July 23, 1946. F. GETTELMAN 2,404,484

DOUBLE WALLED CONTAINER

Original Filed March 22, 1939

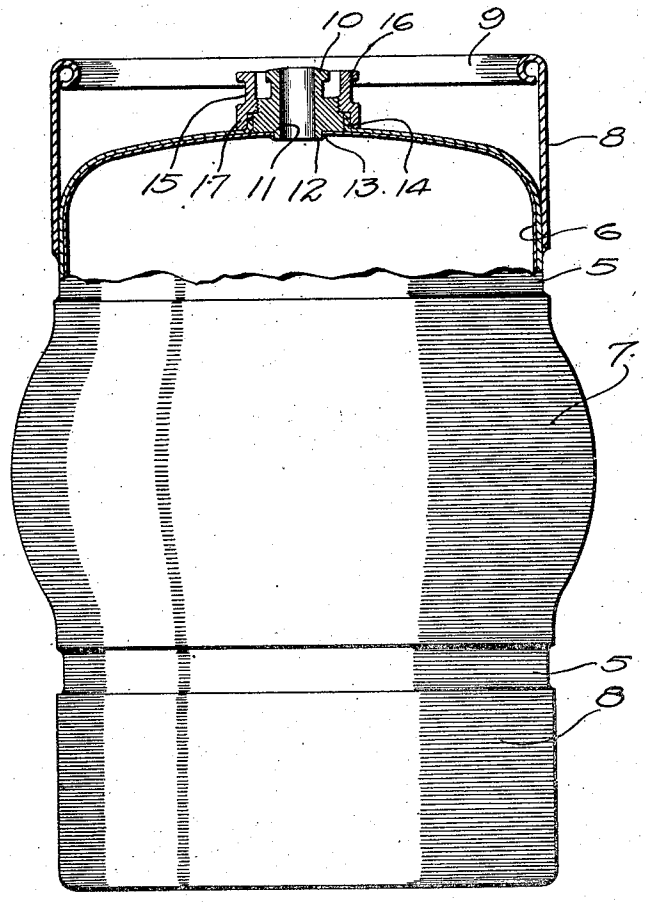


Fig. 1.

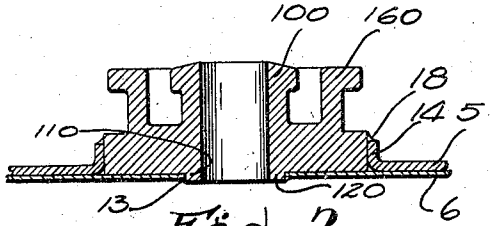


Fig. 2.

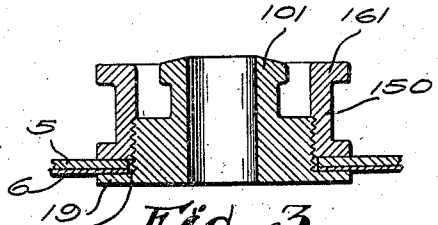


Fig. 3.

INVENTOR
FREDRICK GETTELMAN

BY
Wheeler, Wheeler & Wheeler
ATTORNEYS.

Patented July 23, 1946

2,404,484

UNITED STATES PATENT OFFICE

2,404,484

DOUBLE WALLED CONTAINER

Fredrick Gettelman, Milwaukee, Wis.

Original application March 22, 1939, Serial No. 263,380, now Patent No. 2,326,137, dated August 10, 1943. Divided and this application June 17, 1943, Serial No. 491,104

8 Claims. (Cl. 285—49)

1

This invention relates to improvements in double walled containers. The present application is a division of my application by the same title, Serial No. 263,380, filed March 22, 1939, which matured into Patent No. 2,326,137, August 10, 1943.

The type of container to which this invention has particular reference is a barrel or the like with a separate, prefabricated inner wall of inexpensive, non-corrodible material sufficiently flexible to conform to the inner surface of the outer load-sustaining wall and protected thereby against rupture, the preferred lining being only slightly heavier than the foil and only sufficiently strong to maintain itself against collapse.

The particular subject of the present application is an access fitting which, as disclosed, is a tap fitting, and which is claimed in combination with the two walls of such a container as that above described. It is the object to provide novel and improved means for making suitable connection of a tap fitting separately to the separately fabricated barrel walls while assuring complete conformation of the inner lining to the load-bearing outer wall. Other objects will be apparent to those skilled in the art upon analysis of the following disclosure of the invention.

In the drawing:

Fig. 1 is a view partially in side elevation and partially in section showing a barrel embodying the invention.

Fig. 2 is a fragmentary detail on an enlarged scale showing a modified embodiment of the invention in section.

Fig. 3 is another fragmentary detail on an enlarged scale showing a different, modified embodiment of the invention as it appears in section.

Like parts are identified by the same reference characters throughout the several views.

As explained in the parent application above identified, my improved barrel comprises a load-sustaining outer wall 5 and a relatively light and flexible inner wall 6 separately fabricated and conformed to the outer wall under internal pressure. The two walls are preferably made up in separate cup-shaped end sections secured together at a central joint, the joint then being encircled by a girth band 7 upon which the barrel may be rolled. A separate annulus 8 applied to the end of the resulting barrel and heavily beaded at 9 provides a chine.

