

G. H. BAILEY.
FLUSHING TANK.
APPLICATION FILED MAY 26, 1909.

969,442.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.

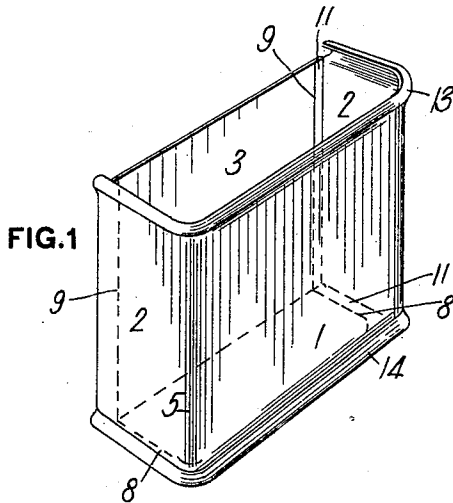


FIG. 1

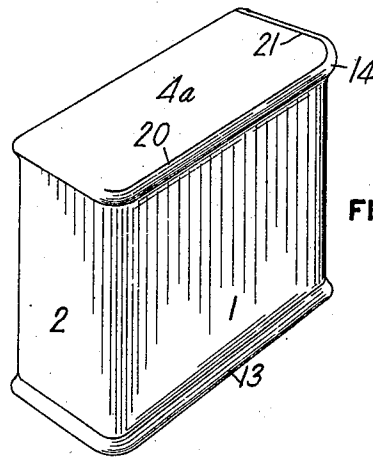


FIG. 8

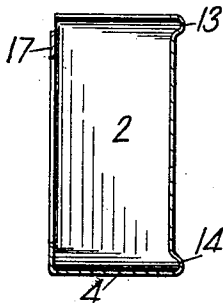


FIG. 5

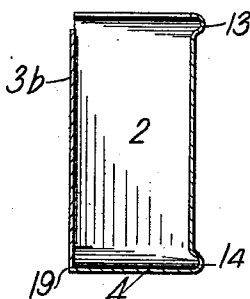


FIG. 7

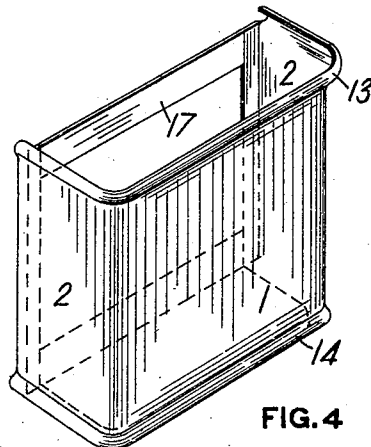


FIG. 4

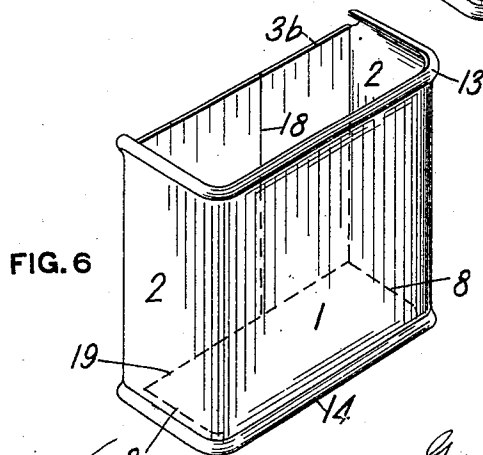


FIG. 6

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2 SHEETS—SHEET 2.

