

April 7, 1959

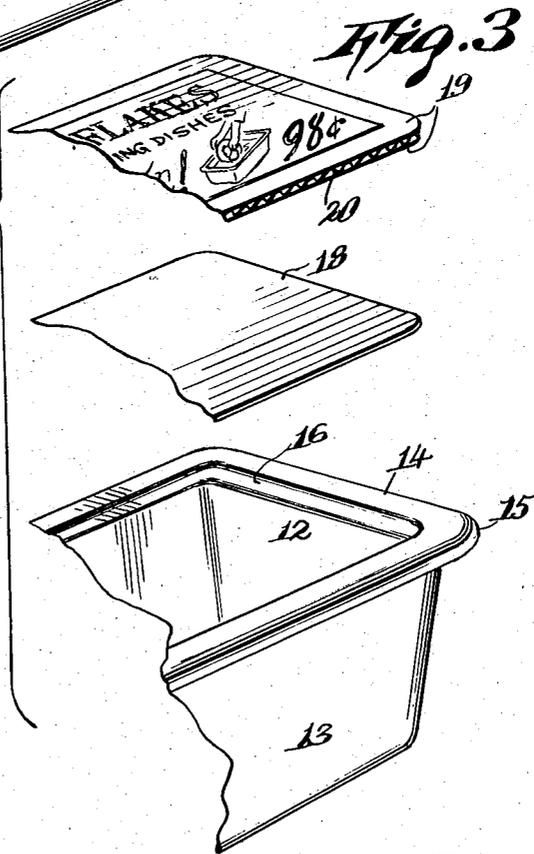
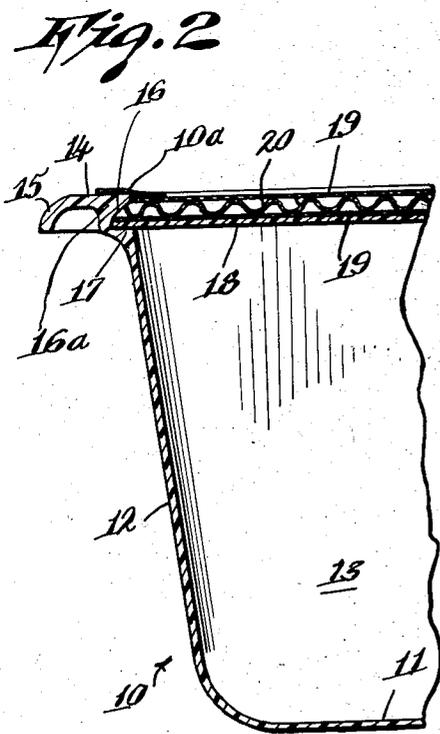
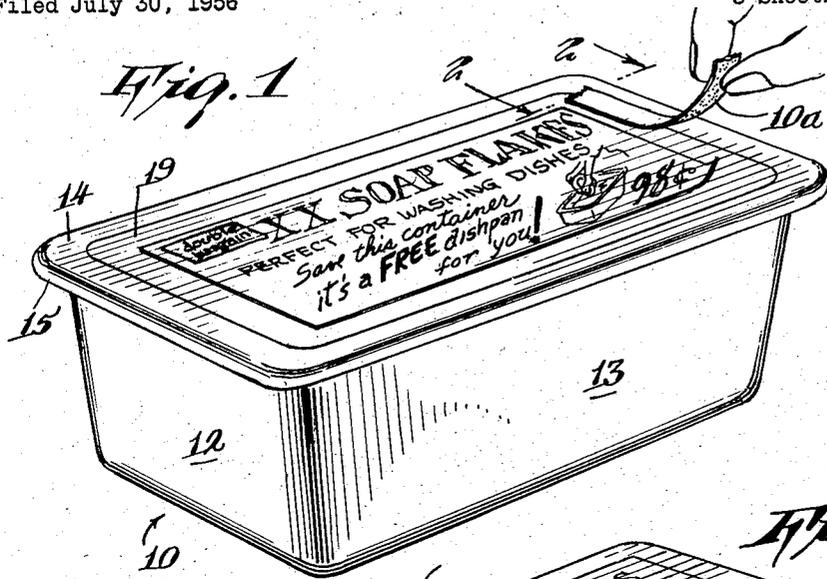
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2,880,859

