

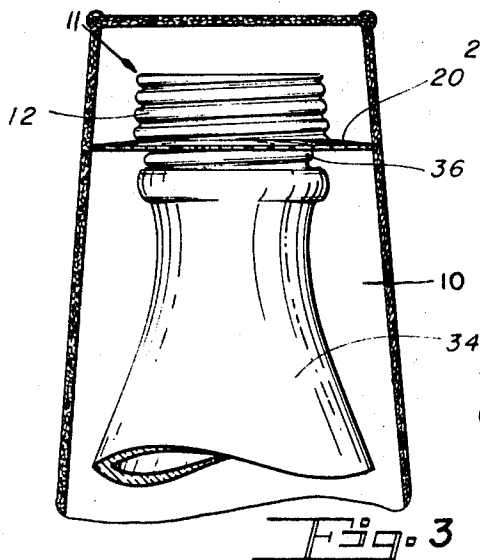
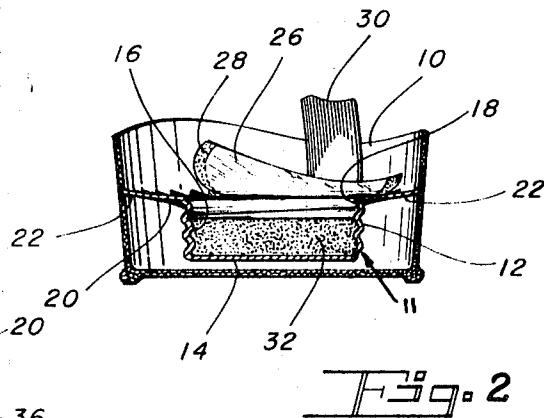
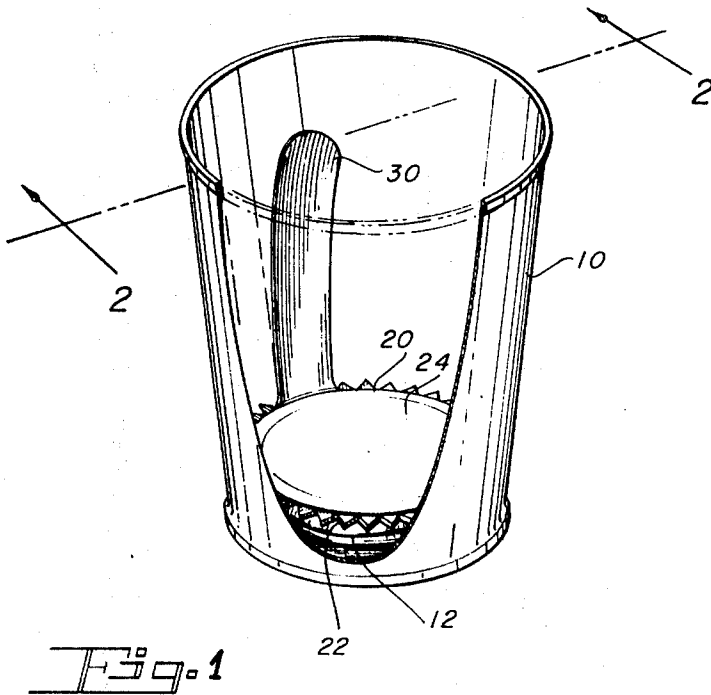
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CONTAINER WITH INSERT

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CONTAINER WITH INSERT

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7 Claims

ABSTRACT OF THE DISCLOSURE

An insert for assembly in a container comprises a body which has an interior recess and a gripping portion projecting outwardly about the periphery thereof. The gripping portion is designed to engage the sidewall of a container so as to secure the insert therein.

BACKGROUND OF THE INVENTION

Various dispensing containers have previously been proposed which may be prefilled with foodstuffs, food concentrates, medicaments and the like, for future consumption with or without dilution. Exemplary of such dispensing containers are the structures illustrated in the following U.S. Letters Pats.: Epperson No. 1,709,168; Williams No. 1,770,118; Ser. No. 1,889,111; Abbot No. 1,933,468; Yealdhall No. 2,328,872; O'Neill No. 2,915,176; O'Neill No. 2,971,304; Mayer No. 2,972,406; Toms No. 3,121,636; Anthony No. 3,186,850 and Palmer No. 3,407,922.

