parallel extensions 112 thereof, only one of which is shown. The lower end of the pin 111 is provided with threads 113 screwed into a vertical hole 114 through the bracket 110. This arrangement permits adjusting the lever 73 through a considerably wider range than is afforded by the adjustable mounting of the bracket 76 on the upper end of the outer hush tube section 32 in the first described form of the invention.

In other respects the valve of Fig. 3 is similar in construction to that of Figs. 1 and 2. In the modification of Fig. 3, when water escapes past the valve within the valve's body 42 as the result of lifting of the same by downward motion of the float at the outer end of the float rod 78, the water thus liberated flows downward through the passageway 30 between the hush tube 31 and the standpipe 21. This water escapes through the ports 37 in the lower end of the lower portion 32 of the hush tube into the annular space 114 between the hush tube 31 and the upper portion of the supply pipe. Hence, water escapes from this passageway 30 by flowing upwardly therein and around the upper end of the supply pipe 92 to the bore of the supplementary hush tube 81 whence it can escape to the tank 12 through the open bottom end

of the hush tube 81 and through the ports 84 adjacent the bottom end.

What is claimed is:

1. A float-actuated tank-refilling valve construction comprising an internally and externally threaded supply tube adapted to extend through a tank bottom, nuts screwed onto the external threads of said supply tube and clamping the tank bottom between them to secure the supply tube to the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe within the tank, and float actuated valve means associated with the end of the standpipe outside the supply pipe for controlling flow through said standpipe.

2. A float-actuated tank-refilling valve construction comprising an internally and externally threaded supply tube adapted to extend through a tank bottom, nuts screwed onto the external threads of said supply tube and clamping the tank bottom therebetween to mount the supply tube within the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe, a hush tube affixed to said bushing and extending therefrom in enclosing relation to said standpipe, and float-actuated valve means supported from said hush tube in co-operative relation to the standpipe to control flow through the latter.

3. A float-actuated tank-refilling valve construction comprising an internally and externally threaded supply tube adapted to extend through a tank bottom, nuts screwed onto the external threads of said supply tube and clamping the tank bottom therebetween to mount the supply tube within the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe, a hush tube including telescopically inter-engaged sections surrounding the standpipe, one of said sections being secured to the bushing, a valve body slidable on the other section optionally into and out of sealing relation with said standpipe, and means for sliding the valve body to and from standpipe sealing position.

4. A float-actuated tank-refilling valve construction comprising an internally and externally threaded supply tube adapted to extend through a tank bottom, nuts screwed onto the external threads of said supply tube and clamping the tank bottom therebetween to mount the supply tube within the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe, a hush tube including telescopically inter-engaged sections surrounding the standpipe; one of said sections being secured to the bushing, a valve body slidable on the other section optionally into and out of sealing relation with said standpipe, fulcrum means supported from said one section of the hush tube, a lever pivoted on the fulcrum, means for operating the lever, and means connecting the lever to the valve body for sliding the same to and from standpipe sealing position.

5. A float-actuated tank-refilling valve construction comprising an internally threaded supply tube adapted to extend through a tank bottom, means securing said supply tube to the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe, an extensible hush tube including telescopically adjustable interengaged sections surrounding the standpipe, one of the sections being secured to the bushing, a valve body slidable on the other of said sections optionally into and out of sealing relation with

said standpipe, fulcrum means adjustably supported from said one section of the hush tube, a lever pivoted on said fulcrum, means for operating the lever, and means connecting the lever to the valve body for sliding the same to and from standpipe sealing position.

6. A float-actuated tank-refilling valve construction comprising an internally threaded supply tube adapted to extend through a tank bottom, means securing said supply tube to the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe within the tank, an extensible hush tube including telescopically adjustable interengaged sections surrounding the standpipe, one of the sections being secured to the bushing, a valve body slidable on the other of said sections optionally into and out of sealing relation with said standpipe, fulcrum means adjustably supported from said one section of the hush tube, a lever pivoted on said fulcrum, means for operating the lever, means connecting the lever to the valve body for sliding the same to and from standpipe sealing position, and means for diverting into the hush tube liquid released from the standpipe by movement of the valve body away from said sealing position.

7. A float-actuated tank-refilling valve construction comprising an internally threaded supply tube adapted to extend through a tank bottom, means securing the supply tube to a wall of the tank, a bushing adjustably threaded into said supply tube and having an interiorly threaded bore, a standpipe adjustably threaded into the bore of said bushing and extending therefrom beyond the end of the supply pipe within the tank, an inner hush tube affixed to said bushing and extending therefrom in enclosing relation and having a discharge port leading to the exterior of the inner hush tube adjacent the bushing, and a secondary hush tube on the inner hush tube in position extending from the mounting means to and beyond said port.

8. A tank-refilling valve comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a bushing fitted within and adjustable axially of the supply pipe, a standpipe extending through the bushing and having a valve seat at its upper end above the upper end of the supply pipe, and valve means associated with the upper end of said standpipe for controlling flow therethrough.

9. A tank-refilling valve comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a bushing fitted within the supply pipe, a standpipe extending through and adjustable axially of the bushing and having a valve seat at its upper end above the upper end of the supply pipe, and valve means associated with the upper end of said standpipe for controlling flow therethrough.

