

[54] NESTABLE CUP

[72] Inventor: Julius Phillips, Bronx, N.Y.

[73] Assignee: Owens-Illinois, Inc.

[22] Filed: Dec. 4, 1970

[21] Appl. No.: 95,255

[52] U.S. Cl.220/97 C, 220/60

[51] Int. Cl.B65d 21/00, B65d 43/10

[58] Field of Search.....220/97 C, 160, 97 F; 215/10;
229/1.5 B

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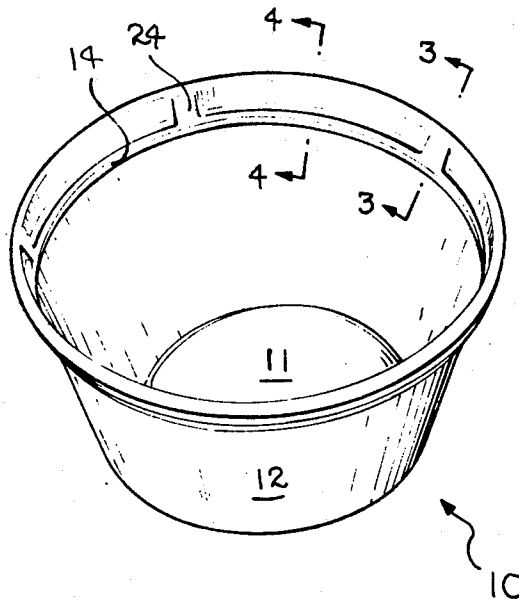
Primary Examiner—George E. Lowrance

Attorney—Philip M. Rice and E. J. Holler

[57] ABSTRACT

A one-piece nestable cup is provided with a top rim portion which serves as the upper stacking shoulder for supporting a like container nested therein. A lower stacking shoulder having a greater peripheral extent than the minimum peripheral extent of the top rim is spaced from the top rim and is joined thereto by means of an upwardly and inwardly inclined stacking ring. The stacking ring is provided with a plurality of circumferentially spaced apart lead-in portions to facilitate the engagement of a disc-type lid in an annular groove positioned below the lower shoulder.