However, so far as is known, no container has hitherto been provided in which a separate material-containing insert is secured readily within a standard or conventional container subsequent to loading of the insert to provide an economical container assembly. In some instances, it has been proposed to use adhesives which can lead to contamination and in other instances it has been proposed to modify the principal container to adapt it to receive the insert at generally greater cost.

Accordingly, it is an object of the present invention to provide a material-containing insert which is relatively simple and economical to manufacture and which may be readily assembled with independently produced containers, such as a cup of conventional design.

It is also an object of the invention to provide a container assembly including a conventional container and an insert which is simply and economically manufactured and readily assembled therewith, in which there is no need for modification of the container or for the use of adhesives or other independent affixing means.

SUMMARY OF THE INVENTION

It has now been found that the foregoing and related objects can be readily attained in a material-receiving insert comprising a body having an interior recess and a gripping portion projecting outwardly about the periphery thereof, and having means thereon for engaging the sidewall of a container with which it is assembled so as to secure the insert therein. Preferably, the engaging means of the gripping portion is provided by a multiplicity of gripping elements having relatively sharp outer ends and which are spaced about the periphery of the body. Most desirably, the body is generally circular in cross section and the gripping portion is a radially outwardly extending, serrated circumferential flange providing a multiplicity of gripping elements thereabout. The sidewall of the body may be internally threaded, such as to engage an externally threaded surface provided adjacent the mouth of a vessel included as an additional part of the insert, or a closure member may be releasably secured to the body to close the mouth of the recess therein.

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The container assembly of the invention comprises a container having a sidewall and a bottom wall closing one end thereof, and an insert of the type hereinbefore described assembled therewith by engagement between the sidewall of the container and the engaging means of the gripping portion. Preferably, gripping elements are provided by a serrated circumferential flange of the type hereinbefore described, and the insert may include a closure member releasably secured to the body to close the recess therein or a threadably engaged receptacle.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a container assembly embodying the present invention with a portion of the sidewall of the container broken away to reveal internal construction;

FIG. 2 is a fragmentary sectional view in elevation of the lower portion of the assembly of FIG. 1, along line 2-2 thereof, wherein the cover portion of the closure member is partially removed to illustrate the bottom surface thereof; and

FIG. 3 is a fragmentary elevational view of an insert embodying the invention including a body threadably engaged with a bottle.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

Turning first to FIGS. 1 and 2 of the drawing in detail, an insert embodying the present invention is secured in a cup 10 made of a relatively deformable cellular material such as foamed polystyrene. The insert includes a body portion, generally designated by the numeral 11, having a generally cylindrical sidewall 12 and an end wall 14 closing the bottom end thereof, thus defining an internal recess 16 with an axially upwardly-opening mouth 18.

Integrally formed with the body portion 11 adjacent the open end of the side wall 12 thereof is a circumferential serrated flange 20 which has a slightly arcuate, generally concave configuration. As is best seen in FIG. 2, the teeth 22 provided by the outer edge of the serrated flange 20 are partially embedded in the deformable material of the sidewall of the cup 10 to secure the insert therein; the concave configuration facilitates assembly by preventing the teeth from digging into the sidewall during insertion and enhances the ultimate interengagement therebetween once seated since the relatively flexible flange may flex rather than disengaging, thus driving the teeth 22 more firmly into the sidewall of the cup 10.

The insert of FIGS. 1 and 2 also includes a closure member which has a planar cover portion 24 overlying the mouth 18 of the recess 16. The cover portion 24 is turned back in FIG. 2 to expose its metal foil under-surface 26 and the area of adhesive material 28 about the circumference thereof used to secure the cover portion 24 to the flange 20; the adhesive material may be of the pressure-sensitive type if desired. The closure member is also provided with a handle or tab 30 to facilitate its removal so as to provide access to the material 32 contained within the recess 16.

