



US 20060169759A1

(19) **United States**(12) **Patent Application Publication****Sarson et al.**(10) **Pub. No.: US 2006/0169759 A1**(43) **Pub. Date: Aug. 3, 2006**(54) **PRODUCT CONTAINER WITH FOLD-DOWN LID****Publication Classification**(51) **Int. Cl.****B65D 3/00** (2006.01)**B65D 21/00** (2006.01)(52) **U.S. Cl.** **229/400; 206/508; 229/126; 229/915**(76) Inventors: **George E. Sarson**, Waterloo (CA);
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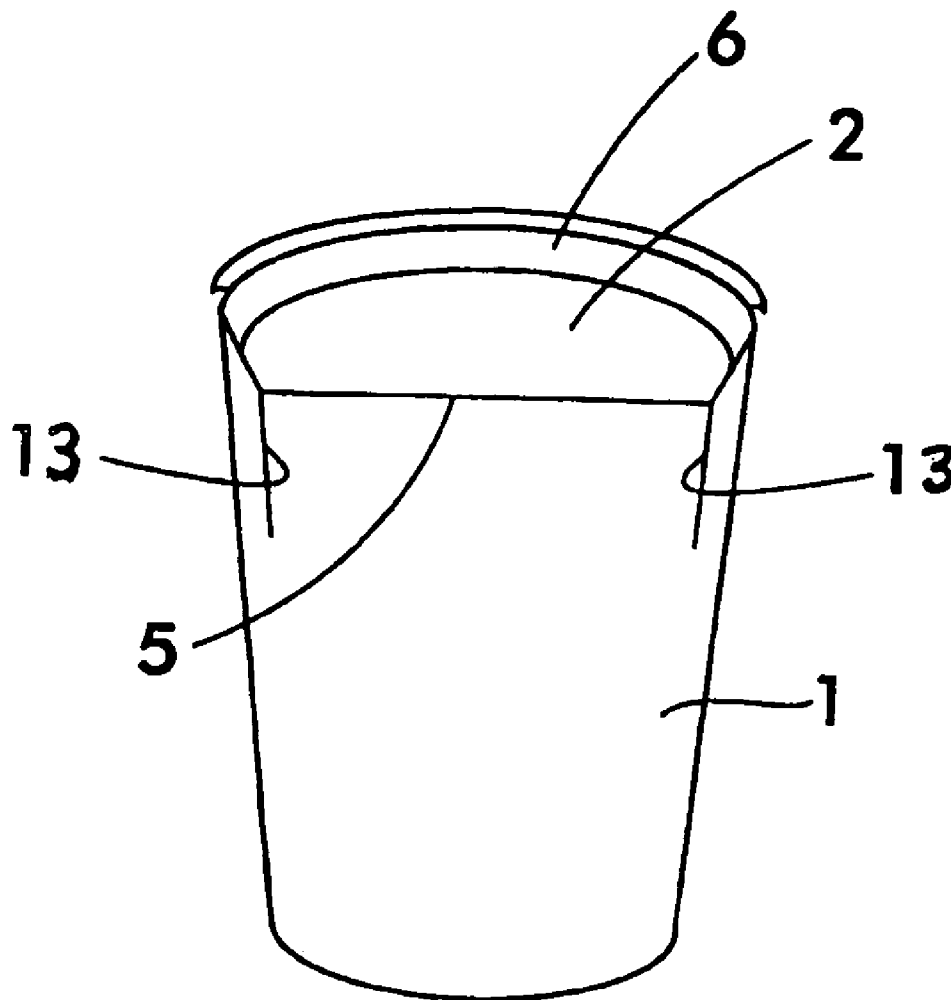
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OTTAWA, ON K1P 1J9 (CA)(21) Appl. No.: **11/341,572**(22) Filed: **Jan. 30, 2006****Related U.S. Application Data**

(60) Provisional application No. 60/647,779, filed on Jan. 31, 2005.

(57)

ABSTRACT

The container has a body with an integral lid extending upwardly from an upper edge portion thereof. A score line is provided between the container body and the lid, permitting the lid to be folded over to a closed position against the opposite side of the container, the lid being shaped so that it conforms to the shape of the container body. The lid has an edge portion which is foldable upwardly along the container body and can be sealed against the container body to produce a secure seal. Preferably, the score line is a straight line parallel to the bottom of the container, resulting in a flat lid, and preferably the lid is sealed to the container body in a horizontal position, thereby providing a flat horizontal surface to facilitate stacking and shipping.



