J. F. LESLIE.

SHEET METAL TANK.

APPLICATION FILED AUG. 8, 1914.

1,192,538.

Patented July 25, 1916.

Fig. 1.

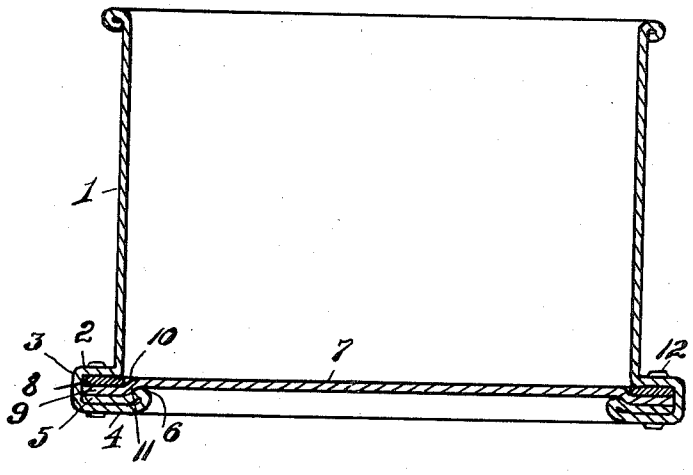


Fig. 2.

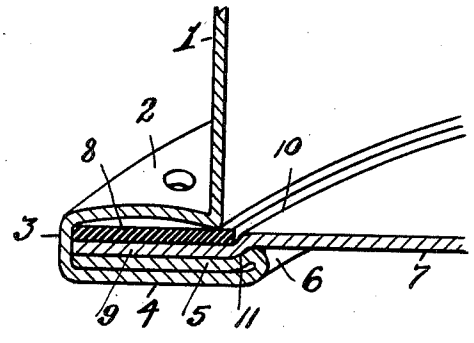
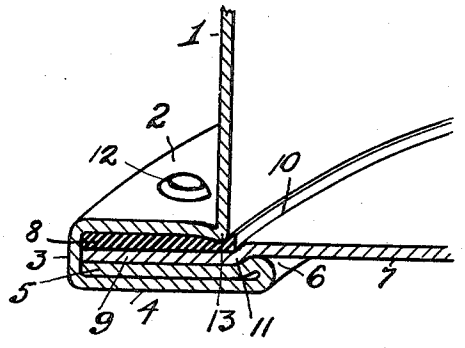


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN F. LESLIE, OF MADISON, WISCONSIN.

SHEET-METAL TANK.

1,192,538. Specification of Letters Patent. Patented July 25, 1916.

Application filed August 8, 1914. Serial No. 855,727.

To all whom it may concern:

Be it known that I, JOHN F. LESLIE, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Sheet-Metal Tanks, of which the following is a specification.

My invention relates primarily to sheet metal receptacles, and particularly to a joint connection between the bottom and side wall or walls of such receptacle, whereby to provide a secure non-leaking joint without the use of solder or like sealing mediums.

The main object of the present invention resides in the provision of a seam or joint wherein the material of the side wall or walls and the bottom are utilized as joint forming elements to form a reinforce for the bottom, and the joint forming elements so formed that they coöperate to receive and hold a sealing strip to provide a water tight joint.

The invention in its preferred form of details will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a vertical sectional view of a receptacle, showing the bottom connected in place by the improved joint. Fig. 2 is a fragmentary sectional view showing the joint partially completed, and Fig. 3 is a similar view, showing the joint in its complete state.

The tank may be of any form and may be fashioned from sheet metal or any other suitable material, the same in the present instance being shown of circular formation.

In forming the joint, the material of the side wall or walls 1 of the receptacle, is projected laterally and outwardly at its lower portion, and is given a convex formation in cross-section, as indicated at 2 (see Fig. 2), then downwardly in parallelism with the wall, as at 3, then laterally and inwardly, as at 4, and then return bent upon the last mentioned section, as at 5, the bend 6 being projected upwardly above the plane of the section 5, thereby providing a flange, the purpose of which will be presently explained. The sections 2 and 5 are spaced apart a sufficient distance to receive the bottom 7, and a sealing strip 8 between them, the sealing strip being preferably of rubber or other water-proof fabric, and formed in long strips which may be quickly handled for placement in its proper position.

The bottom 7 is crimped so as to form a depressed rim section 9 coextensive in width with the sealing strip 8, an upper shoulder 10 and a lower shoulder 11 being fashioned by such crimping of the metal, the upper surface of the rim section serving as a seat for the sealing strip, and the shoulder 10 serving as a stop to prevent inward displacement of said strip and the section 3 preventing outward displacement thereof; the bottom and the side wall sections thus forming a pocket for the sealing strip. The flange 6, heretofore described, is adapted to engage the lower shoulder 11 of the bottom member, to reinforce and support the bottom against downward pressure at that point, and to interlock the bottom and the section 5 against relative edgewise movement.

In its finished state the joint is as shown in Fig. 3, a retaining element, as a rivet 12, is passed through the joint sections, the bottom, and the sealing strip, which elements are all firmly drawn together, and, in doing which, the convex section 2 is forced into a substantially flat formation, thereby causing said section to be lengthened crosswise, and by virtue of the downward pressure thereon causing the point 13 formed by the angle of the side wall 1 and said section to bite into the strip, thereby firmly clamping the sealing strip at that point to provide a thoroughly water-tight joint.

It will of course be understood that in the mechanical formation of the joint the material of the side wall will first be bent laterally and outwardly, the bottom next applied, and the joint completed around the edge of the bottom, after which the sealing strip is positioned and the parts all drawn tightly together by suitable retaining devices.

Having thus described my invention, what is claimed is:—

1. A receptacle comprising a side wall having its lower portion bent laterally and outwardly and then inwardly to form relatively spaced upper and lower joint sections, a downwardly projecting ridge being formed at the juncture of the upper joint section and side wall, a bottom extending beyond the side wall and between said joint sections, a yielding sealing strip interposed between the upper joint section and the bottom, and

retaining means for drawing said elements together and cause said ridge to bite into the sealing strip to form a water tight joint.

2. A receptacle comprising a side wall having its lower portion bent to provide an upper laterally and outwardly extending joint section with the point of bend forming an inner and downwardly projecting ridge, thence bent inwardly in spaced relation with said upper joint section and folded upon itself to form a lower joint section having a bead at the point of its inner bend extending above the upper surface of said fold and disposed inwardly of the projecting ridge of the upper joint section, a bottom member extending beyond the side wall and between said joint sections having a marginal depression forming shoulders on the upper and lower sides thereof, the shoulder on the lower side engaging the bead of the lower joint section to prevent outward spread of the side wall, a yielding sealing strip disposed between the upper joint section and the depressed portion of the bottom member, and retaining elements adapted to draw the joint sections, bottom member, and sealing strip into binding engagement and cause the projecting ridge of the upper joint section to bite into the sealing strip, the shoulder on the upper side of the bottom member being adapted to prevent inward spread of the sealing strip.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. LESLIE.

Witnesses:
L. W. Cook,
L. M. Dammenschmidt.