Referring now in detail to FIG. 3, a second embodiment of the invention utilizes an insert generally of the same design as that illustrated in FIGS. 1 and 2 but including a bottle 34 or similar receptacle as a part of the assembly. The bottle 34 has an externally threaded neck 36 cooperatively dimensioned for threadable engagement with the body 11 which has its sidewall 12 threaded in this particular embodiment. Thus, the body 11 serves both as a cap or closure for the bottle 34 and also as the means to secure the insert within a suitable container such as the cup 10.

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In both of the embodiments illustrated, the insert is assembled within the container simply by forcing it downwardly toward the bottom thereof, assuming that the container is a conventional cup of the type illustrated. Upon release of the downward pressure, the serrated flange 20 tends to spring outwardly into the sidewall of the container, and the pointed elements thereof become imbedded therein, particularly if force is exerted in the opposite or outward direction. Thereafter, removal of the cover portion 24 or of the bottle 34 will not normally disengage the insert from the container, notwithstanding the axial or twisting force which is involved, respectively.

Essential to the present invention is the provision of a gripping portion about the periphery of the body of the insert with means thereon for engaging the sidewall of the principal container. Obviously, it is necessary that the gripping portion be dimensioned to contact and securely engage the sidewall of the container with which it is assembled, but the specific design of the gripping portion is not critical to the invention and may be of a variety of forms. For example, the gripping portion may be a thin flange extending about the periphery of the insert with the circular edge thereof being the engaging means, preferably by being somewhat sharpened to facilitate the penetration thereof into the material of the container. Although such a gripping portion may be desirable from an economic standpoint, it provides less secure attachment to the container and offers very little resistance to rotational forces such as are involved when the type of threaded bottle illustrated is disengaged therefrom.

In another embodiment, the gripping portion may have a circumferential collar extending at an angle thereto which provides the engaging means; here the collar is press fit into firm fractional engagement with the sidewall of the principal container. If so desired, such as collar may have ribs or other deformations thereon which will tend to embed themselves or produce deformation of the sidewall of the container to provide some interengagement of the two elements.

The specific design of the gripping portion will depend somewhat upon the material used for the container and the insert and, if the material of the container is relatively soft and/or the material of the insert is relatively rigid, the circumferential edge of the gripping portion may be fairly blunt. The location of the gripping portion on the body may vary from that illustrated wherein it is adjacent the mouth of the recess. In fact, since pressure on the sidewall of the cup would be transmitted to the body through the flange in the illustrated embodiments, which in turn would tend to disengage the cover in FIGS. 1 and 2, it may be more desirable to position the flange or gripping portion at the bottom of the body or midway along the sidewall thereof.

The body of the insert may vary greatly in size, shape, and general design. Most often it will be comprised of a sidewall and a bottom wall closing one end thereof, but it may also have the configuration of a spherical segment, conical segment, or the like, to provide a body having no distinct side and bottom walls. In addition, the insert body may have substantially any cross sectional shape including square, rectangular, triangular, etc., but since the inserts are most advantageously employed with conventional cups and other vessels which are circular in cross section, the insert will generally also have a circular cross section. If the insert includes a threadably engaged receptacle it will obviously be necessary that the sidewall of the body be circular to permit assembly and disassembly. A threaded configuration for the insert is highly advantageous since it can be used both with threaded receptacles and with overlying closures as is illustrated by the drawing. Moreover, it should be understood that such receptacles need not be threadably engaged in the body, but may, for example, employ a bead

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engageable in a corresponding groove to effect sufficient engagement.

The body of the insert may be constructed of various materials including synthetic resins, metal foils, fibrous materials such as paper, glass, ceramics, etc. Laminated combinations of the aforementioned materials may also be used and different elements of the structure may be made of different materials. Synthetic resins may be preferred in some cases because they often possess an optimum combination of desirable characteristics, e.g., high levels of resiliency and strength, ease of forming, inertness to the contents, high temperature resistance, low cost, etc. Metal foils and metal foil-paper laminates are also advantageously employed in some instances because of low cost, ready formability, and high inertness to foods and the like.