RECEPTACLES HAVING FORCED OR SNAPPED-IN COVERS

Filed July 30, 1956

3 Sheets-Sheet 1



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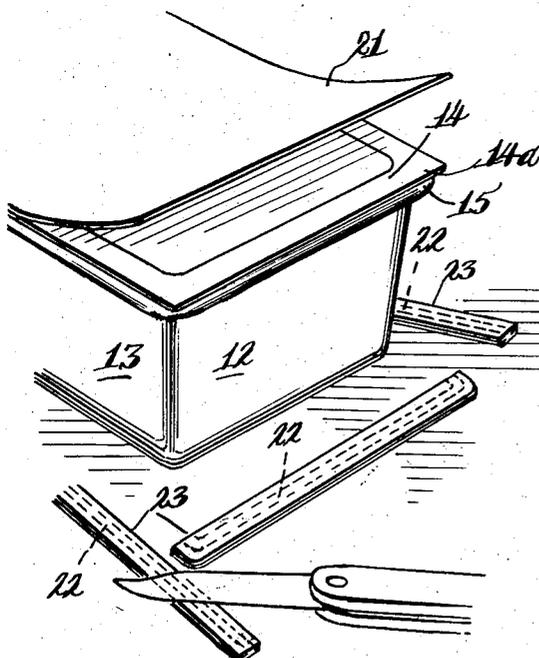
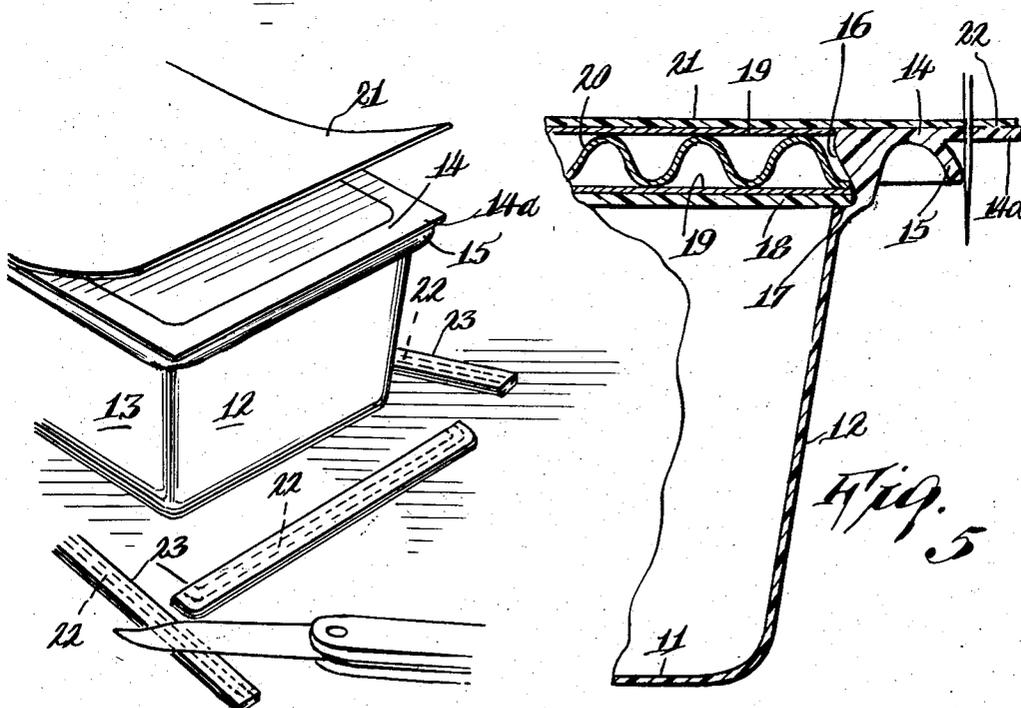
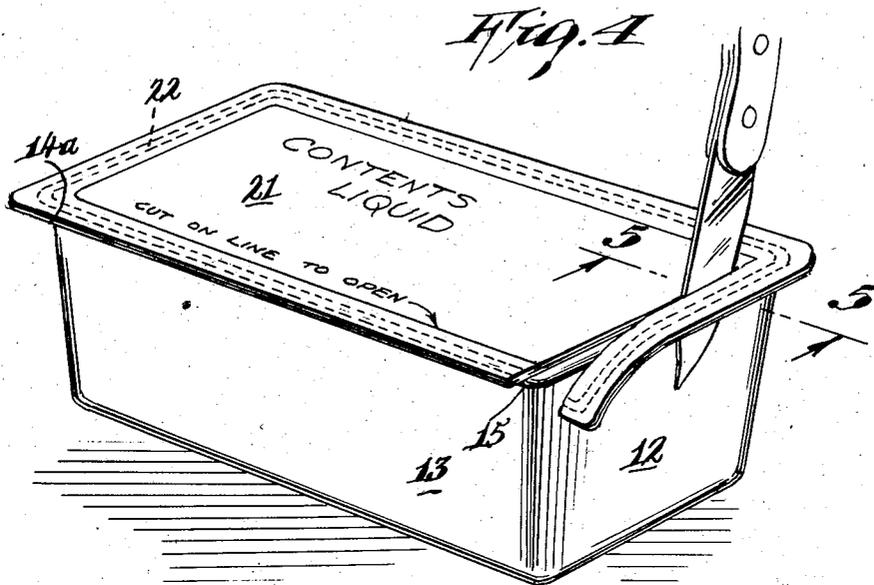
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RECEPTACLES HAVING FORCED OR SNAPPED-IN COVERS

