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PLASTIC CONTAINER

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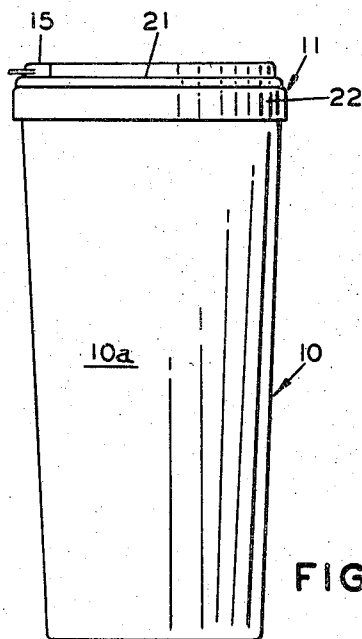


FIG. 1

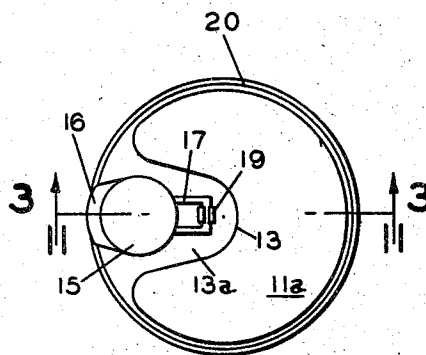


FIG. 2

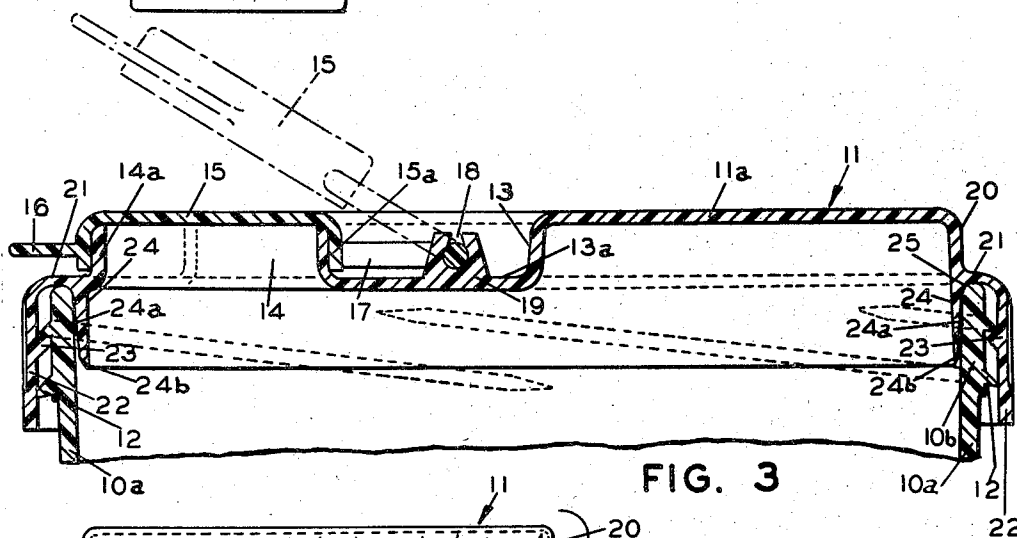


FIG. 3

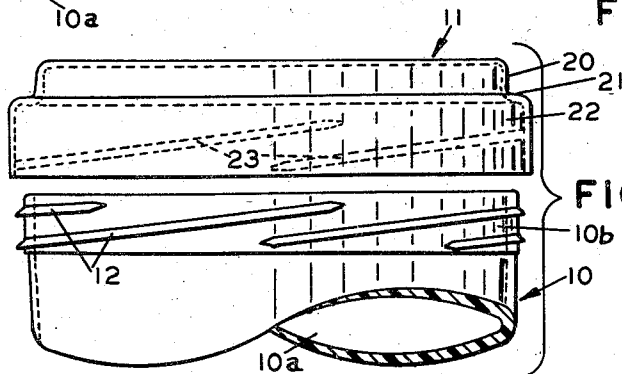


FIG. 4

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PLASTIC CONTAINER

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5 Claims. (Cl. 150—.5)

This invention relates to plastic containers and particularly to a container molded preferably from polyethylene plastic material and comprising an open top receptacle having a closure or cover adapted to be drawn down by screw action into sealing relation to the upper annular edge of the receptacle. The plastic container constructed in accordance with the invention is susceptible to various uses, such as for containing or storing in a refrigerator foods, beverages and liquids, especially such liquids as fruit juices and the like. The container may also be used as a shaker for mixing liquid ingredients, and is provided with a closure or cover having a pouring opening or spout and a sealing cap therefor. This construction enables the liquid contents of the receptacle to be conveniently dispensed without necessitating the removal of the main closure from the receptacle.