Normally, the recess of the insert will have an axially-opening mouth which is covered by a separate closure member secured thereover, but it may comprise a sealed receptacle such as a bottle which is engaged with the sidewall of the insert to obviate a separate closure. If a separate cover is utilized to cover material disposed within the recess of the insert, it is desirably secured to the body of the insert with an adhesive material provided on the underside of the cover portion, as is shown in the drawing. Depending upon the materials involved, however, other techniques for securing the closure member to the body of the insert may be employed such as crimping, heat sealing, etc. The closure member should be provided with a handle or other readily grippable means to facilitate its removal, and the handle may be a relatively short tab or an elongated member of the type shown in the drawing, which facilitates gripping thereof through the top of principal container. Other types of handles may be utilized such as wire pulls and the like, and the handle may serve additional purposes as well; for example, it may provide a stirrer when the contents of the insert are to be admixed with a liquid prior to use. The closure member may be fabricated from any suitable material including paper, plastic, metal foil, etc., or of laminated materials such as a paper/metal foil laminate.

Although the types of containers with which the present inserts may be employed vary widely, they are particularly advantageously used with cups of conventional design since they may be readily assembled therewith with no modification of the cup being required. To ensure the highest levels of security of interengagement it is advantageous to utilize containers made of relatively deformable or soft materials to facilitate deformation of the sidewall by the interengaging means or penetration by the teeth on the gripping portion. Accordingly, cups made of a foamed plastic such as polystyrene or polyvinyl chloride are particularly suitable for assembly with the inserts; however, if the gripping portion or elements are suitably designed, containers made of materials such as paper or the like may also be used successfully.

Accordingly, it can be seen that the present invention provides a material-containing insert for assembly with a preformed container, which insert is relatively simple and economical to manufacture. It is readily secured in a container to provide the assemblies of the invention, and it may be used with conventional containers to avoid any need for special modifications or additional means for effecting engagement therebetween.

Having thus described the invention, I claim:

1. A container assembly comprising a container having a sidewall providing a normally relatively smooth peripheral inside surface portion about said container and a bottom wall cooperatively defining a cavity therein, and an insert spanning said inside surface portion secured within said container across said cavity, said insert comprising a body having an interior recess with an upwardly opening mouth, a closure member releasably secured to said body over said mouth, and an integral

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gripping portion projecting outwardly about the periphery thereof, said gripping portion comprising at least one relatively rigid gripping element having a relatively thin outer edge portion, said outer edge portion deforming said inside surface portion of said sidewall at the points of contact therewith to effect interengagement therebetween and thereby to secure said insert within said container.

2. The assembly of claim 1 wherein said sidewall is generally frustoconical with said bottom wall closing the smaller end thereof, and wherein said body has a generally cylindrical sidewall and an end wall closing the lower end thereof to provide said recess with an upwardly-opening mouth.

3. The insert of claim 2 wherein said gripping element is provided on said body adjacent said mouth.

4. The insert of claim 2 wherein said gripping element is spaced axially along said body away from said mouth.

5. The assembly of claim 1 wherein said gripping portion comprises a multiplicity of relatively rigid gripping elements having relatively sharp outer ends spaced about the periphery of said body and deforming said inside surface portion at a plurality of points of contact therewith.

6. The assembly of claim 5 wherein said sidewall and said body are generally circular in cross section and wherein said gripping portion is a radially-extending, serrated circumferential flange providing a multiplicity of said gripping elements thereabout.

7. A container assembly comprising a container having a generally frustoconical sidewall with a normally relatively smooth inside surface portion and a bottom wall closing the smaller end thereof, and an insert secured

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within said container, said insert comprising a body having a generally cylindrical sidewall and an end wall closing the lower end thereof to provide an interior recess with an upwardly-opening mouth and a gripping portion projecting outwardly from the periphery thereof, said gripping portion comprising at least one relatively rigid gripping element having a relatively thin outer edge portion, said outer edge portion deforming said inside surface portion of said sidewall at the points of contact therewith to effect interengagement therebetween and thereby to secure said insert within said container, said generally cylindrical sidewall being internally threaded and said insert additionally including a receptacle with a pouring mouth and a threaded neck corresponding to said internally threaded body, said receptacle and body being threadably interengaged thereby and said receptacle being substantially enclosed within said container.

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U.S. Cl. X.R.

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