Filed July 30, 1956

3 Sheets-Sheet 2



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RECEPTACLES HAVING FORCED OR SNAPPED-IN COVERS

Filed July 30, 1956

3 Sheets-Sheet 3

Fig. 7

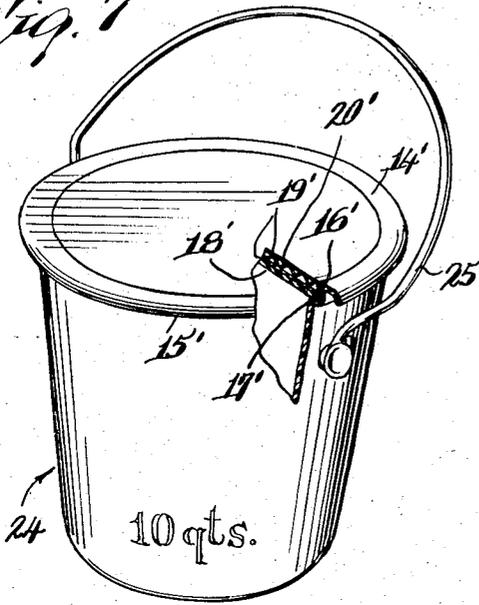


Fig. 8

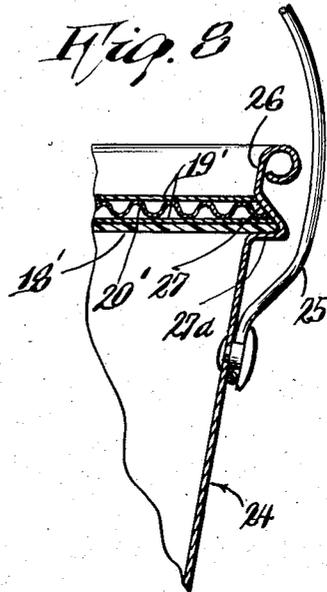


Fig. 9

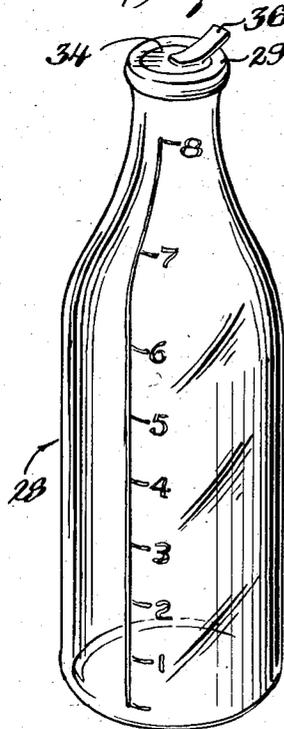
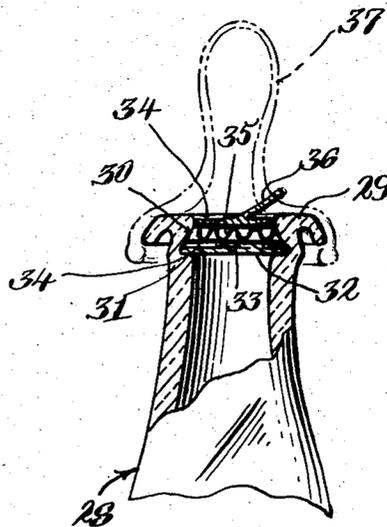


Fig. 10



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**RECEPTACLES HAVING FORCED OR  
SNAPPED-IN COVERS**

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**Application July 30, 1956, Serial No. 600,989**

**5 Claims. (Cl. 206—46)**

This invention relates to containers or vessels made of suitable plastic material including polyethylene, and to cover structures therefor.

An object of the invention is to provide a multi-purpose plastic container or vessel which, after use as display and shipping container, can be used as either a dish-pan, a pail, a nursery bottle and the like depending upon its shape.

