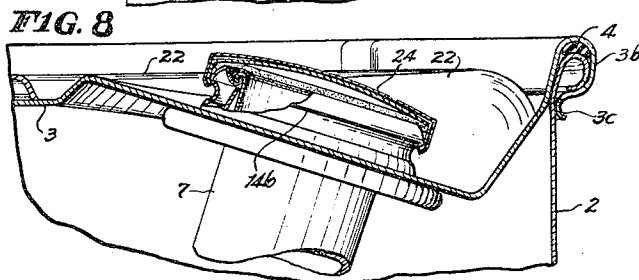
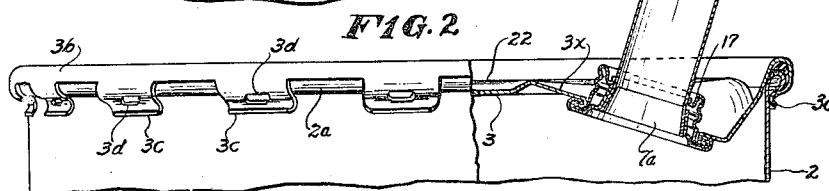
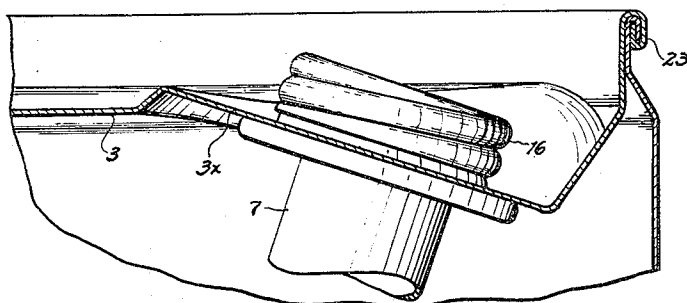
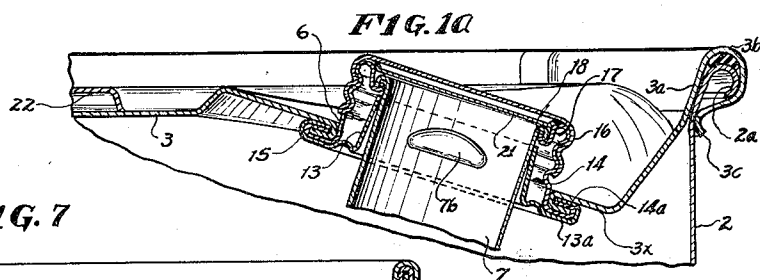
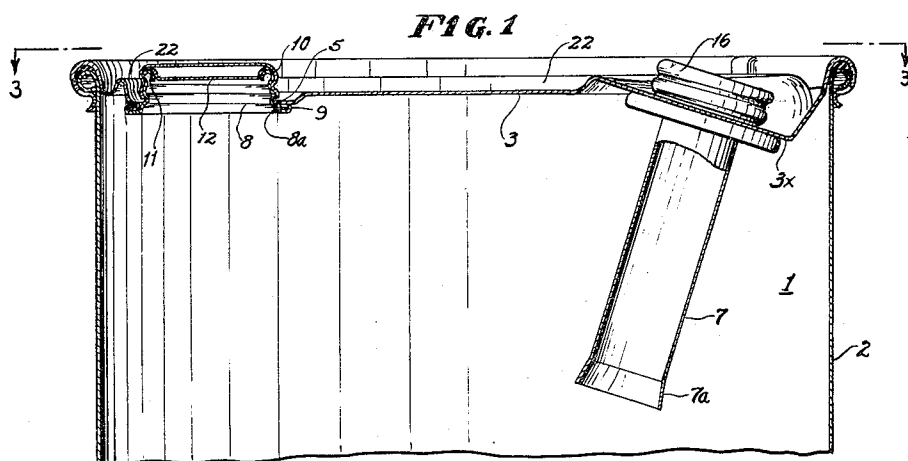


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March 13, 1951

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CONTAINER WITH EXTENSIBLE SPOUT
AND ATTACHING MEANS THEREFOR.