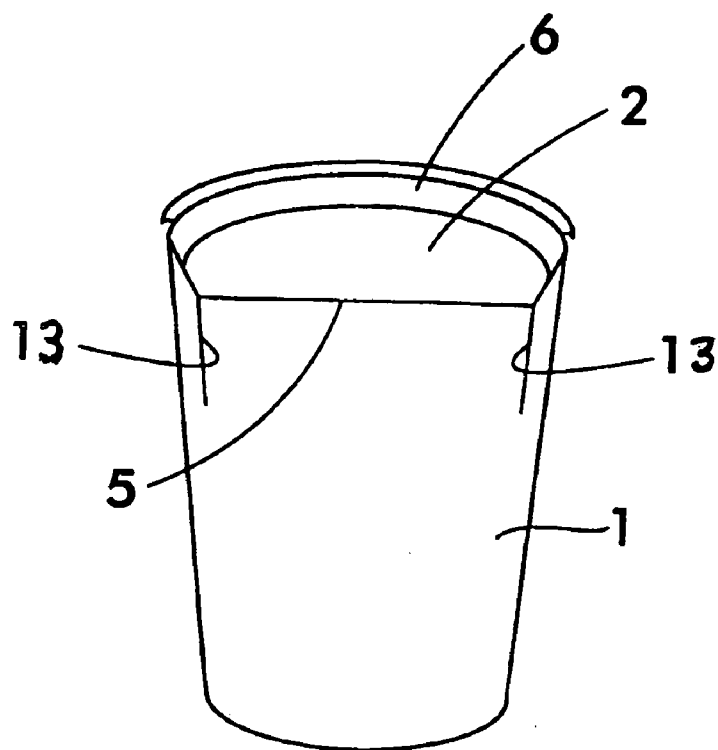


FIG. 1

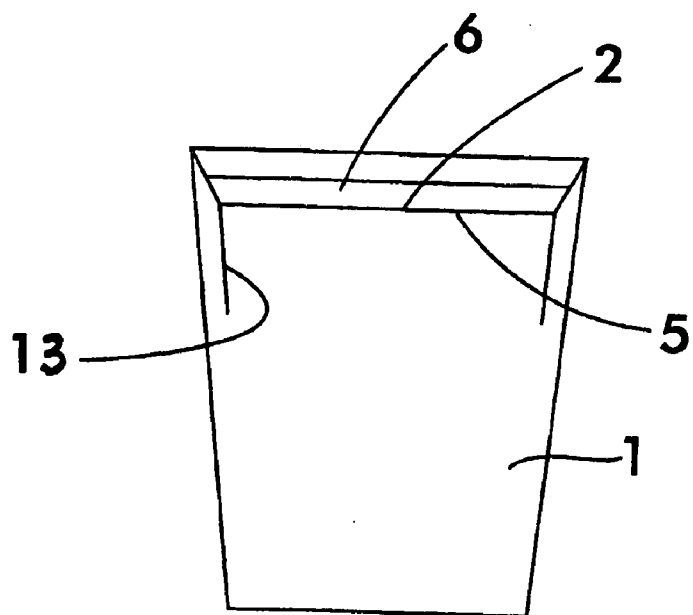


FIG. 2

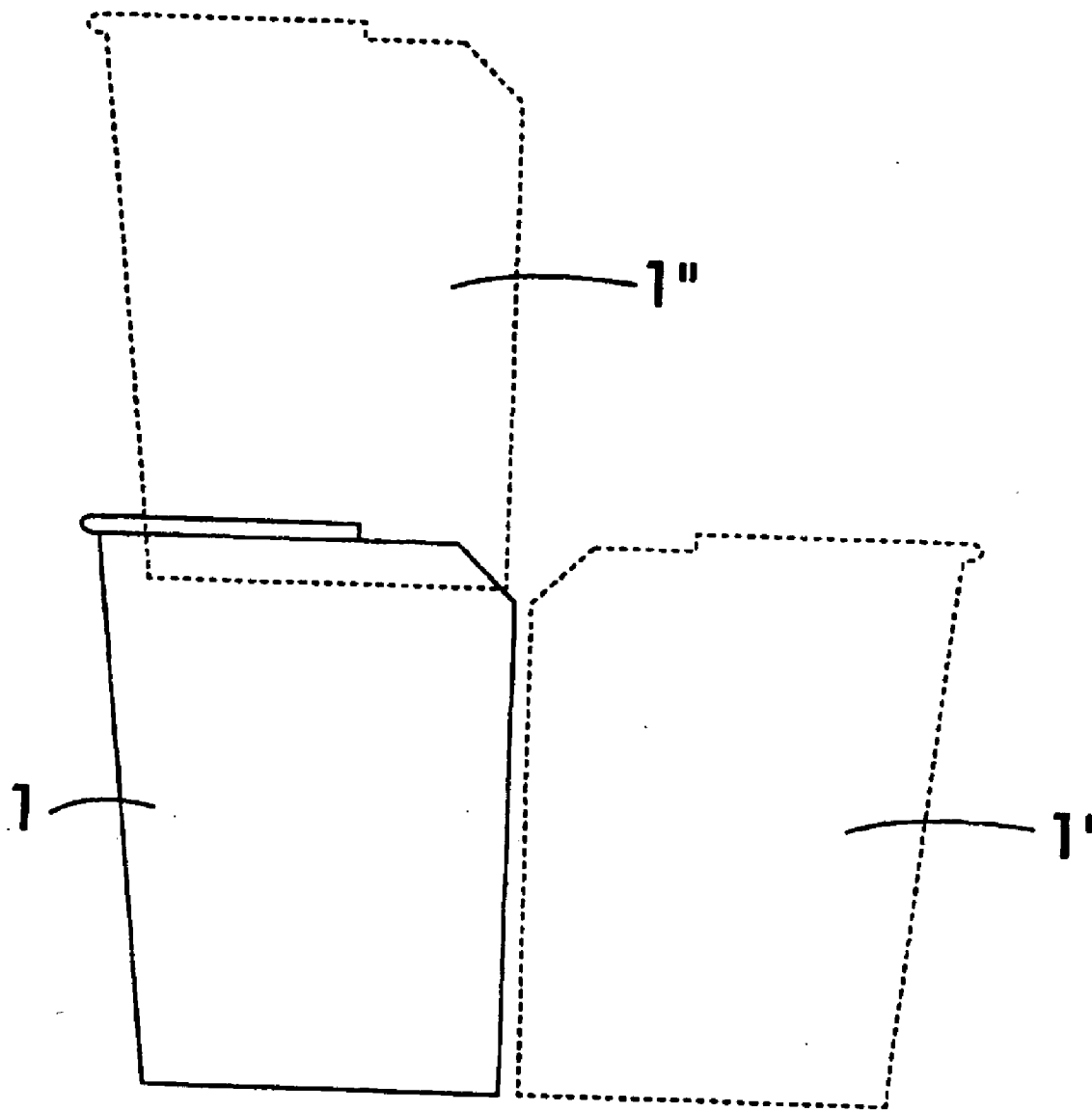


FIG.3

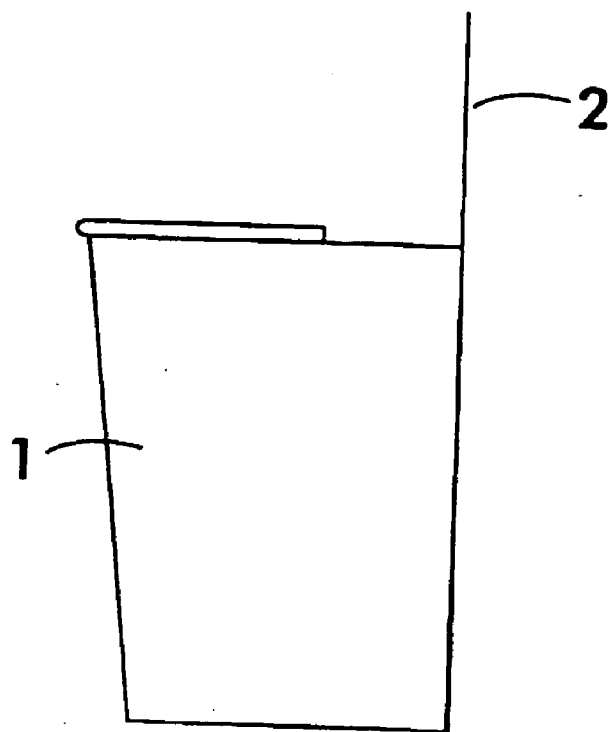


FIG. 4

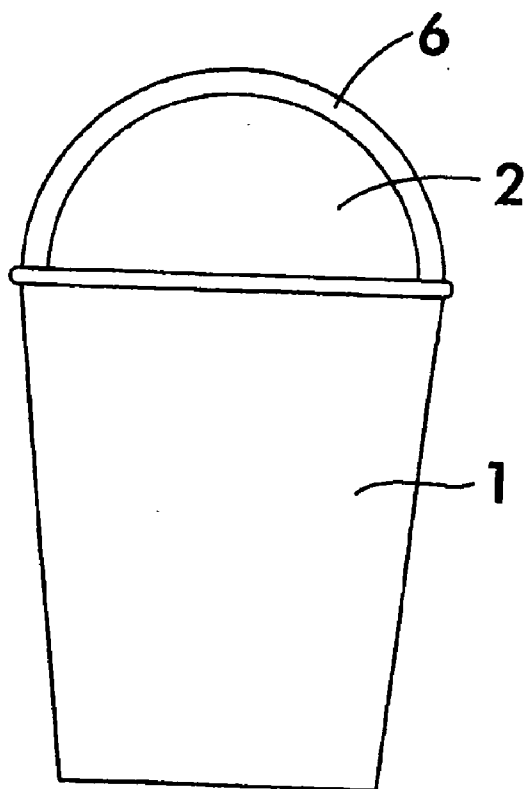


FIG. 5

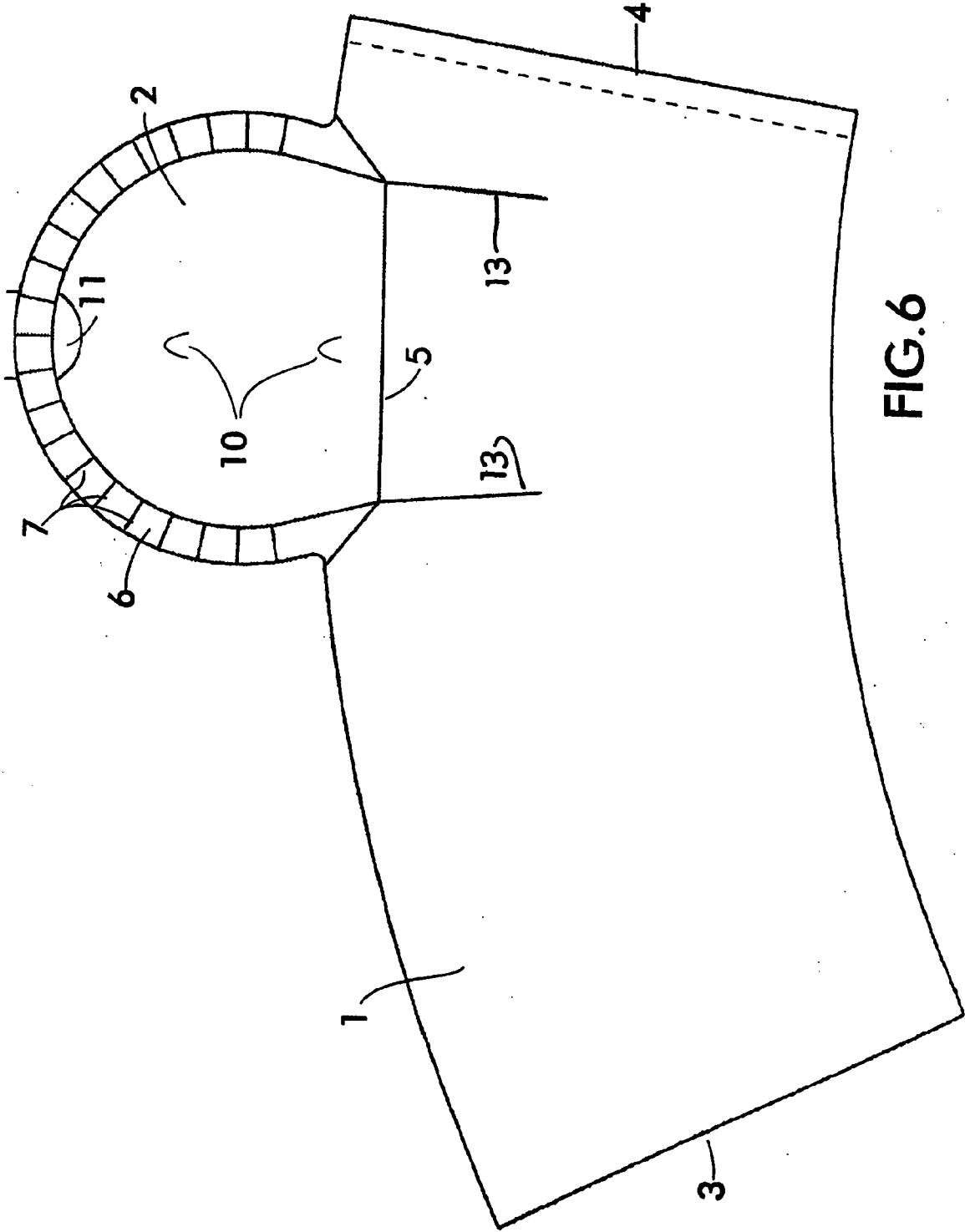


FIG. 6

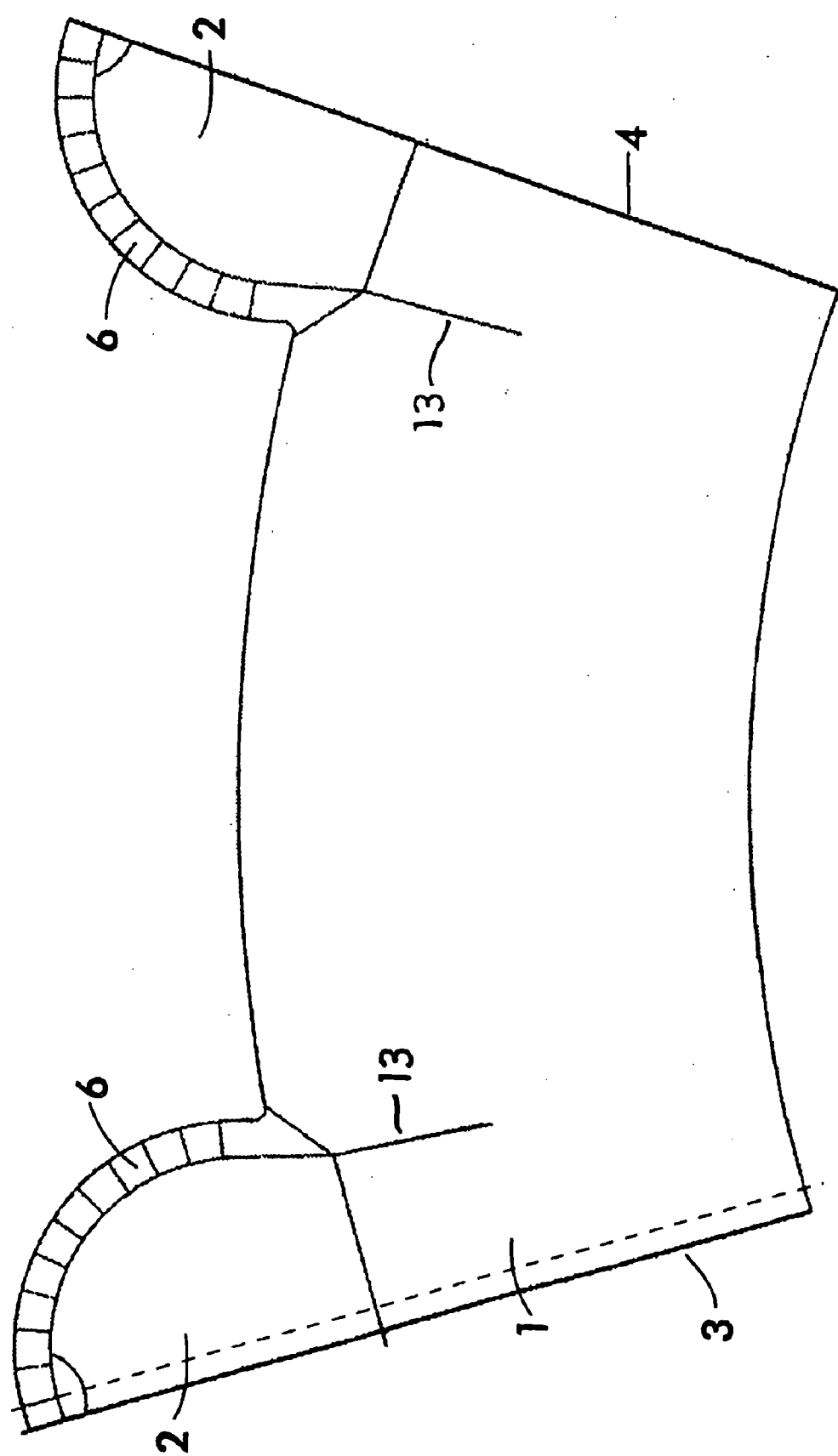


FIG. 7

PRODUCT CONTAINER WITH FOLD-DOWN LID

REFERENCE TO RELATED APPLICATION

[0001] This is a formal application based on and claiming the benefit of U.S. provisional patent application No. 60/647,779, filed Jan. 31, 2005.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] This invention relates to disposable containers, particularly for liquids, powders or other flowable materials, but not limited to same.

[0004] 2. Description of the Prior Art

