C. H. ZWERMANN.

TANK.

APPLICATION FILED DEC. 11, 1907.

932,530.

Patented Aug. 31, 1909.

2 SHEETS—SHEET 1.

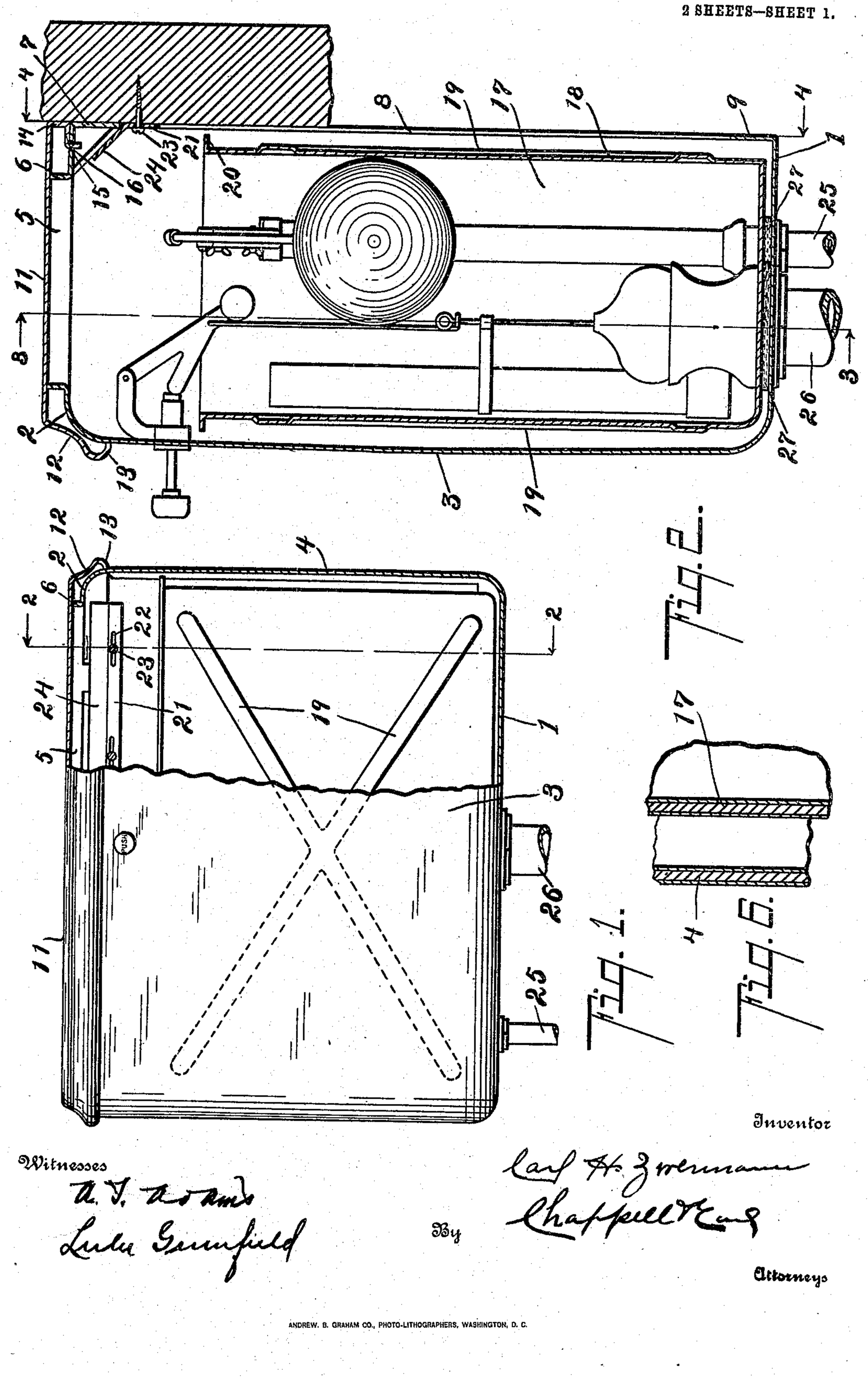

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