2,545,178

Filed Feb. 26, 1946

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FIG. 3

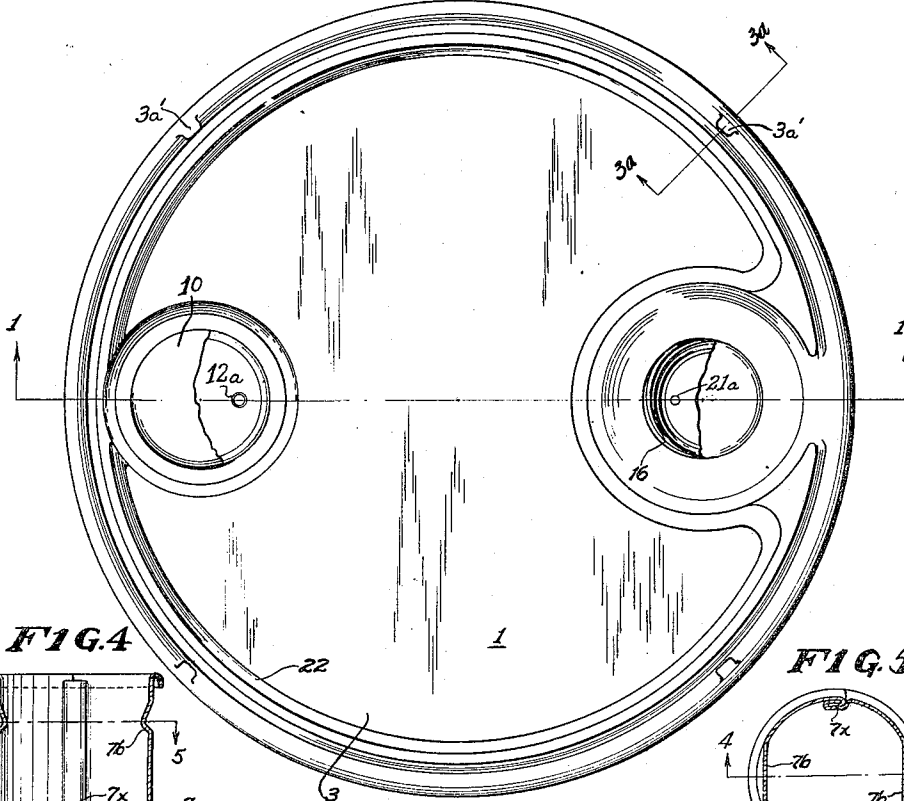


FIG. 4

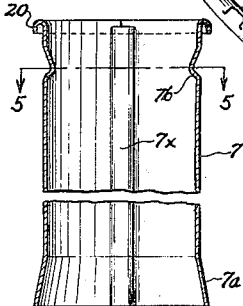


FIG. 5

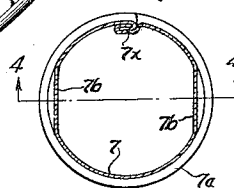


FIG. 6

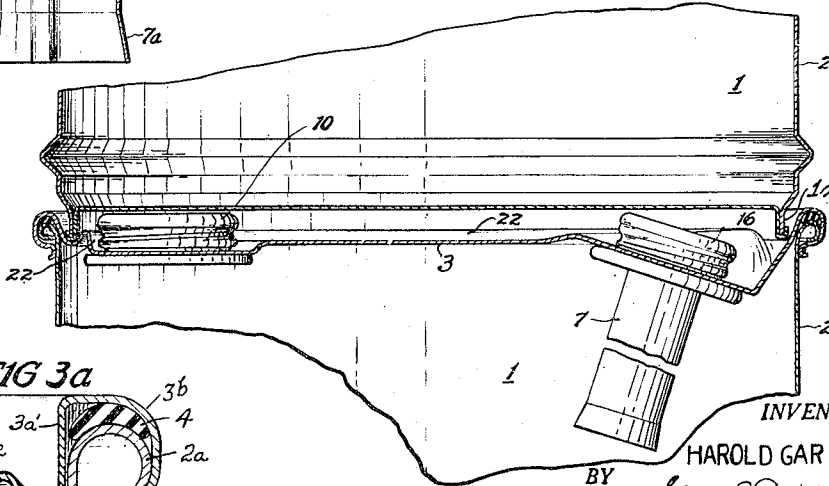
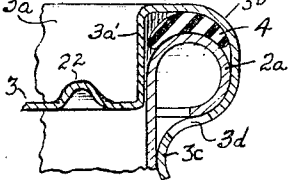


FIG. 3a



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UNITED STATES PATENT OFFICE

2,545,178

CONTAINER WITH EXTENSIBLE SPOUT AND
ATTACHING MEANS THEREFORHarold Gar Vaughn, Warren, Ohio, assignor to
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Application February 26, 1946, Serial No. 650,194

1 Claim. (Cl. 222-522)

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This invention relates to a container for various kinds of liquids including oils, lubricants, gasoline and chemicals, more particularly to the employment of means for filling and emptying of the container.