[0005] In the invention, there is some similarity to cups described in U.S. Pat. No. 6,176,420, granted on Jan. 23, 2001, in that there is a container body having a lid portion extending upwardly from an upper edge of a portion of the body, with the lid being foldable downwardly towards the opposite side of the body. However, in the prior patent (where one of the present inventors was a co-inventor), the lid flipped from convex to concave, into its closed position within the body of the cup, and tended to remain in that position once there, due to its particular shape and configuration. The seal, though suitable for many purposes such as cold beverages or the like intended for prompt consumption, was not complete, secure or permanent. The cups were not intended for filling with product for shipping filled.

[0006] However, the inventors have recognized a need for a simple container which could be sold empty or which could be filled with product for shipping or delivery to a point of sale, for example.

SUMMARY OF THE INVENTION

[0007] It is an object of the invention to provide a simple, effective and yet inexpensive container.

[0008] In the invention, a container body is provided, with an integral lid extending upwardly from an upper edge portion of the container body, as in the prior art. A score line is provided between the container body and the lid, permitting the lid to be folded over to a closed position against the opposite side of the container. The lid is shaped so that it conforms to the shape of the container body and can be sealed against the container body to produce a secure seal.

[0009] In the preferred embodiment, the score line is a straight line, which results in a lid which is planar when closed rather than convex nor concave. Preferably, the score line is parallel to the bottom of the container, and preferably when the lid is sealed to the container body, it is horizontal, thereby providing a flat horizontal lid surface to facilitate stacking and shipping.