Another object of the invention is to so shape the area inside the mouth of the vessel that a force-in disc can be used to seal the contents.

A further object of the invention is to provide an upper rim or flange for the vessel which can serve as a handle and also provide a surface to receive a pressure-sensitive tape or a heat-sealing closure sheet to furnish a stronger seal and closure.

These objects and other incidental ends and advantages of the invention will hereinafter appear in the progress of the disclosure and as pointed out in the appended claims.

Accompanying this specification are drawings showing preferred embodiments of the invention wherein:

Figure 1 is a perspective view of a display and shipping container for soap flakes which may be used as a dish-pan after the soap is removed;

Figure 2 is a fragmentary sectional view of Figure 1 across the plane 2—2 thereof;

Figure 3 is an exploded and fragmentary view of the container of Figure 1;

Figure 4 is a perspective view of a modified form of the container of Figure 1, being designed to seal in liquid or other materials requiring hermetical sealing.

Figure 5 is a fragmentary sectional view of Figure 4 across the plane 5—5 thereof;

Figure 6 shows completion of the cutting of the edge strip, begun in Figure 4, for the removal of the heat-sealed area, the remaining sealing layer then being readily removable;

Figure 7 is a perspective view, partly in vertical section, of a pail constructed in accordance with the invention herein;

Figure 8 is a fragmentary vertical section of a pail having an upper rim modified over the pail of Figure 7;

Figure 9 is a perspective view of a bottle constructed in accordance with the invention; and

Figure 10 is a fragmentary vertical section thereof, further showing an application of a nursing nipple thereon in phantom.

The soap flakes vessel or other purpose container of Figure 1 although capable of formation in all shapes is shown to be substantially rectangular in cross-section. It is indicated generally by numeral 10 and has a bottom wall 11 from which rises preferably integrally joined side walls 12 and 13. The upper edge of walls 12 and 13 is flared to an outward horizontal peripheral formation 14, and if desired a downward curved continuous portion 15, to provide a rim or flange which serves as a handle and also provides a convenient surface upon which to

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place a sealing closure affixable by heat-sealing or otherwise when hermetical sealing is required.

The continuous upper edge of walls 12 and 13 inwardly of rim or flange 14 is also formed to provide an undercut surface 16 and a seat 17, the latter being adapted to support a thin cardboard or composition disc or closure plate 18 which snaps or falls into place after being forced in. Of course, a relatively rigid plastic plate is also capable of use instead. This closure action is assisted by the pliable and resilient nature of the plastic of which the vessel and its rim portion are preferably constructed. Moreover, there may be placed upon or over plate 18 a thicker laminated corrugated board comprising sheets 19 between which is interposed a corrugated sheet 20. Sheets 19 and 20 may be conventionally glued together to form one integral unit. It is to be observed that utilization of the closure members serve to rigidify the rim of the vessel thereby permitting use of thinner gauge material in production and at the same time preserving sufficient strength for packaging material therein for display and transit purposes.

The rims of lower sheet 19 and of corrugated sheet 20 are adapted to fit under the undercut 16 and are retained in place thereby. Use of the corrugated sheet is to augment the strength of the cover or disc 18 for shipping purposes as stated and also to build the cover thickness up to approximately or substantially the top edge of the vessel side walls 12 and 13. As shown, undercut 16 in effect provides a concave arched surface having a thickened rim portion 16a externally thereof.

To complete the seal and to prevent spillage of soap powder or contents especially during transit, a strip of "Scotch Tape" (Fig. 2) 10a may be applied around the marginal area. Alternatively, and for positive hermetical sealing, another sheet of plastic may be placed on top of the corrugated strip 19—20 and electronically heat-sealed or otherwise sealed to a rim extension such as 14a.

Thus, in Figure 4 is shown a vessel used for shipping, displaying and storing contents including liquids such as fruit juices, or frozen foods temporarily in the solid state. In this form of the invention, the elements generally correspond to Figure 1 except that top sheet 19 of the corrugated board is preferably flush with the flat edge of the vessel rim 14 and with an extension 14a thereof. Superposed over top sheet 19 and bearing against rim extension 14a is a sheet of plastic 21 such as polyethylene or any other plastic capable of heat-sealing or adhesion thereto. Sheet 21 is attached to rim 14a adjacent the outer edge in any suitable manner as by adhesive or electronic sealing indicated at 22. As illustrated in Figures 4, 5 and 6 sheet 21 is readily removed by cutting along the outermost edge of rim portion 15 as a guide and inside the heat-sealed edge area 22. The trimmed off pieces embracing the rim portions or extensions 14a are shown at 23.