One object of the invention is to provide an improved container having a relatively long, retractable discharge or pouring spout that is extensible and capable of insuring ready pouring of the liquid into normally inaccessible inlets or receptacles without waste of the liquid and/or accumulation thereof on the walls of the container.

Another object of the invention is to provide an improved container having mounted in its top wall a retractable pouring spout or nozzle arranged to facilitate the application of the necessary tools to form in the top wall of the container the filling opening, the spout opening and provide in the latter opening the parts for mounting the spout, and the closure devices, whereby filling and emptying of the container may be readily provided for and the containers may be removably stacked one on another.

Another object of the invention is to provide an improved container having a retractable pouring spout of simplified construction, whereby less material and less labor is required, to effect economical manufacture thereof.

Another object of the invention is to provide an improved container the top wall of which is provided with an extendable spout and means for supporting the spout in extended or retracted position and for closing the opening for the spout when it is retracted, said wall being embossed to insure rigidity thereof, to sustain the weight of a filled container or containers when stacked thereon without affecting the supporting means for the spout.

Another object of the invention is to provide an improved container the top wall of which is provided with an extendable spout, closure means for the spout when the latter is in retracted position, a filling opening and closure means for the filling opening having a seal provided with a removable vent, whereby pouring is provided for without affecting the seal.

Another object of the invention is to provide an improved container having in its top wall an opening for an extendable spout and means associated with the opening for rigidly and sealingly supporting the spout in its extended position to prevent leakage around the spout while pouring is taking place and for supporting the spout in its retracted position.

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A further object of the invention is to construct an improved container having a detachable cover provided with a filling opening and a retractable pouring spout, whereby upon emptying of the container and removal of the cover, it may be used for various purposes.

Other objects of the invention will be apparent to those skilled in the art to which my invention relates from the following description taken in connection with the accompanying drawings, wherein

Fig. 1 is a fragmentary section, on the line 1-1 of Fig. 3, of a container embodying my invention.

Fig. 1a is a fragmentary section similar to Fig. 1, enlarged.

Fig. 2 is a view partly in elevation and partly in section similar to Figs. 1 and 1a, showing the pouring spout or nozzle in pouring position.

Fig. 3 is a top plan view on the line 3-3 of Fig. 1, parts of the closure caps being broken away.

Fig. 3a is a fragmentary section on the line 3a-3a of Fig. 3.

Fig. 4 is a section on the line 4-4 of Fig. 5.

Fig. 5 is a section on the line 5-5 of Fig. 4.

Fig. 6 is a fragmentary sectional view showing the stacking of two containers.

Fig. 7 is a fragmentary section showing a modification.

Fig. 8 is a fragmentary section showing a different modification.

In the drawings, 1 indicates as an entirety a container consisting of a receptacle 2 and a top wall 3. The upper end of the side wall of the receptacle 2, throughout its circumference, is provided with a suitable bead 2a to which the top wall 3 is sealingly connected. In the form of construction shown in Figs. 1, 1a, 2, 6 and 8, the top wall 3 is detachably and sealingly connected to the bead 2a to form a cover. To provide for this connection, the circumferential marginal portion of the top wall 3 is extended upwardly, as shown at 3a, to fit within the side wall of the receptacle 2 and rolled over to provide an inverted channel 3b arranged to fit over the bead 2a, the outer end of the channel 3b terminating in spaced bendable lugs 3c which, when the top wall is applied, are bent inwardly below the bead and into engagement therewith. As a suitable gasket 4 is interposed between the bead 2a and channel 3b, this attachment operation serves to provide a liquid tight connection for the top wall between the channel 3b and the bead 2a. Each of the lugs 3c is formed

with an opening 3d, whereby a suitable tool may be employed to bend the lugs 3c outwardly when the top wall or cover 3 is to be removed.