FIG. 2

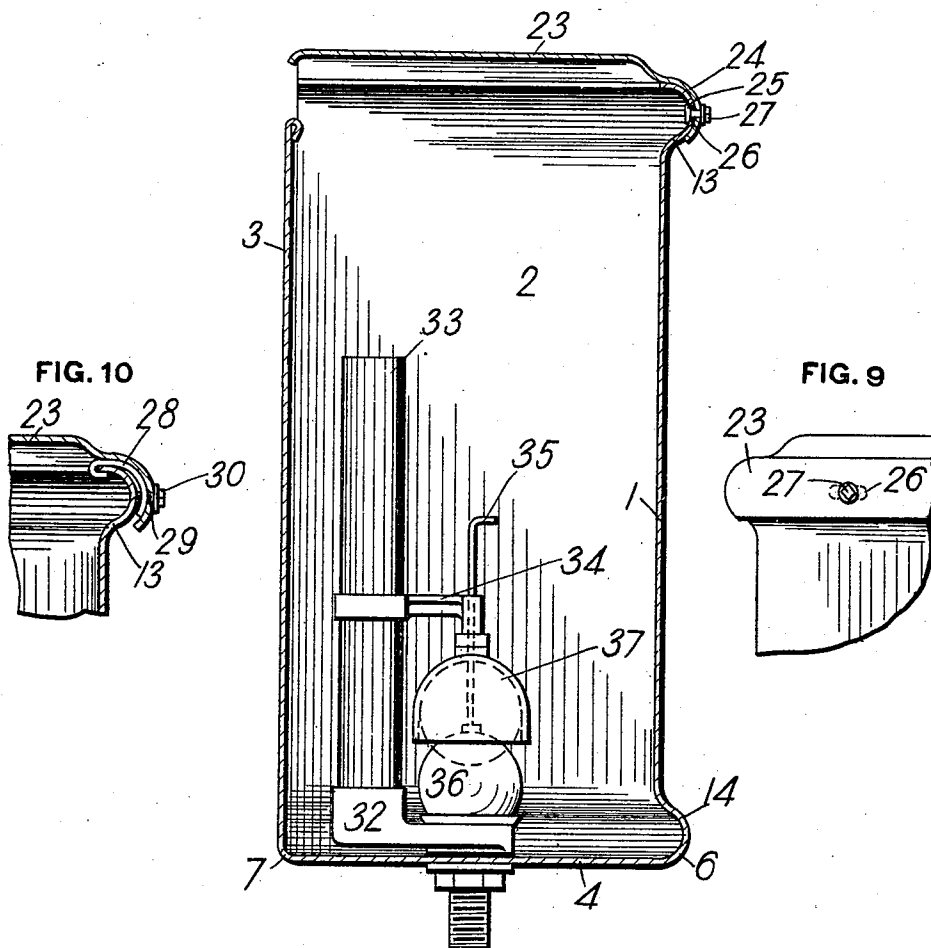
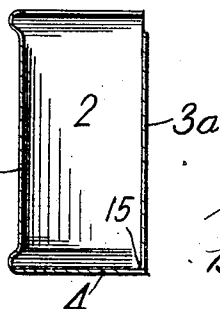


FIG. 3



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UNITED STATES PATENT OFFICE.

GEORGE H. BAILEY, OF PITTSBURG, PENNSYLVANIA.

FLUSHING-TANK.

969,442.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed May 26, 1909. Serial No. 498,535.

To all whom it may concern:

Be it known that I, GEORGE H. BAILEY, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Flushing-Tanks, (Case 7,) of which the following is a specification.

This invention relates to flushing and like tanks and more particularly to flushing tanks for water closets and the like.

One object of the invention is to provide a sheet metal tank for this purpose, so constructed that it can be economically built, will be slightly in appearance, and durable. The invention comprises a tank constructed and arranged as hereinafter described and claimed.

In the accompanying drawings Figure 1 is a perspective view showing one manner of constructing the body of the tank; Fig. 2 is a vertical transverse section through the same on an enlarged scale; Fig. 3 is a similar view through the body of a tank showing a slight modification; Fig. 4 is a perspective view illustrating the invention applied to the outer tank or jacket of a double walled tank; Fig. 5 is a vertical transverse section through the same; Fig. 6 is a perspective view showing another modification of the tank; Fig. 7 is a vertical transverse section through the same; Fig. 8 is an inverted perspective showing still another form; Fig. 9 is a detail front view showing the means for holding the cover in place; and Fig. 10 is a transverse sectional detail view showing a modification.