Protected by the chine is the access fitting or tap, the construction of which, and its connection with the inner and outer walls of the barrel, constitutes the particular subject matter of this application.

2

The inner wall 6 of the barrel has a relatively smaller aperture at its end than is provided in the outer wall 5. The tap fitting 10 has a shoulder 11 formed by reducing the diameter of its inner end 12. The reduced end 12 of fitting 10 passes through the aperture in the liner 6, the liner being marginally secured, preferably by welding at 13, to the reduced extremity 12 of the fitting.

The outer wall 5 of the barrel is preferably formed to provide an annular flange at 14 peripherally engaged externally with the fitting 10. A nut 15 provided at 16 with the annular flange required in conjunction with the conventional tap fitting, is screw threaded to the fitting 10 and provides a ring 17 at its lower end which receives the flange 14 of the outer barrel wall and holds the clamp against fitting 10.

In the modified construction shown in Fig. 2, the fitting 100 into which the tap rod is inserted has a flange 160 which is in one piece therewith. A reduced extremity 120 provides a shoulder 110 against which the margin of the liner 6 seats in the same manner as in the Fig. 1 construction. Welding is also used at 13 to join the margin of the liner to the reduced inner end 120 of the fitting. In this construction, as in that shown in Fig. 1, the outer wall 5 of the barrel is provided at the tap opening with an annular flange 14, which may be welded at 18 to the tap fitting, which it embraces.

In the construction shown in Fig. 3, the tap rod-receiving fitting 101 has a radial flange 19 providing at 111 a shoulder within which both the outer barrel wall 5 and the liner 6 are marginally confined under pressure of a ring nut 150 threaded to the fitting 101 and provided, as in the Fig. 1 construction, with an annular flange 161. In this device, no welding is required, since the two walls are clamped together between the radial flange 19 and the nut 150.

It will, of course, be understood that where welding has been referred to, the juncture between the parts may be effected by soldering, brazing or cementing.

As explained in the parent application above identified, the tap fitting, or at least that portion thereof exposed to the contents of the container, is usually tinned and if the liner is likewise made of tinned sheet metal such as copper, there will be a minimum of electrolytic action. The outer shell or wall 5, being wholly protected from con-

tact with the contents of the container, may be of any desired inexpensive heavy metal such as ordinary iron.

I claim:

1. A double walled container having in combination with an inner liner and an outer wall having substantially coaxial openings, an access fitting extending through both of said openings, sealing means supporting the margin of the liner from said fitting, and a ring nut screwed to said fitting and providing an annular flange in spaced relation to the fitting, said ring nut being engaged with the outer wall about the opening therein.

2. A double walled barrel comprising the combination with a load supporting outer wall and a flexible liner therefor, said wall and liner having differentially diametered openings and said wall having an integral marginal flange about its opening, of a tap fitting having a reduced inner end providing a shoulder against which the margin of the liner is seated and having a portion of larger diameter with which the flange of the outer wall is in sleeved relation, and means for clamping said marginal flange to the fitting.

3. In a barrel the combination with a tap fitting having a central bore and a reduced end portion providing an annular shoulder, of a barrel liner apertured to receive the reduced end portion, means connecting the liner with said fitting adjacent said shoulder, and an outer wall in supporting relation to the liner having an aperture and an outwardly turned marginal flange through which the fitting extends, said tap fitting being in telescopic relation to said flange and provided with means holding said flange to said fitting.

4. In a barrel, the combination with an apertured liner and a coaxially apertured supporting wall, of a fitting structure comprising a tubular access portion having an inner portion with which said liner is engaged, and an outer annular portion of larger diameter providing a flange and with which said outer wall is engaged.

5. The device of claim 4 in which said outer annular portion comprises a nut in screw threaded connection to the inner access portion of said fitting, said inner access portion having a radial flange against which marginal portions of the liner and wall are clamped by said nut.

6. A container having in combination an outer pressure resisting wall and a flexible liner wall of relatively thin, inexpensive, non-corrodible material, adapted by flexion to maintain bearing contact with the outer wall under pressure of the contents, said walls having registering apertures, a ported access fitting extending through the apertures in both walls and sealed to the inner wall, said fitting having a circular portion connected with the outer wall along an annular line distant from the inner wall, whereby slight relative movements of the fitting and one of the walls with reference to the other may be permitted.

7. A barrel having a pressure resistant outer wall, in combination with a relatively thin flexible inner liner adapted for bearing contact with the outer wall, said walls having registering apertures, with the aperture in the outer wall of larger diameter than that in the liner and flanked by an outwardly extending flange, an access fitting having one portion fitted to said flange, and an inner end portion extending through the liner aperture and welded to the liner.

8. A barrel having a pressure resistant outer wall, in combination with a relatively thin flexible inner liner adapted for bearing contact with the outer wall, said walls having registering apertures, with the aperture in the outer wall of larger diameter than that in the liner and flanked by an outwardly extending flange, an access fitting having one portion fitted to said flange, an inner end portion extending through the liner aperture and welded to the liner, and means individually connecting said fitting with the outer wall independently of its connection with the inner wall.

FREDRICK GETTELMAN.