Cardboard is preferably employed for sheet or disc 18 and for the corrugated elements 19 and 20, although other materials may be used. As mentioned, elements 18, 19 and 20 serve to rigidify the container at the places indicated.

In Figure 7 is shown a vessel in the form of a pail 24 and a bail 25 therefor. The vessel rim 14'—15', undercut 16', seating structure 17', disc plate 18' and disc superposing structure 19'—20' follow the corresponding structure described for Figure 1 except for peripheral shape. Pail or vessel 24 is also designed for dual use, namely as a packaging and shipping container and subsequently for reuse in the home.

In Figure 8 the pail 24 of Figure 7 is modified so that the vessel rim flange is rolled as at 26 and the undercut 27 is joined to the seat 27a to form a sharp pointed angle

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wide enough to retain the edges of all the elements of the cover such as disc plate 18' and disc superposing structure 19'—20'.

In Figures 9 and 10, a bottle 28 made of polyethylene or other plastic material having similar physical characteristics is provided, having an outer flange rim 29 at the neck portion and an undercut 30 inwardly of said rim. Undercut 30 forms a seat 31 for a disc 32 adapted to be forced or snapped into place. A foldable tab 33 may be attached to disc 32 for removal purposes. Superposing disc 32 is a reinforcing structure similar to that shown heretofore with plate portions 34 and an intermediate portion 35 integrated together, upper plate portion 34 also having a tab 36 attached thereto for removal purposes.

As shown in Figure 10, a nursing nipple 37 is shown in phantom to indicate possibility of converting bottle 28 into a nursing bottle when the original contents as well as the cover elements have been removed.

It is understood that the embodiments of the invention shown may apply to use of the vessels with cover elements for packaging and shipping materials therein and with or without one or more of the cover elements for reuse after seal rupture.

It is understood that without departing from the invention, minor changes and modifications in integration, shape, size and number of parts may be made; that changes in material such as use of plastics other than polyethylene such as polystyrene, organo-silicon polymers or polyvinyls and copolymers may be made; that production of the structure may be by a swedging operation, blow molding, vacuum forming process or any other process.

I claim:

1. A plastic vessel and a cover therefor, adapted to serve as a display and shipping container for merchandise including powdered or flaked soap, liquids and the like to serve as a receptacle or pail in reuse, said vessel comprising a self-sustaining thin-walled structure comprising a bottom wall and a side wall integral therewith and extending upwardly therefrom, the upper end of the side wall being at least in part extended outwardly to form an integral handle flange, there also being formed adjacent the said upper end an integral undercut to provide a cover seat, a thin plate forced into and frictionally held in place in the seat and retained at its edge by the undercut, a stiffener plate above the said thin plate lying coplanar with the upper surface of the handle flange and also retained at its edge by the undercut, and means for

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severably sealing a peripheral area of the stiffener plate to the upper face of the handle flange, the plastic vessel being pliable and resilient.

2. The invention defined in claim 1 in which the plastic is polyethylene.

3. A plastic vessel and a cover therefor, adapted to serve as a display and shipping container for merchandise and to serve as a receptacle in reuse, said vessel comprising a self-retaining thin-walled structure comprising a bottom wall and a side wall integral therewith and extending upwardly therefrom, the upper end of the side wall being at least in part extended outwardly to form an integral handle flange, there also being formed adjacent the said upper end an integral undercut to provide a cover seat, a thin plate forced into and frictionally held in place in the seat and retained at its edge by the undercut, a stiffener plate above the said thin plate lying coplanar with the upper surface of said flange and also retained at its edge by the undercut, and means for severably sealing the full area of the stiffener plate to the upper face of the handle flange, the plastic vessel being pliable and resilient.

4. The invention defined in claim 3 in which said means comprises a plastic cover member superposing said stiffener plate and severably heat sealed to and at an area of the handle flange.

5. A plastic vessel and a cover therefor enclosing merchandise and capable of reuse after removal of said merchandise, said vessel comprising a self-retaining thin-walled structure comprising a bottom wall and a side wall integral therewith and extending upwardly therefrom, the upper end of the side wall being at least in part extended outwardly to form an integral handle flange, there also being formed adjacent the said upper end an integral undercut to provide a cover seat, a thin plate forced into and frictionally held in place in the seat and also retained at its edge by the undercut and lying coplanar with the handle upper surface, a plastic cover member disposed over said plate and severably heat sealed to and at an area of the handle flange.

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