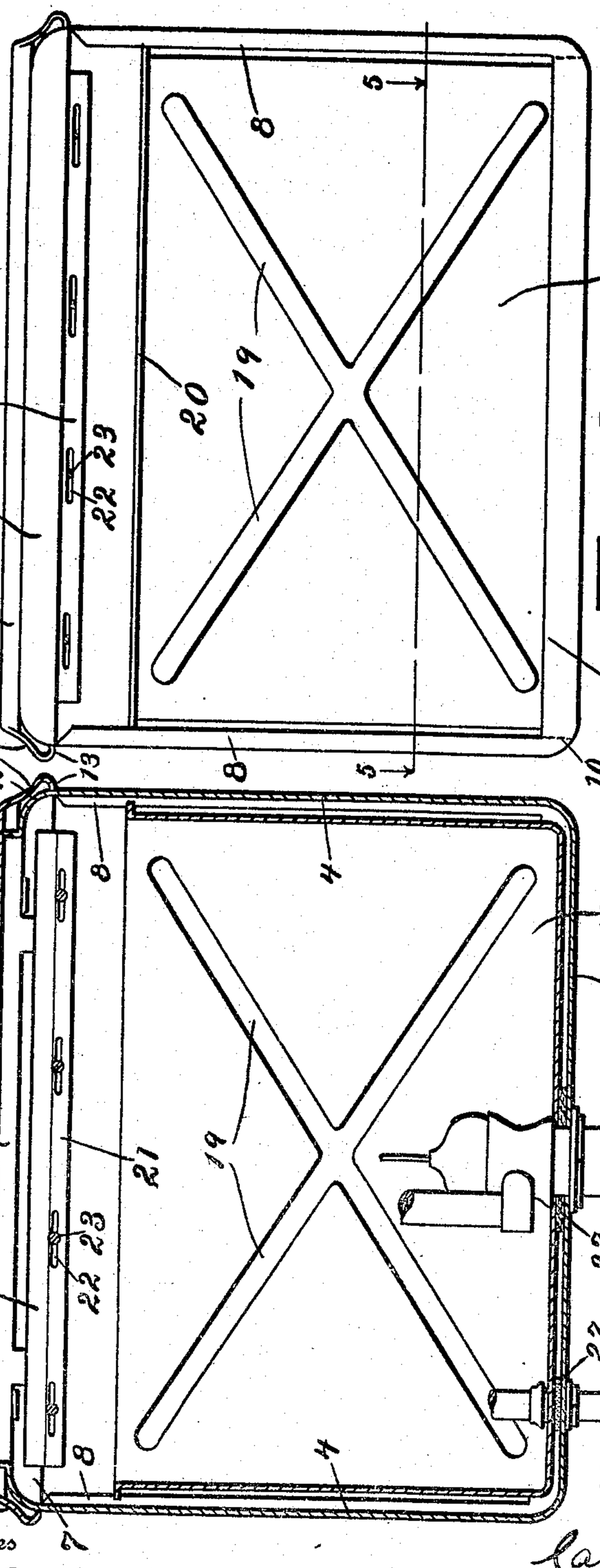

Fig. 4.

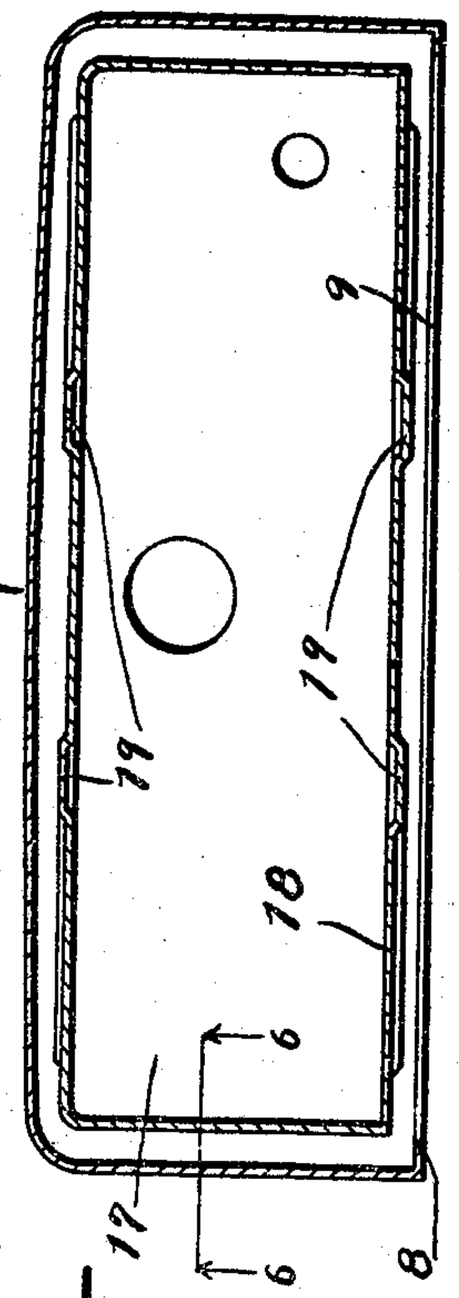

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

CARL H. ZWERMANN, OF KALAMAZOO, MICHIGAN.

TANK.

