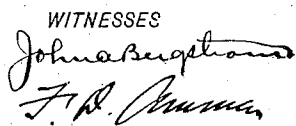


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FLUSH-TANK.

938,294.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN WALKER, Jr., a citizen of the United States, and a resident of Austin, in the county of Travis and State of Texas, have invented a new and Improved Flush-Tank, of which the following is a full, clear, and exact description.

This invention relates to flush tanks, and the object of the invention is to produce a tank having a valve of simple construction which will operate to close automatically after the water in the tank has run off.

A further object is to provide an improved construction for controlling the main lever of the tank which operates the flush valve.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a vertical cross section through a flush tank constructed according to my invention, parts of the piping being shown in elevation; and Fig. 2 is a section on the line 2-2 of Fig. 1, and showing a portion of the wall of the tank.

Referring more particularly to the parts, 1 represents a tank which is of box form, attached by hinge connection 2 at its lower inner edge to the wall or partition 3. Water is delivered to this tank through a service pipe 4, which runs along the wall 3 and which has an extension 5 running down into the tank. At the lower end of this extension 5, a supply valve 6 is attached, and this supply valve 6 has a spout 7 which extends downwardly in an inclined position, as shown. The valve 6 includes a seat 8 and a horizontally guided valve 9, which valve is attached to a lever 10, said lever having its fulcrum 11 on the valve 6. This lever 10 extends upwardly and is attached by an adjustable connection 12 to a link 13, said link being pivotally attached at 14 to the inside wall of the tank. Above this point on the inner side of the tank, a spring 15 is attached which thrusts against the pipe extension 5 and tends to hold the upper edge of the tank against the partition. The arrangement is such that when the tank is full of water, the weight of this water tends to rotate the tank on the hinge connections

2, and in this way the link 13 moves outwardly and operates the lever 10 so as to close the valve 6. In this connection it should be clearly understood that the pipe extension 5 is fixed and is not supported on the tank.

The bottom of the tank is provided with a seat 16 for a flush valve 17, said seat being formed upon the upper end of a nipple 18 which extends downwardly and is attached flexibly to a flush-pipe 19. On the outer wall 20 of the tank a bracket 21 is attached, which projects toward the interior of the tank. At the inner end of this bracket, a main lever 22 is pivotally attached. The inner end of this lever is provided with links 23 which support a tubular valve stem 24, to the lower end of which the aforesaid flush valve 17 is attached. Just above the flush valve 17, the stem 24 is provided with a cup 25, and this cup is disposed near the spout 7 and in a position to receive water therefrom. The outer end of the lever 22 projects across the outer wall 20 of the tank, and is provided with a chain 26, as indicated. On the outer wall 20 beyond the point where the lever 22 is located, a bracket 27 is attached, and to this bracket there is attached pivotally a latching lever 28 which extends longitudinally of the outer wall 20. On the latching lever 28 an adjustable counterweight 29 is attached, and near the point where the levers 22 and 28 cross each other, the lever 22 is provided with a laterally projecting foot 30, and this foot is connected by a link 31 to the lever 28 in the manner indicated in Fig. 2.

In the normal position of the parts, the lever 28 extends upwardly, as indicated by the dotted lines in Fig. 2, and the lever 22 is disposed in a slightly elevated position which also is indicated by dotted lines. When the lever 22 is operated to open the flush valve 17, its outer end descends and the weight 29 then descends with the lever 28 so that the lever 28 falls across the lever 22, as indicated in Fig. 2' in full lines. In this way the valve 24 is held open while the water in the flush tank escapes through the pipe 19. When the water has all escaped from the tank, the cup 25 will remain full of water, and the weight of this water is sufficient to depress the inner end of the lever 22 and raise the outer end so that the lever 22 returns the lever 28 to its normal erect position.

In order to center the valve 17 upon its seat 16, the nipple 18 is provided with a guide spider 32 and the valve 17 is provided with a downwardly extending guide stem 33 which slides through this guide spider. Near its upper end the tubular stem 24 is provided with an overflow opening 34 which prevents the tank from overflowing, in a well known manner.

- 10 The object in arranging the spout 7 so that it delivers water to the cup 25, is to enable the valve to close automatically when water is admitted to the tank after the tank has been standing dry, that is, without water in the tank or in the cup.

In some cases where the suction at the outlet nipple 18 is great, this suction of itself may keep the valve from receding. Under these circumstances the weight 29 may be much reduced, and in fact the latching lever 28 may sometimes be dispensed with.

- 20 Special attention is called to the operation of the cup 26. When the tank is full, this cup has inappreciable weight, but when the water level falls in the tank, then the water within the cup gives the valve relatively great weight.

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

- 30 1. A flush tank having a flush valve, an operating lever connected with said flush valve to raise the same from its seat, latching means in connection with said operating lever for holding said valve raised from its seat, and a cup carried by said valve adapted to retain water when said tank is drained, the weight of the water in said cup affording means for releasing said latching means.

- 40 2. A flush tank having a valve, an operating lever connected with said valve for opening the same, a weighted member engaging said lever to latch said lever intermediately and tending to move it to its open position, and a cup carried by said valve retaining water after the tank is drained and adapted

to close said valve and to return the parts to their normal position.

3. A flush tank having a flush valve, a lever connected with said valve for raising the same, a weighted lever adapted to fall across said first lever to latch the same in a position which maintains said valve open, and automatic means for returning said valve and said weighted lever to their normal positions.

4. A flush tank having a flush valve, a lever connected with said valve for operating the same, a lever having a weight connected with said first lever and affording means for latching said first lever in the position which maintains said valve open, and a cup carried by said valve adapted to retain water when said tank is emptied, the weight whereof may overbalance said weight and close said valve.

5. A flush tank having a flush valve, a lever connected with said flush valve for opening the same, a weighted member adapted to latch said lever in a position to maintain said valve open, a cup carried by said valve adapted to retain water and affording means for returning the parts to their normal position, and a pipe connection delivering water to said cup.

6. A tank having a flush valve, a lever connected with said valve and adapted to raise the same, a weighted lever, a link connecting said weighted lever with said first lever, said weighted lever being adapted to fall across said first lever, to latch the same in a position to maintain said valve open, and a cup carried by said valve adapted to retain water when said tank is drained.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN WALKER, Jr.

Witnesses:

E. E. SNELL,
N. C. SCHLEMMER.