The top wall 3 is formed with two openings 5, 6 (preferably diametrically related); the opening 5 provides for filling and re-filling of the container 1 with the liquid, whereas the opening 6 provides for the discharge of the liquid through a spout or nozzle 7. The opening 5 is relatively large to accommodate automatic filling machines and may serve as a vent when pouring takes place. The opening 5 is provided with a collar 8, the lower end of which terminates in a reversely bent flange 8a the inturned portion of which is suitably sealed between the marginal portion of the opening 5 and a folded over annular wall 9 integrally connected with the top wall 3 and surrounding the opening 5. In the form of construction referred to, the side wall of the collar 8 is embossed to form screw threads engaged by the threaded side walls of a removable and replaceable closure 10. The upper end of the collar 8 is provided with an inturned circumferential lip 11 which forms a seat for a sealing device 12. The sealing device 12 is cup-shaped, the side walls thereof being pressed into the lip 11 and frictionally secured therein, due to the resiliency of the latter, against removal except by the use of a tool or other device. The sealing device 12 is formed of relatively thin material (preferably metal), so that any attempt to remove it distorts it and accordingly any attempted removal by an unauthorized person is readily detected. The thinness of the material forming the sealing device 12 permits it to be readily punctured as a preliminary operation in removing it. By preference the cap 12 is provided with a weakened annular wall 12a forming therewithin a section which may be punched out to (a) form a vent, when pouring is to take place, without removal or affecting the sealing device 12 and/or (b) receive a suitable tool as a means for prying out the device 12. It will thus be seen that the filling opening is initially totally sealed by the sealing device 12, but by punching the wall 12a the container may be readily emptied, wholly or partially, without removal of the sealing device 12. As the vent in the sealing device is relatively small, danger of re-filling the container so long as the device remains in position is eliminated. As the closure 10 fits over the collar 8 and is provided on its bottom wall with a seal disk (as is usual in closures of this type), it operates to close the vent. The top wall 3 surrounding the opening 5 is embossed downwardly so that when the closure 10 is in position the top of the latter does not extend above the top surface of the channel 3b.

The opening 6 is provided with inner and outer collars 13, 14, the lower ends of which terminate in face-to-face related flanges 13a, 14a, respectively, which are reversely bent, their inturned portions being sealed between the marginal portion of the opening 6 and a folded over annular wall 15 integrally connected with the top wall 3 and surrounding the opening 6. The collar 14 is disposed concentrically to the opening 6; the inner collar 13 is also preferably similarly related to the opening 6. In the form of construction referred to, the side wall of the collar 14 is embossed to form screw threads engaged by the threaded side walls of a removable and replaceable closure 16. The upper end of the outer collar 14 is extended to form an inwardly extending conical wall 17 terminating in

an upturned flange 18, the wall 17 and flange 18 being concentric to the opening 6. The flange 18 and outer end of the conical collar 13 loosely engage the spout 7, which is of cylindrical shape from the wall 7a outwardly, to form guides therefor when the spout is extended outwardly (see Fig. 2) or retracted inwardly to the position shown in Figs. 1 and 1a. The flange 18 also cooperates with the inner collar 13 to support the spout 7 in its extended or pouring position and forms a support for the spout 7 due to the engagement of an outwardly rolled over flange 20 on the outer end of the spout with the flange 18 when the spout is retracted inwardly as shown in Figs. 1 and 1a. This form of wall construction for supporting the spout 7 in retracted position serves to adequately resist distortion thereof and displacement of the spout due to any weight positioned on the top wall or handling of the container when filled or empty. As shown, the flange 18 is of less height than the wall 17, so that the latter, above the flange 18, forms a seat for a sealing device 21. The sealing device 21 is similar in construction to the device 12 and serves to detect unauthorized tampering to gain access to the spout 7. By preference, the wall of the sealing device 21 is provided with a weakened section 21a, adapted to be punched out to form an opening, whereby by means of a suitable tool the device may be readily pried out.

The top wall 3 adjacent to the channel 3b is embossed inwardly, whereby that portion of the wall surrounding the mounting for the spout 7 is inclined downwardly and outwardly, as shown at 3x. In this arrangement, the spout 7 is supported and moves axially at an angle inclined to the axis of the container 1, so that when extended the outer discharge end of the spout is positioned to prevent drippings on the container top wall 3 and to facilitate pouring therefrom, particularly intakes and receptacles that are substantially inaccessible. As shown, the embossment 3x provides for positioning the spout mounting so that the top of the closure 16 does not extend above the surface of the channel 3b.