932,530. Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed December 11, 1907. Serial No. 406,047.

To all whom it may concern:

Be it known that I, CARL H. ZWERMANN, a citizen of the United States, residing in the city and county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Tanks, of which the following is a specification.

This invention relates to improvements in flushing tanks.

The main objects of this invention are: first, to provide an improved flushing tank which is formed of sheet metal and one which is comparatively easy and economical to manufacture; second, to provide an improved sheet metal tank which may be largely formed by die work without seriously weakening or injuring the metal; third, to provide in a sheet metal tank an improved cover.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which:

Figure 1 is a front elevation of my improved tank, a portion of the outer casing being broken away to better show the form and arrangement of the parts; Fig. 2 is a vertical transverse section, taken on a line corresponding to line 2—2 of Fig. 1; Fig. 3 is a vertical longitudinal section, taken on a line corresponding to line 3—3 of Fig. 2, portions of the valve mechanism being broken away; Fig. 4 is a rear elevation; Fig. 5 is a horizontal section, taken on a line corresponding to line 5—5 of Fig. 4; and Fig. 6 is an enlarged detail through the walls of the casing and the water receptacle, showing the enamel thereon.

In the drawing, the sectional views are taken looking in the direction of the little arrows at the ends of the section lines, and similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawing, the outer casing is made up of a bottom 1; top 2; front wall 3; and end walls 4, the casing being open at the rear. The top is provided with an opening 5, and has an upturned flange 6 about the opening. The top, bottom, front and end walls are preferably formed of a single piece of sheet metal, the same being died or pressed up. This operation can be conveniently accomplished, the die working from the rear, so that the draw is comparatively shallow. After the dying operation to form the walls is completed, the opening 5 is formed in the top and the flange 6 turned up about the opening. The flanges 7, 8 and 9 are then formed on the rear edges of the top, end and bottom walls, respectively. The flanges of the end walls and bottom being secured together, as along the dotted line 10, they form a reservoir in the bottom of the casing, the object of which will be pointed out later. The casing is provided with a top 11, which is preferably formed of a single piece of sheet metal, and is provided with a downturned flange 12 at its front and end edges, the edge of the flange 12 being turned inwardly, as at 13, to engage the front and end walls of the casing. The flange at the rear edge of the cover, as 14, is adapted to rest on the top of the casing, it being preferably in alinement with the flange 7 thereof, when the cover is in position, so that the rear edge of the cover fits against the wall. The flange 14 is provided with a pair of inwardly and downwardly turned lugs 15, which are adapted to engage suitable holes, as 16, provided therefor in the top of the casing. This prevents the movement of the cover upon the casing, holding it securely in position, and, at the same time, permits its easy removal.

The cover is adapted, when in position, to rest upon the upwardly-projecting flange 6 about the opening 5, thereby effectively closing the same. The turning in of the edge 13 of the cover flanges not only assists in retaining the cover in position on the casing, but also adds to its appearance, and has the further advantage of concealing the edge of the cover. As it is found in practice that it is quite difficult to enamel sheet metal so that the edges will be perfectly coated, the advantage of this will be obvious.

The inner receptacle 17 is also formed of sheet metal, preferably in two pieces, the bottom, ends and front walls being died up from one piece and the rear wall 18 being welded thereto, the edges of the walls being brought together in a butt joint. The front and rear walls are preferably ribbed at 19 to assist in strengthening them, and to pre-

vent their buckling during the enameling operation. The upper edges of the walls are preferably provided with outturned flanges 20 which further adds to their rigidity. The receptacle is adapted to be inserted into the casing through the opening in the rear thereof, and is of such size that, when in place, there is an air space between the walls of the receptacle and the walls of the casing, thereby preventing sweating or condensation of the moisture on the casing. Any condensation on the inner receptacle is collected by the reservoir in the bottom of the casing. This condensation is found to be so slight that the little collected at one time is evaporated at another, under changing conditions.

I preferably suspend my improved tank by means of the hanger 21, which has longitudinal slots 22 therein adapted to receive the securing screw 23. By this means, when the hanger is attached to a wall, the screws may be located so as to engage the studding of the wall and sufficient adjustment of the hanger is secured so that the tank may be located as desired. The hanger is provided with an outturned flange 24 at its upper edge adapted to engage the downturned flange 7 on top of the casing, so that, after the hanger is placed, the casing is merely slipped over the flange of the hanger, and, owing to its shape, the casing slips back against the wall. By this means, I secure a hanger which is very quickly adjusted and at the same time it supports the tank very effectively.