An object of the invention is to provide an improved cover or closure for sealing the container, said cover having formed in one side of the top thereof a depressed or recessed portion. Within the recess thus formed the cover is provided with an aperture or opening formed with an upstanding pouring lip adapted to be received for closure or sealing purposes and to snugly fit within a recessed portion of a swingable cap hinged at a point inwardly of the pouring lip. This cap as well as the pouring lip are disposed within the recess, preferably substantially flush with the top surface of the main closure or cover, thus protecting the hinged cap during use and providing an improved construction in which the upper surfaces of the container and the hinged cap form substantially a flat top facilitating stacking of containers one on another and also enabling articles to be placed thereon.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

Fig. 1 is a side elevation of a flexible plastic container or receptacle constructed in accordance with the present invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a fragmentary enlarged vertical section taken substantially through lines 3—3 of Fig. 2 looking in the direction of the arrows.

Fig. 4 is a fragmentary exploded view showing in side elevation the cover and the upper end of the receptacle.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring to the drawings, wherein there is illustrated

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by way of example one embodiment of the present invention, there is shown at 10 a hollow container or receptacle open at its top and adapted to be closed by means of a cover or lid 11, the container and cover being preferably molded from polyethylene plastic material and, hence, possessing the desirable properties of being pliable or yieldable as well as unbreakable. The receptacle 10 comprises an annular side wall 10a which terminates at its upper end in a thickened annular edge portion 10b which, in the molding process, is integrally formed with a series, such as four separated screw threads 12.

The major area 11a of the top surface of the closure or cover 11 is preferably flat and at one side of the cover there is provided a recessed or depressed portion 13 forming a recess or well of suitable configuration, such as shown in Fig. 2. The bottom wall 13a of the recess is offset below the top surface 11a of the cover. Proximate to the margin of the cover at one side thereof the bottom wall 13a of the recess is formed with a pouring opening or orifice 14, circular in configuration and bounded by an upstanding annular pouring lip or flange 14a. This pouring lip provides in effect a spout permitting the liquid contents of the container to be conveniently dispensed or poured therefrom. The opening 14 in the cover is adapted to be closed and sealed by means of a cap 15 which is preferably molded from polyethylene plastic material as a separate unit or piece. The cap or closure 15 is provided with a depending annular wall flange 15a producing a recess into which the annular lip 14a snugly fits. As shown in Fig. 3 the flange 15a of the cap and the flange or lip 14a of the cover have complementary tapered surfaces so that when the cap is forced down it will effect tight sealing engagement with the pouring lip 14a. The cap 15 is preferably provided with a projecting finger piece 16 by means of which it may be lifted or swung upwardly, as shown in broken lines in Fig. 3, to permit the contents of the container to be dispensed through the pouring opening 14. The cap is also molded to provide an integral inwardly extending bail or yoke piece 17, the end of which is adapted to be pressed into a wedge shaped slot 18 in a bifurcated lug 19 projecting from the bottom wall 13a of the recessed portion 13. This interlocking connection between the bail 17 and the lug 19 provides a hinge mounting for the cap 15 by means of which the parts may be readily assembled.

In the illustrated embodiment the outer side of the cover or closure 11 is provided with a depending double flange or wall formation which produces an annular channel of substantial depth to receive and confine the upper free edge portion of the container or receptacle 10. In the preferred construction the top of the cover 11 is formed with a depending annular side wall 20 which terminates at and is interrupted by the depressed portion 13. As indicated in Fig. 2 the side wall 20 merges into the side wall of the depressed portion 13. In the present instance the side wall portion 20 of the cover is laterally offset to provide an annular edge or web portion 21 which in turn merges into a depending outer wall flange 22. This flange is formed with a series of separated threads 23, such as four in number, complementary to the corresponding threads 12 on the container and having threaded engagement therewith when the cover is screwed onto the container.

