

V. MAUCK.
SHEET METAL VESSEL.
APPLICATION FILED JUNE 5, 1919.

1,427,404.

Patented Aug. 29, 1922.

FIG. I.

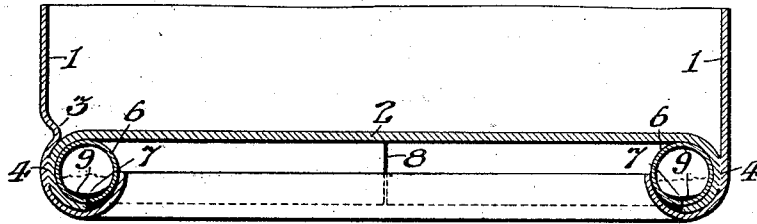
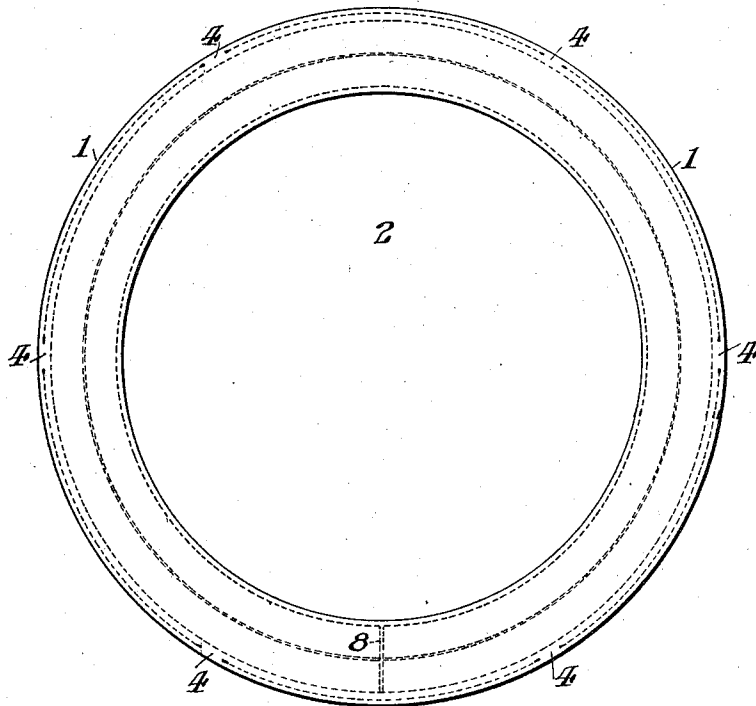


FIG. II.



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VICTOR MAUCK, OF NORRISTOWN, PENNSYLVANIA.

SHEET-METAL VESSEL.

1,427,404.

Specification of Letters Patent. Patented Aug. 29, 1922.

Application filed June 5, 1919. Serial No. 302,019.

To all whom it may concern:

Be it known that I, VICTOR MAUCK, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented a certain new and useful Improvement in Sheet-Metal Vessels, whereof the following is a specification, reference being had to the accompanying drawing.

10 My invention is particularly applicable to sheet metal barrels, drums, and similar vessels, comprising cylindrical tubular shells having bottoms permanently secured therein, and the object of my invention is to
15 provide a rigid and durable chime and tight joint, at the junctions of such shells and bottoms.

As hereinafter described, an essential feature of my invention is the provision of
20 a hollow ring over which the edges of the metal sheets respectively forming such shells and bottoms are bent, and which ring primarily contains material which may be melted and flow into the joint to seal
25 the latter. For instance, such sealing material may be brass spelter and flux.

My invention comprises the various novel features of construction and arrangement hereinafter more definitely specified.

30 In said drawing: Fig. I is a fragmentary, vertical sectional view of the lower end of a vessel embodying my improvement.

Fig. II is an inverted plan view of said vessel.

35 In said figures: 1 is a tubular shell, of circular form, which may be primarily cylindrical. 2 is a closure plate, forming a bottom or head in said vessel, which closure plate may primarily have a cylindrical
40 perimetral flange. Said closure plate 2 is preferably of such size that it is necessary to force it into position in said shell 1, and said shell may have an annular internally projecting bead 3 serving as a stop
45 determining the position to which said closure plate may be forced into said shell. However, said bead may be omitted and said shell and closure plate be rigidly connected by spot welding them, electrically
50 or otherwise, as indicated at 4 in Fig. I, so as to prevent accidental relative displacement of said shell 1 and plate 2 during the subsequent bending operation, hereinafter described. The tube 6 may be primarily
55 straight, but is bent to form a ring which is split both circumferentially, as indicated

at 7, and transversely, as indicated at 8; the latter being formed at the junctions of the ends of said tube 6. Such an annular tube 6 may be formed from a primarily flat strip
60 of sheet metal, which is first rolled to cylindrical form, and then bent to form a ring. However, it is to be understood that such a tubular ring may be formed from a primarily flat annulus of sheet metal by a
65 pressing operation, forming an annular tubular ring which is endless.