The tank shown in Figs. 1 and 2 has its front wall 1, its end walls 2, rear wall 3, and bottom all formed from a single sheet. This sheet is cut to the proper shape with the bottom portion 4 joined to the lower edge of the front wall portion 1, and the rear wall 3 joined to the rear edge of the bottom. The sheet is bent to bring the end wall portions 2 substantially at right angles to the front wall, preferably with round front vertical corners, at 5, and bending the bottom portion 4 along the lower front corner 6, and then bending the rear wall portion upwardly along the rear corner 7, after which the ends of the bottom are welded to the lower edges of the end walls, the welded joint being indicated at 8, and the ends of the rear wall welded to the rear vertical edges of the end walls, these welds being indicated at 9. This forms a substantially

rectangular tank from a single sheet of metal with welded joints at the rear vertical corners and at the bottom horizontal end corners.

The welds 8 and 9 may be made directly at the corners of the body, but preferably the lower edges of the end walls are slightly turned in and the rear edges thereof also slightly turned inwardly at 11, and the welds made by butt joints somewhat removed from the corners of the tank.

The top edges of the tank are strengthened by flanging or beading the same, the drawing showing the metal slightly bulged outwardly and then turned inwardly to form an ornamental bead 13, on the front and end walls, although if desired the top edge may merely be flanged inwardly. The bottom may also be slightly bulged outwardly, as shown at 14, before being turned inwardly, to give a slightly or ornamental finish at the bottom, although this is not necessary.

Fig. 3 shows a slight modification wherein the rear wall 3^a instead of being integral with the bottom, is a separate sheet welded to the rear edge of the bottom at 15.

Figs. 4 and 5 show the same idea applied to the formation of a jacket or outer tank for a double tank construction. In this case the rear side is practically open, the bottom 4 merely having its ends welded to the rear vertical edges of the end walls. A cross connecting member 17 is welded to the rear vertical edges of the end walls near their tops to constitute a brace. The same flanging or beading may be employed in this modification as in the form shown in Fig. 1.

Figs. 6 and 7 show still another modification wherein the rear wall is integral with the end walls instead of with the bottom. In this case the rear wall is formed by portions 3^b integral with the end walls and secured together by the vertical weld 18. The ends of the bottom 4 in this case are welded to the lower edges of the end walls at 8 as in the other modifications, and the rear edge of the bottom is welded at 19 to the lower edge of the rear wall.

In all of the foregoing forms of the tank it will be observed that the bottom is integral with the front wall so that no joint of any kind appears along the front face of the tank.

Fig. 8 shows a modification in which the bottom 4^a is integral with one of the end walls and is welded to the lower edge of the

front wall at 20 and the lower edge of the other end wall at 21. This form may be open on the back, like the modification shown in Fig. 4, or it may have a rear wall which may

5 either be a separate plate welded to the rear edge of the bottom and the rear vertical edges of the end walls as in Fig. 3, or it may be integral with the bottom as in Fig. 1 or integral with the end walls as in Fig. 6.

10 The cover is shown at 23 this being provided on its front and end edges with a curved inwardly turned flange 24 to fit over the bead 13. The cover is shown fastened to the tank by means of bolts 25 extending

15 through slots 26 in the front bead 13 of the tank and through holes in the front flange of the cover, and provided with ornamental nuts 27 on their outer ends. The slots 26 permit the bolts to be shifted sidewise so

20 that they can be brought in alinement with the holes in the cover irrespective of any irregularities of the parts and without exposing the holes through which they project.

Fig. 10 shows a slight modification in

25 which clips 28 are hooked over the head 13 on the body and clamped in position by threaded studs 29 which project through the holes in the flange of the cover and at their outer ends receive the finishing nuts 30. These clamps can obviously be fastened in any position so that the studs 29 are in exact alinement with the holes in the cover. These means provide convenient arrangements for securely fastening the cover to the body so

30 as to permit its ready detachment when desired and without interfering with the sightly appearance of the tank.

The tank after being shaped and welded as described is completely coated with

40 enamel, both inside and outside. The construction is such that there are no sharp angles or any very great variation in thickness of metal and consequently the enamel will form a smooth unbroken coat over the

45 same. The manner of construction permits of sufficiently heavy metal to avoid excessive vibration and the resultant chipping off of the enamel. The flanging or beading at the top of the tank is quite essential in order to

50 give sufficient stiffness to prevent vibration of the sheet metal.

The tank wall is provided with the usual fixtures. All forms of the tank described may be employed with an inner tank to leave

55 a dead air space between the same, although for this purpose the form shown in Figs. 4 and 5 is preferred.

