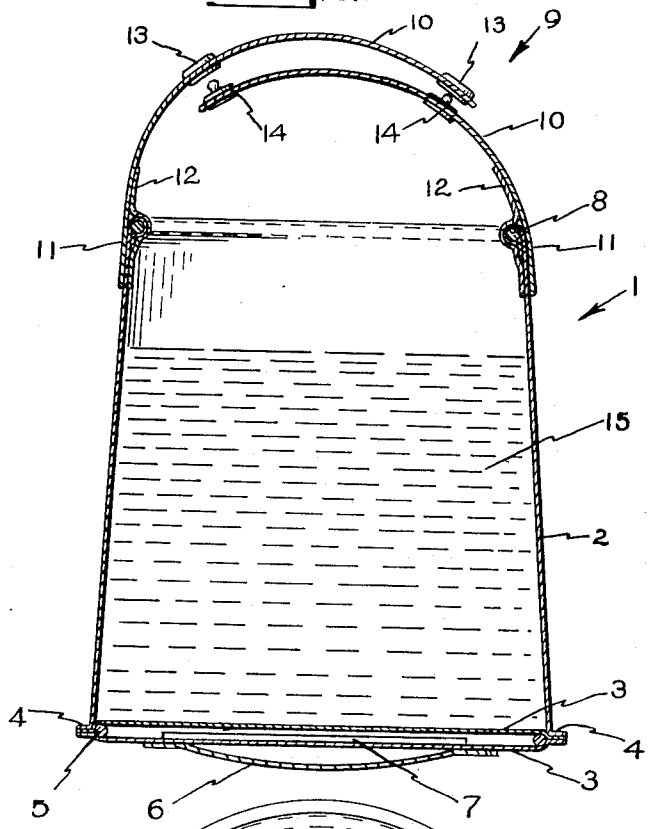
July 17, 1956 H. G. BARTELS 2,754,869

FOLDABLE PAILS

Filed June 29, 1954

Fig. 1.



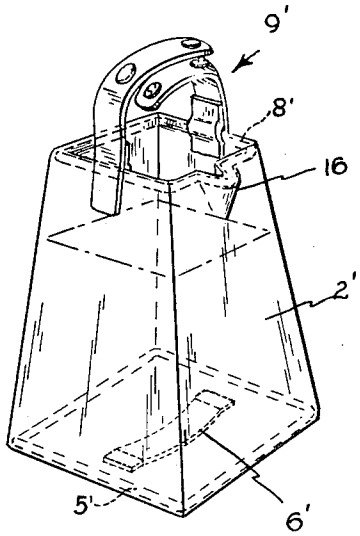


Fig. 4.

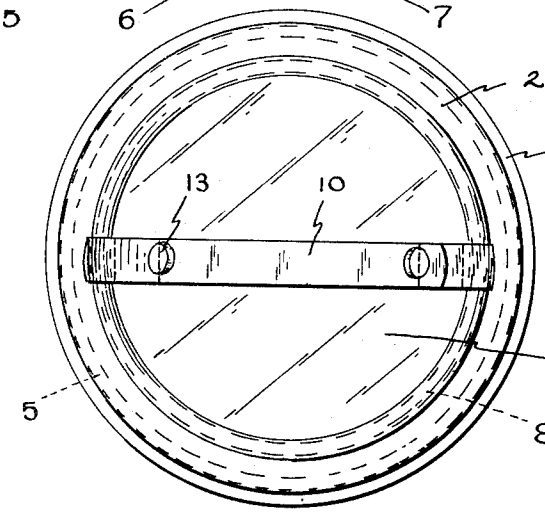


Fig. 2.

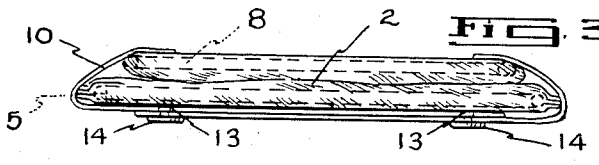


Fig. 3.

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FOLDABLE PAILS

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4 Claims. (Cl. 150—48)

This invention relates to a foldable or collapsible pail or container.

Containers of a flexible material, such as plastic, have been used to hold water or other liquids in certain instances but their use has been extremely limited because of their lack of stability.

For instance, it has not heretofore been practical to employ a foldable container or pail where it is desired to either carry the container by the handle or to sit it down on a support surface.

It is the object of the present invention to provide a foldable pail or container which will at the same time have a stability allowing it to be carried by the handle or set down without spilling of the contents.

Another important object is to devise a container as aforesaid which will be of sturdy and economical construction.

The principal feature of the invention resides in forming a folding liquid container from a flexible pliable material with the container being larger at the bottom than the top and employing the upward pressure of the contained liquid to retain the container in its extended position.

In the preferred form of the invention the container is formed as the frustrum of a cone.

Another important feature resides in providing a handle for the container and employing a rigid stress-distributing ring in the upper edge of the container to transfer stress from the points of attachment of the handle uniformly throughout the walls of the container, the ring in no way interfering with the collapsing of the container into a flat or planar shape.