3 Claims, 4 Drawing Figures



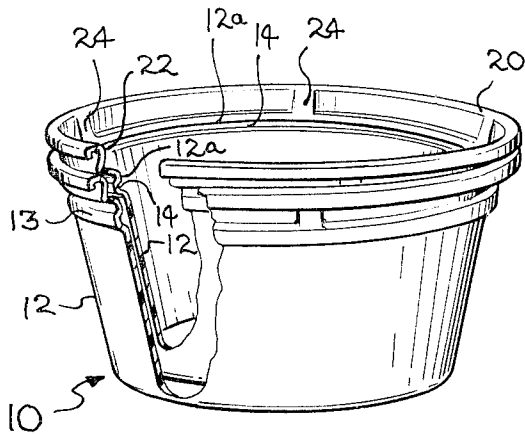


FIG. 2

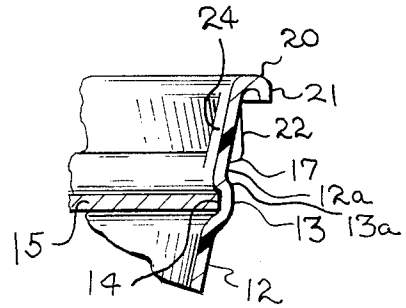


FIG. 3

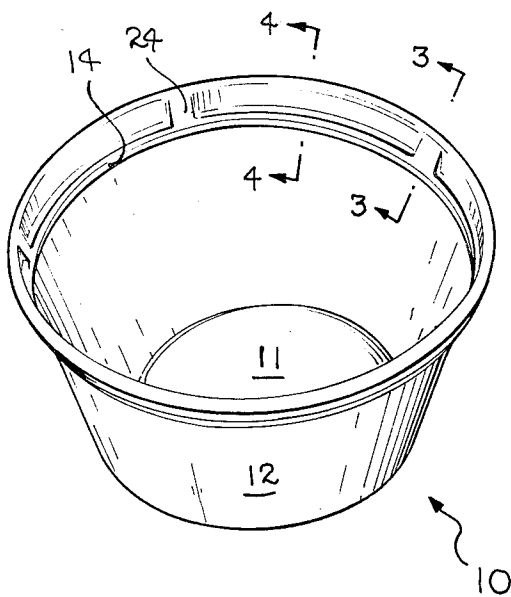


FIG. 1

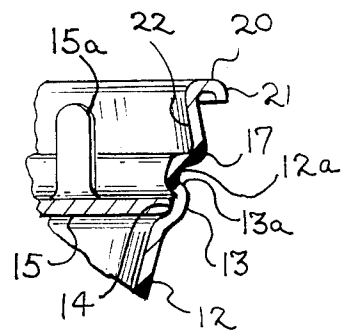


FIG. 4

INVENTOR.
 JULIUS PHILLIPS
 BY *Philip M. Rice*
 & *E. J. Holler*
 ATTORNEYS

NESTABLE CUP

BACKGROUND OF THE INVENTION

The present invention is directed to a one-piece nestable container formed from a sheet of thermoplastic material for packaging ice cream and similar type goods. The container of the present invention is designed specifically to receive a low cost disc-type lid. The present invention permits a plurality of containers to be stacked in the nested relationship without jamming together by providing a stacking means which utilizes the top rim of the container as the upper stacking shoulder with a re-entrant wall portion immediately beneath such rim. The container is also provided with a lead-in portion extending to the rim which permits ready insertion off a disc-type lid despite the presence of the re-entrant wall portion. The container of the present invention can be readily formed by conventional vacuum forming techniques utilizing polystyrene or other well known moldable thermoplastic material.

It is an object of the present invention to provide a one-piece nestable thin-walled container having means for retaining a disc-type lid.

It is another object of the present invention to provide a container having a lead-in means permitting ready insertion of a disc-type lid which means is provided in combination with a stacking means.

It is an additional object of the present invention to provide a cup-shaped container having a new and novel rim stacker providing a lead-in feature.

Finally, it is an object of the present invention to provide a package comprising a thin-walled plastic cup and a disc-type lid having a pull tab at the periphery thereof spaced from the surface of the cup for easy grasping.

Other objects and advantages of the present invention will become apparent from the following detailed description taken in conjunction with the annexed sheet of drawings on which:

FIG. 1 is a perspective view showing a single container of the present invention.

FIG. 2 is a perspective view, partly in section, showing two containers in nested condition.

FIG. 3 is a sectional view of the container taken through line 3—3 of FIG. 1 with a lid positioned therein.

FIG. 4 is a view similar to FIG. 3 taken through line 4—4 of FIG. 1.

Referring now to the drawings, there is provided a container generally designated by the numeral 10 having a bottom portion 11 and an annular sidewall 12 extending upwardly therefrom. If desired, the bottom portion 11 may be concave on its exterior (convex on its interior) to enhance its resistance to deformation. The sidewall 12 tapers upwardly and outwardly from the bottom portion 11 at an angle which will permit a similar container to be nested without jamming.

Near the top of the sidewall 12, is an outwardly extending annular bead 13 which extends completely around the periphery of the container 10. The annular bead 13 defines, on the interior of the container, a groove 14 which is sized to receive and retain a flat disc-type lid 15 having a pull tab 15a. Thus, as may be seen from FIGS. 3 and 4, the annular bead 13 has an upper inwardly extending segment 13a which serves to retain the disc in the groove 14. The upper inwardly extending segment 13a extends to join with a segment of the sidewall 12 which is hereinafter referred to as the upper sidewall segment 12a.

Extending radially outwardly from the upper sidewall segment 12a is a lower stacking shoulder 17. Directly above the lower stacking shoulder 17 is a top rim portion 20 which extends radially outwardly and terminates in a downturned flange 21. Extending between the lower stacking shoulder 17 and the top rim portion 20 is an upwardly and inwardly inclined support ring 22. The radial extent of the lower stacking shoulder 17 is greater than the minimum radial extent of the top rim portion 20 so that the lower stacking shoulder 17 of one container will rest upon the top rim portion 20 of

another container in which it is telescopically positioned. Thus, the top rim portion forms an upper stacking shoulder.