10. A tank-refilling valve construction comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a standpipe arranged telescopically within and extending above the upper end of the supply pipe, means connecting the standpipe to the supply pipe for axial adjustment relative thereto, a hush tube supported from said connecting means in position surrounding and spaced from the standpipe above said mounting means, a valve body axially slidable on the hush tube, said valve body enclosing the upper end of the standpipe and having a passage-way from the valve to the bore of the hush tube, and means for sliding the valve body to and from a position wherein the valve establishes sealing engagement with said standpipe.

11. A tank-refilling valve construction comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a standpipe arranged telescopically within and extending above the upper end of the supply pipe, means connecting

the standpipe to the supply pipe for axial adjustment relatively thereto, an extensible hush tube surrounding and spaced from the standpipe above said connecting means, said hush tube including two telescopically adjustable sections, the lower section of the hush tube being supported from said connecting means, a hollow valve body slidably mounted on the upper section of the hush tube and enclosing the upper end of said standpipe, a valve carried by said valve body in co-operative relation with the upper end of the standpipe, said valve body having a passageway therein from the valve to the bore of the hush tube, fulcrum means supported from said lower section of the standpipe for axial adjustment relatively thereto, a lever pivoted on said fulcrum means, means for operating said lever, and means connecting the lever to the valve body to move the valve into or out of sealing engagement with the upper end of the standpipe in response to operation of the lever.

12. A tank-refilling valve construction comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a standpipe arranged telescopically within and extending above the upper end of the supply pipe, means connecting the standpipe to the supply pipe for axial adjustment relatively thereto, an extensible hush tube surrounding and spaced from the standpipe above said connecting means, said hush tube including two telescopically adjustable sections, the lower section of the hush tube being supported from said connecting means, a hollow valve body slidably mounted on the upper section of the hush tube and enclosing the upper end of said standpipe, a valve carried by said valve body in co-operative relation with the upper end of the standpipe, said valve body having a passageway therein from the valve to the bore of the hush tube, fulcrum means supported from said lower section of the standpipe for axial adjustment relatively thereto, a lever pivoted on said fulcrum means, means for operating said lever, means connecting the lever to the valve body to move the valve into or out of sealing engagement with the upper end of the standpipe in response to operation of the lever, said hush tube having a port leading from the bore of the hush tube to the bore of the supply pipe above said connecting means, and a secondary hush tube adjustably mounted on said extensible hush tube above the upper end of the supply pipe and extending downward past the upper end of the supply pipe in radially spaced relation to the same.

13. A tank-refilling valve construction comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a standpipe arranged telescopically within and extending above the upper end of the supply pipe, means connecting the standpipe to the supply pipe for axial adjustment relatively thereto, an extensible hush tube surrounding and spaced from the standpipe above said connecting means, said hush tube including two telescopically adjustable sections, the lower section of the hush tube being supported from said connecting means, a hollow valve body slidably mounted on the upper section of the hush tube and enclosing the upper end of said standpipe, a valve carried by said valve body in co-operative relation with the upper end of the stand-

pipe, said valve body having a passageway therein from the valve to the bore of the hush tube, fulcrum means supported from said lower section of the standpipe for axial adjustment relatively thereto, a lever pivoted on said fulcrum means, means for operating said lever, and means connecting the lever to the valve body to move the valve into or out of sealing engagement with the upper end of the standpipe in response to operation of the lever, said hush tube having a port leading from the bore of the hush tube to the exterior of the same above said connecting means.

14. A tank-refilling valve construction comprising a water supply pipe, means for securing the supply pipe in position extending upward through a tank bottom, a standpipe arranged telescopically within and extending above the upper end of the supply pipe, means connecting the standpipe to the supply pipe for axial adjustment relatively thereto, an extensible hush tube surrounding and spaced from the standpipe above said connecting means, said hush tube including two telescopically adjustable sections, the lower section of the hush tube being supported from said connecting means, a hollow valve body slidably mounted on the upper section of the hush tube and enclosing the upper end of said standpipe, a valve carried by said valve body in co-operative relation with the upper end of the standpipe, said valve body having a passageway therein from the valve to the bore of the hush tube, fulcrum means supported from said lower section of the standpipe for axial adjustment relatively thereto, a lever pivoted on said fulcrum means, means for operating said lever, and means connecting the lever to the valve body to move the valve into or out of sealing engagement with the upper end of the standpipe in response to operation of the lever, said hush tube having a port leading from the bore of the hush tube to the exterior of the same above said connecting means and a secondary hush tube open at its lower end and mounted at its upper end upon said extensible hush tube in position extending downward past said port in the extensible hush tube.

15. A tank refilling valve comprising a water supply pipe, means for securing the supply pipe in position extending into a tank, said supply pipe having on its inner end a nipple with a bore communicating with and of less diameter than the bore of the pipe, a standpipe threaded to the bore of the nipple for axial adjustment relatively thereto to vary the distance that the standpipe extends into the tank, means providing a valve seat encircling the inner end of the standpipe, valve means associated with the valve seat, an extensible hush tube enclosing and spaced radially from said standpipe and secured at its lower end to said nipple and an upper tubular section secured to said valve means for movement therewith and extending therefrom into sliding telescopic engagement with said lower section.

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