This application includes one of the modifications shown and described in my Patent

60 No. 944,764, dated December 28, 1909.

In flushing tanks using an automatically closing hollow ball valve which is lifted and remains floating in the water, there is a tendency for the ball valve to close when the

65 tank still contains a considerable depth of

water. This is due to the fact that the water exerts more or less pressure on top of the ball valve and the siphonic action due to the outflow of the water when the tank becomes nearly empty draws the valve to its

70 seat. In practice it is found that the valve closes when there is still about one and one-half or two inches of water in the tank. I overcome this tendency of the valve to close before the tank is fairly empty by providing

75 means for protecting the valve on its top from water pressure. This is shown in Fig. 2 where the outlet fitting is indicated at 32 with an overflow pipe 33, the latter carrying a bracket 34 which forms the guide for the

80 lifting rod 35 of the ball valve 36. The latter is hollow and formed of soft rubber, as is the usual practice. These parts are all well known and in extensive use. The mechanism for lifting the valve is not shown.

85 My improvement consists in suspending over the ball valve a suitable hood or dome 37 which can be conveniently carried by bracket 34 and which conforms substantially in size and shape to the upper half of the ball valve

90 36. When the valve is lifted it enters the hood or dome 37, and consequently is not subjected to the pressure of water on its top. The consequence is that it will remain open

95 or floating in the water until the level of the water in the tank is practically down to the top of the outlet fitting 32.

What I claim is:

1. A flushing or like tank composed of sheet metal having its front and end walls

100 and bottom formed from one sheet, said bottom being integral with one of said walls and having its free edges welded to the others of said walls.

2. A flushing or like tank composed of

105 sheet metal having its front and end walls and bottom formed from one sheet, said bottom being integral with one of said walls and having its free edges welded to the

110 turned lower edges of the others of said walls.

3. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from a single sheet, said

115 bottom being integral with the front wall and having its ends welded to the lower edges of the end walls.

4. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from one sheet with the

120 ends of the bottom welded to the lower edges of the end walls.

5. A flushing or like tank composed of sheet metal having its bottom integral with its front wall with the ends of the bottom

125 welded to the lower edges of the end walls and the rear edge of the bottom turned upwardly and welded to the rear vertical edges of the end walls.

6. A flushing or like tank composed of

130

sheet metal having its front and end walls and bottom formed from a single sheet, the bottom being integral with the front wall and welded to the lower edges of the end walls, and a rear wall welded to the rear vertical edges of the end walls.

7. A flushing or like tank composed of sheet metal having its bottom integral with its front wall and welded to the lower edges of the end walls and having its rear edge turned upwardly to form a rear wall and welded to the rear vertical corners of the end walls.

8. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from a single sheet, said bottom being integral with the front wall and its ends welded to inturned lower edges of the end walls.

9. A flushing or like tank composed of sheet metal having front and end walls and bottom formed from a single sheet with the lower and rear vertical edges of the end walls turned inwardly, the ends of the bottom being welded to the inturned lower edges of the end walls.

10. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from one sheet with the lower and rear vertical edges of the end walls turned inwardly, the ends of the bottom being welded to the inturned lower

edges of the end walls and its rear edge turned upwardly and welded to the inturned rear vertical edges of the end walls.

11. A flushing or like tank composed of sheet metal bent to shape having its bottom integral with the front wall and the ends of the bottom welded to the lower edges of the end walls, the top edges of the tank being flanged inwardly.

12. A metal flushing or like tank comprising a body and a cover provided with downturned flanges at the front and ends and adapted to slide onto the body from the front and threaded studs secured to the body for lateral adjustment and projecting through holes in the front flange of the cover and arranged to receive nuts on their outer ends.

13. A metal flushing or like tank comprising a body and a cover provided with downturned flanges at the front and ends and adapted to slide onto the body from the front, and bolts projecting through horizontal slots in the body and through holes in the front flange of the cover and adapted to receive nuts in their outer ends.

In testimony whereof, I have hereunto set my hand.

GEORGE H. BAILEY.

Witnesses:

F. W. WINTER,
WILLIAM I. KING.