Still another feature resides in the provision of a novel handle arrangement which can be employed for both carrying the container and retaining it in collapsed position.

These and other objects and features will become apparent with reference to the accompanying drawings in which

Figure 1 is a mid-vertical sectional view of a pail or container constructed in accordance with the invention.

Figure 2 is a plan view of the container of Figure 1.

Figure 3 is a side elevational view showing the container in the collapsed position.

Figure 4 is a perspective view showing an alternative embodiment of the invention.

With reference to Figures 1 to 3 the container disclosed and generally designated at 1 is in the form of a conical pail preferably formed from a plastic material such as polyvinyl chloride or polyethylene or other material of like characteristics.

In the preferred form of the invention illustrated the container is formed of a wall panel 2 made of a tapered blank rolled into a frustro conical shape. The bottom of the container or pail preferably comprises a pair of circular panels 3 secured to the wall panel 2 as at 4. Disposed between the panels 3 forming the upper and

lower bottom walls is a ring 5 of wire or other rigid reinforcing material. The bottom may also include a pouring handle 6 and may have a card or sheet 7 included between the bottom panels and by employing material of the type described, which is transparent, the card 7 may have imprinted thereon any advertising or instructions desired. The upper edge of the wall panel 2 is looped around a ring 8 again of wire which forms a stress-distributing member to distribute stress applied through the handle formation generally designated at 9 throughout the flexible wall formed by the wall panel 2.

This handle formation comprises a pair of flexible straps 10 again of a suitable plastic material and the end portions of the straps as at 11 are disposed contiguous the ring 8 and extend above and below the ring. Separate securing strips 12 are disposed on the opposite side of the ring member 8 and are secured to the straps 10 for instance by electronic welding above and below the ring 8 at opposite sides of the mouth of the container. The straps 10 carry co-operating snap fastener elements 13 and 14 respectively to allow the straps to be releasably interlocked for carrying the container and then released and fastened across the bottom of the container when it is in its collapsed and folded condition of Figure 3.

In use the device can be collapsed and folded to bring the plane of the top substantially into the plane of the bottom and the container secured in its collapsed position by means of the handle straps 10 as shown in Figure 3. When it is desired to use the device it is extended and while it may not have sufficient stability to maintain its extended position when empty the introduction of a liquid 15 imparts an outward pressure on the inwardly and upwardly tapering wall 2 to impart a force component acting to prevent container collapse.

The container, with the liquid, can be carried as an ordinary pail and can be set down on the ground or floor without danger of spilling of the liquid due to the action of the liquid above described in constraining the container to its extended or uncollapsed shape. The liquid may be poured from the container by using the bottom handle 6 and if desired a suitable pouring spout may be provided such as indicated at 16 in connection with the embodiment of the invention illustrated in Figure 4.

In the illustration of Figure 4 the device is shown as a truncated pyramid with the wall panel 2' forming a pyramidal configuration.

Again ring-like members 5' and 8' may be employed for reinforcement and handle formation 9' may be provided corresponding to the handle 9, also a bottom handle 6' may be provided for pouring.

It will be understood that a suitable closure for the container may also be provided if desired and in place of the double bottom 3—3 a single thicker bottom layer may be employed if desired or the bottom might be formed as a rigid member if desired.

While the container is shown as formed of panels it will also be understood that it could be moulded for instance by spraying the inside of a suitable form or in any other suitable manner.

It will also be understood that various other modifications and detail changes may be made by those skilled in the art without departing from the scope of the appended claims.

What I claim as my invention is:

1. In a foldable liquid container of a flexible pliable material, a side wall panel formed into a tapered body, tapering from the upper edge downwardly and outwardly, a continuous rigid member enclosed within the upper edge of said side wall panel, a pair of bottom wall panels having disposed therebetween and separate therefrom a continuous rigid member, the circumference of said latter

rigid member being substantially equal to the circumference of the lower edge of said side wall panel, said pair of bottom panels being bonded at their peripheral edges with the lower edge of said wall panel and handle means secured to the upper edge of said container.

2. A claim as in claim 1 in which said side wall panel is formed into a frusto-conical shape and said continuous rigid members are annular.

3. In a foldable liquid container formed of a flexible pliable material a side wall formed into a frusto-conical shape, said container being substantially larger at the bottom than at the top, a rigid ring-like member embodied in the upper edge of said side wall, the bottom of said container being formed with double panels presenting upper and lower walls and a ring-like rigid member being disposed therebetween and handle means secured to said upper edge of said side wall panel to transfer carrying stress through said ring-like member to said side wall panel.

4. In a foldable liquid container formed of a flexible pliable material a side wall panel having a conical configuration, a base of substantially greater circumference than the top, the upper edge of said side wall panel incorporating a rigid ring-like member and a handle for said container, said handle comprising a strap formation the end portions of which lie contiguous said upper edge of said container on one side thereof, and securing members bridging said ring-like member and secured to said handle above and below said ring-like member.

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