The side wall 20 of the cover merges into an inner depending wall flange 24 which is spaced inwardly of the wall flange 22 and extends generally parallel thereto. The wall flange 24 is formed with an upwardly and outwardly tapered surface 24a which preferably terminates at the lower edge of the flange 24 in an annular tapered or bevelled lead edge 24b.

The spaced annular wall flanges 22 and 24 form an

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annular channel closed at its top by the web portion 21 and dimensioned so as to provide adequate space between the threads 23 and the inner flange 24 for entry of the wall portion 10b when assembling the cover with the container. Insertion or entry of the wall portion 10b of the container into the channel is facilitated by means of the bevelled lead edge 24b and the tapered surface 24a. At the locality of juncture of the tapered surface 24a of the flange 24 and the bottom of the web 21 there is preferably formed a curved surface 25 adapted to conform substantially to the curved upper edge of the container and coact therewith, when the cover is tightened on the container by screw action to provide a liquid seal over a substantial area. In preferred practice the depth of the outer flange 22 is materially greater than the depth of the inner flange 24 so as to provide adequate area for screw threads and also to extend well down over the upper side of the container. Thus, when the cooperating threads of the cover and container are engaged and the cover is screwed down tightly, the upper edge of the container will effect a tight sealing engagement with the bottom surface of the ledge 21 in the region at 25, the proper positioning of the upper edge of the container to effect the seal being aided by the tapered surface 24a of the inner wall flange 24.

Since the container, when formed of polyethylene plastic material, is inherently flexible or pliable, the inner wall flange 24 serves the important function of retaining or restraining the upper part of the container against inward displacement under conditions in which the container is squeezed or partially collapsed inwardly by the pressure of the hand. When this occurs the wall flange 24 serves as an abutment or restraining wall effective to resist disengagement of the threads and undesirable separation of the cover from the container.

I claim:

1. A cover for an open top receptacle having a substantially flat top portion occupying the major area of the cover, said cover at one side of said top portion having a downwardly offset portion forming a recess opening outwardly and terminating in a bottom portion disposed below said top portion, said bottom portion having an opening bounded by an upstanding annular flange, a closure cap hinged to said bottom portion and adapted to coact with said flange to close said opening, said top portion terminating in a depending flange adapted to have closure engagement with the upper edge of the receptacle.

2. A cover for an open top receptacle having a substantially flat top portion occupying the major area of the cover, said cover at one side of said top portion having a downwardly offset portion forming a recess opening outwardly and terminating in a bottom portion disposed below said top portion, said bottom portion having an opening bounded by an upstanding annular flange, a closure cap hinged to said bottom portion and adapted to coact with said flange to close said opening, said closure cap in closed position being disposed substantially flush with said top portion.

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3. A cover for an open top receptacle having a substantially flat top portion occupying the major area of the cover, said cover at one side of said top portion having a downwardly offset portion forming a recess opening outwardly and terminating in a bottom portion disposed below said top portion, said bottom portion having an opening bounded by an upstanding annular flange, a closure cap hinged to said bottom portion and adapted to coact with said flange to close said opening, said closure cap in closed position being disposed substantially flush with said top portion and having a projecting finger piece overlying the outer edge portion of the cover.

4. A cover for an open top receptacle having a top provided with a depending side wall adapted to have closure engagement with the upper edge of the receptacle, said top having an upper substantially flat top portion occupying the major area of the cover and also having at one side thereof a downwardly offset portion forming a recess bounded by a generally U-shaped side wall terminating in laterally spaced end portions disposed adjacent to said first named side wall, the bottom portion of said recess having an opening bounded by an upstanding annular flange disposed between said spaced end portions, a closure cap hinged to said bottom portion and adapted to coact with said flange to close said opening.

5. A cover for an open top receptacle having a top provided with a depending side wall adapted to have closure engagement with the upper edge of the receptacle, said top having an upper substantially flat top portion occupying the major area of the cover and also having at one side thereof a downwardly offset portion forming a recess extending inwardly in the direction of the center of said top and bounded by a side wall terminating in laterally spaced end portions merging into the depending arcuate side wall portion of said flat top portion, the bottom portion of said recess having an opening bounded by an upstanding annular flange disposed between said spaced end portions, a closure cap hinged to said bottom portion at a locality inwardly of said opening and adapted to snugly embrace said flange to close said opening, said cap having a substantially flat top lying in the closed position of the cap substantially in the plane of said upper flat top portion.

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