The spout 7 is formed from a single section of sheet metal, the longitudinal edges of the section being seamed together in a well known manner, as shown at 7x. The lower end of the spout 7 is flared outwardly to form a conical wall 7a, which, when the spout is extended into pouring position, frictionally engages the inner collar 13 (which is also of conical shape) to detachably secure the spout in pouring position. The metal of the walls 7a and 13 being resilient, they not only adequately support the spout but prevent lateral displacement of its pouring end and permit ready release thereof when pressure is exerted on the spout axially inwardly. The walls of the spout 7, adjacent its outer end, are diametrically embossed inwardly, as shown at 7b, the walls of these embossments serving as gripping elements for the fingers of an operative, whereby the spout may be readily pulled out into pouring position. These pull-out elements eliminate the employment of balls, wings and other devices on the spout for moving it outwardly and accordingly simplify the construction and with substantial saving in cost of manufacture. The seam 7x along the conical wall 7a may be welded or soldered at 7x' to prevent leakage of the liquid during pouring thereof.

By making the spout 7 of cylindrical shape from the conical wall 7a outwardly and providing a loose fit between it and the collar 13 and

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flange 13, little, if any, friction is present when the spout is moved outwardly or inwardly; accordingly very little finger pressure on the walls of the embossments 7b is required to pull the spout outwardly; and upon release of the wall 7a from the collar 13, slight pressure only is effective to move the spout inwardly.

22 indicates an annular upwardly extending embossment formed in the top wall 3 and terminating at the opposite sides of the embossment 3x. The embossment 22 is concentric to and spaced from the channel 3b so that the top wall 3 between the vertical wall 3a and embossment 22 forms a seat for the rim or chime 1x on the bottom of the container when one is stacked thereon, as shown in Fig. 6.

As the side wall 3a is inclined upwardly and outwardly I provide thereon at spaced positions inwardly extending embossments 3a' having vertically disposed faces, which engage the chime of the upper stacked container to position it in axial alignment with the adjacent container.

From the foregoing description it will be apparent that the container may be filled and emptied and re-filled and emptied from time to time, but when desired the top wall 3 may be detached from the receptacle 2 and the latter used for any desired purpose.

Fig. 7 illustrates a modified form of construction wherein the top wall 3 is provided with a filling opening and closing elements and a spout 7 and mounting therefor similar to that shown in Fig. 1, but in which the marginal portion of the top wall is seamed, as shown at 23, or otherwise secured to the side wall of the receptacle 2.

Fig. 8 illustrates a modified form of construction wherein the side wall of the collar 14 for the spout opening is provided with an annular shoulder 14b, adapted to be engaged by the side wall of a cap 24, the side wall of the cap consisting of fingers and its top wall being normally of convex shape and adapted to be pressed inwardly, to effect expansion of the fingers and release of the cap from the shoulder 14b.

To those skilled in the art to which my invention relates many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the spirit and scope of the invention. My disclosures and the description herein are purely illustrative and are not intended to be in any sense limiting.

What I claim is:

A container for liquid consisting of a top having a chime and an inwardly embossed wall with-

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in said chime, said embossed wall being formed with a discharge opening, inner and outer collars the lower ends of which throughout their peripheries are sealingly mounted in the marginal portion of said opening, the side wall of said inner collar being of conical shape and terminating at its outer end below the outer end of said outer collar and said outer collar terminating below the plane of the top of said chime and the side wall thereof being embossed to provide screw threads for engagement by a screw threaded closure and provided with a circumferential inwardly extending flange at its outer end, a cylindrical spout the diameter of which is less than that of the outer end of said inner collar and said flange on said outer collar and slidable endwise through said collars, outwardly into pouring position and inwardly into a position within said outer collar, said spout being provided at its lower end with a conical wall arranged to frictionally engage said inner collar to support said spout in pouring position and provided at its outer end with an outturned flange arranged to engage the flange on said outer collar, whereby said spout, when moved inwardly, is supported on said flange, the wall of said spout adjacent its outer end portion being provided with diametrically related, inwardly disposed embossments elongated substantially tangentially of said spout to form gripping elements.

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