The support ring 22 is provided with a plurality of circumferentially spaced apart interruptions 24 or lead-in members. As may be seen from the drawing, the interruptions or lead-in members 24 taper directly from the upper sidewall segment 12a to the top rim portion 20 following a smooth and, preferably, a straight line path.

It may be readily seen that the lid 15 may be easily inserted in the container 10 as the outer edge of such lid will simply slide against the lead-in portions 24 as the lid is pushed downwardly into the groove 14. As may be seen, the diameter of the groove 14 is smaller than the diameter of the interruptions or lead-in portions 24 at the top rim portion 20 thus permitting a lid having a diameter substantially equal to that of the groove to be easily and readily inserted in the top of the container 10. Typically, the disc-type lid will be placed on the container by putting one side in engagement with the groove and then forcing the rest of the lid downwardly until the entire lid engages the groove. As previously noted, such downward movement causes the lid to slide down the lead-in portions 24.

When the lid is in sealed position in the groove 14, the tab 15a will stick upwardly and, by virtue of the interference from the upper sidewall segment 12a, the upper end thereof will be out of contact with any portion of the container 12. (See FIG. 4.) Such spaced apart positioning permits a consumer to readily grasp the tab 15a for removal of the lid 15.

It can be readily seen from the foregoing that the container of the present invention is one which has the features of stackability without jamming, the ability to be used with an inexpensive disc-type lid with specific means being provided to facilitate insertion of such lid thereon, and is one which can be readily formed using conventional thermoforming techniques. Furthermore, the container in combination with a disc-type lid having a tab maintains the upper portion of the tab in a spaced-apart relationship with the container to permit its being readily grasped by a consumer removing the lid.

I claim:

1. A one-piece nestable seamless container of the thermoplastic material having a bottom, a sidewall extending upwardly and outwardly therefrom, said sidewall terminating at its upper end in a combined stacking and lid seating area, including
 - a. an annular bead extending outwardly from said sidewall and circumferentially therearound, said annular bead defining a lid retaining groove on the inside of the container,
 - b. a top rim portion forming an upper stacking shoulder for supporting a like container nested therein, the minimum radial extent of the top rim portion being greater than the radial extent of said groove,
 - c. an intermediate section joining said annular bead and said top rim portion, said intermediate section including
 1. a lower stacking shoulder extending outwardly from said sidewall and having a radial extent greater than the minimum radial extent of said top rim portion to permit nesting of said lower stacking shoulder on the top rim portion of a like container in which it is positioned, and
 2. an upwardly and inwardly inclined support ring extending between the lower stacking shoulder and the top rim portion, said support ring having circumferentially spaced apart interruptions defining lead-in portions extending from the top rim to the annular groove.
2. A container as defined in claim 1 including a substantially flat lid retained in said groove, said lid having a tab extending from a peripheral portion thereof, the free end of said tab being spaced from said container.
3. In combination,
 - A. a one-piece nestable seamless container of thermoplastic material having a bottom, a sidewall extending upwardly and outwardly therefrom, said sidewall terminating at its upper end in a combined stacking and lid seating area, including

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- 1. an annular bead extending outwardly from said sidewall and circumferentially therearound, said annular bead defining a lid retaining groove on the inside of the container,
- 2. a top rim portion forming an upper stacking shoulder for supporting a like container nested therein, the minimum radial extent of the top rim portion being greater than the radial extent of said groove,
- 3. an intermediate section joining said annular bead and said top rim portion, said intermediate section including
 - a. a lower stacking shoulder extending outwardly from said sidewall and having a radial extent greater than the minimum radial extent of said top rim portion to

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- permit nesting of said lower stacking shoulder on the top rim portion of a like container in which it is positioned,
- b. an upwardly and inwardly inclined support ring extending between the lower stacking shoulder and the top rim portion, said support ring having circumferentially spaced apart interruptions defining lead-in portion extending directly from the top rim to the annular groove, and
- B. a flat lid positioned in said groove, said lid having a tab extending upwardly from a peripheral portion thereof, the upper end of said tab being spaced from said container.

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