The casing and the receptacle are provided with suitable openings in their bottoms for the water supply pipe 25, and the discharge pipe 26. These pipes are provided with the usual flanges and clamping nuts, the washers 27 being arranged thereon between the casing and the receptacle for holding them properly spaced. The water supply pipe is provided with a suitable valve and float, but, as they form no part of this invention, I do not describe the same in detail herein. The discharge pipe is also provided with suitable valve and operating means, but, as these also do not form part of this invention, I do not specifically describe the same herein.

By forming the parts as I have illustrated and described, I am enabled to produce an enameled sheet metal tank which is not only attractive in appearance and durable in use, but one which is very easy and economical to manufacture. Further, the parts are readily assembled for use.

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

1. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough and an upturned flange about said opening, the rear edges of the said bottom and end walls having inturned flanges thereon, said flanges being united to form a reservoir in the bottom of the casing; a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the edge of said flange at the front and ends of said cover being curved inwardly to engage the front and end walls of the casing and the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of inwardly and downwardly turned lugs thereon adapted to engage openings provided therefor in the said top, said cover being adapted to rest on the said flange about the opening in said top wall; and an inner receptacle arranged in said casing, said receptacle being adapted to be introduced through the opening in the rear of said casing.

2. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough, the rear edges of the said bottom and end walls having inturned flanges thereon, said flanges being united to form a reservoir in the bottom of the casing; a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the edge of said flange at the front and end walls of said cover being curved inwardly to engage the front and end walls of the casing and the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of inwardly and downwardly turned lugs thereon adapted to engage openings provided therefor in the said top; and an inner receptacle arranged in said casing, said receptacle being adapted to be introduced through the opening in the rear of said casing.

3. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough and an upturned flange about said opening, the rear edges of the said bottom and end walls having inturned flanges thereon, said flanges being united to form a reservoir in the bottom of the casing; a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of lugs thereon adapted to engage openings provided therefor in the said top, said cover being adapted to rest on the said flange about the opening in said top wall; and an inner receptacle arranged in said casing, said receptacle being adapted to be intro-

duced through the opening in the rear of said casing.

4. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough, the rear edges of the said bottom and end walls having inturned flanges thereon, said flanges being united to form a reservoir in the bottom of the casing; a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of lugs thereon adapted to engage openings provided therefor in the said top; and an inner receptacle arranged in said casing, said receptacle being adapted to be introduced through the opening in the rear of said casing.

5. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal open at the back and comprising bottom and top, front and end walls, the said top having an opening therethrough of less dimension than said top and having an out-turned rib around the same and the rear edges of the said bottom and end walls having inturned flanges thereon, said flanges being united to form a reservoir in the bottom of the casing; a cover for said casing; and an inner receptacle open at the top arranged in said casing, said inner receptacle being adapted to be introduced through the opening in the back of said casing, and its interior being accessible through the opening in the top of said casing.

6. In a tank, the combination of a casing died or pressed from a single piece of sheet metal, open at the back and comprising bottom and top, front and end walls, the said top having an opening therethrough and an upturned flange about said opening, the rear edges of the said bottom, top and end walls having inturned flanges thereon, the flanges of the bottom and end walls being welded together to form a reservoir in the bottom of the casing.

7. In a tank, the combination of an outer casing died or pressed from a single piece of sheet metal open at the back and comprising bottom and top, front and end walls, said top having an opening therethrough; an inner receptacle open at its top arranged in said casing, said inner receptacle being of such dimensions that it is adapted to be introduced into the said casing through the open back, and the top opening being larger than the opening in the top of the casing; the interior of said inner receptacle being thus accessible through the opening in the top of the casing.

8. In a tank, the combination of a casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough and an upturned flange about said opening; and a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the edge of said flange at the front and ends of said cover being curved inwardly to engage the front and end walls of the casing and the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of inwardly and downwardly turned lugs thereon adapted to engage openings provided therefor in the said top, said cover being adapted to rest on the said flange about the opening in said top wall.

9. In a tank, the combination of a casing died or pressed from a single piece of sheet metal, comprising bottom and top, front and end walls, the said top having an opening therethrough; and a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the edge of said flange at the front and ends of said cover being curved inwardly to engage the front and end walls of the casing and the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of inwardly and downwardly turned lugs thereon adapted to engage openings provided therefor in the said top.

10. In a tank, the combination of a casing died or pressed from a single piece of sheet metal, open at the back and comprising bottom and top, front and end walls, the said top having an opening therethrough; and a cover for said casing formed of a single piece of sheet metal, having downturned flanges at its edges, the flange at the rear edge being adapted to rest on the top of the casing, said flange having a pair of lugs thereon adapted to engage openings provided therefor in the said top.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

CARL H. ZWERMANN. [L. S.]

Witnesses:
ADELAIDE I. ADAMS,
LULU G. GREENFIELD.