In either case; the tubular ring 6 may be charged with sealing material 9, which is primarily loose, as indicated by the dotted
70 lines in Fig. I, and may for instance, comprise a mixture of brass spelter and flux, or other soldering or welding material.

Said tubular ring 6 having been forced into the position shown in Fig. I; the free
75 edges of said shell 1 and closure plate 2, may be rolled or otherwise bent over said ring, to the position shown in Fig. I. Thereupon, the assembled structure may be heated until the sealing material 9, melting from
80 said tube 6, fills all of the interstices of the joint, and seals the latter, as indicated in full lines in Fig. I; thus forming a vessel with a rigid chime and tight joint.

It is to be understood that if the vessel
85 above described is to be used as a container for liquid or other material which may be readily introduced and removed therefrom through a bung or similar opening; both
90 ends of said shell 1 may be provided with plates 2 permanently sealed therein as described. However, if a vessel having a plate, sealed as above described, is to be only temporarily closed at its upper end, any
95 suitable temporary closure may be employed. For instance, a head may be formed with a reinforcing ring, such as the ring 6, but without permanent connection with the shell.

Of course, I do not desire to restrict my-
100 self to a vessel having a cylindrical shell as my invention above described is equally applicable to barrels and similar vessels of bilge or other forms.

Although I find it convenient to make the
105 closure plates 2 from ordinary flat sheet metal; if the vessel is to be subjected to internal pressure, or if it is desired to utilize all available space; such closure plates may be bulged outwardly, within the space
110 formed by the chime aforesaid.

Therefore, I do not desire to limit myself

to the precise details of construction and arrangement herein set forth as it is obvious that various modifications may be made therein, without departing from the essential features of my invention, as defined in the appended claims. 40

I claim:

1. A sheet metal vessel comprising an outer shell of circular form; a closure for the end of said shell, comprising a plate having a flange fitted to said shell; means limiting the relative position of said shell and closure plate, comprising an inwardly extending annular bead on said shell; a reinforcing ring formed of a split sheet metal tube fitted in said closure plate, and containing sealing means; the edges of said shell and closure plate being closed over said ring, and said sealing means filling the interstices at the joint between said edges and said ring. 45
2. A sheet metal vessel comprising an outer shell; a closure for said shell, comprising a plate having a flange fitted to said shell; means limiting the relative position of said shell and closure plate, including a spot weld; a tubular reinforcing ring formed of sheet metal, fitted in said closure plate and containing fusible sealing means; the edges of said shell and closure plate overhanging said ring, and said sealing means sealing the joint between said edges and said ring. 50
3. A sheet metal vessel comprising an outer shell; a closure for said shell, comprising a plate having a flange fitted to said shell; a tubular reinforcing ring containing fusible sealing means; the edges of said shell and closure plate overhanging said ring, and said sealing means sealing the joint between said shell and closure. 55
4. A sheet metal vessel comprising an outer shell; a closure for said shell, comprising a plate having a flange fitted to said shell; a tubular reinforcing ring containing sealing means; the edges of said shell and closure plate engaging said ring, and said sealing means sealing the joint between said shell and closure. 60
5. A sheet metal vessel comprising an outer shell; a closure for said shell, comprising a plate; a tubular reinforcing ring containing sealing means; and said sealing means sealing the joint between said shell and closure. 65
6. An article of manufacture, comprising a tubular sheet steel ring containing fusible sealing means; including brass spelter and a flux, and having a vent for said sealing means.
7. An article of manufacture including a hollow metal ring containing fusible sealing means, and having a vent for said means; and a closure plate connected with said ring by said sealing means.

In testimony whereof, I have hereunto signed my name at Norristown, Pennsylvania, this 27th day of May, 1919.

VICTOR MAUCK.

Witnesses:

FRANK L. HAMILTON,
JOSEPH W. WINTER.