[0010] The lid can be sealed to the container body by any suitable means, such as by being crimped, glued, melted or otherwise secured.

[0011] Other aspects of the invention will be described or will become apparent in the course of the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] In order that the invention may be more clearly understood, exemplary embodiments thereof will now be described in detail, as examples only, with reference to the accompanying drawings, in which:

[0013] **FIG. 1** is a perspective view of a preferred embodiment of the closed container;

[0014] **FIG. 2** is a corresponding front view;

[0015] **FIG. 3** is a corresponding side view, also illustrating stacking;

[0016] **FIG. 4** is a side view of the container, before the lid is closed and sealed;

[0017] **FIG. 5** is a corresponding front view;

[0018] **FIG. 6** is a plan view of a blank for the container; and

[0019] **FIG. 7** is a plan view of an alternative blank.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0020] **FIGS. 1-6** show an example of the container. The blank for this container (shown in **FIG. 6**) has a body portion **1**, and a lid portion **2** extending upwardly from the body portion. Opposite edges **3** and **4** of the body are secured to each other in conventional fashion, to form the body of the container. A container bottom (not shown) is crimped or otherwise secured in place to form the bottom of the container, as is conventional and well known in the manufacture of paper cups or similar containers.

[0021] Once the container body is formed and the bottom is secured, the container is ready for filling with the desired product (or it can be bottom-filled as explained later herein). After filling, the lid is folded down for closure, along a provided score line **5**. The shape of the lid corresponds to the shape of the container at the point where the lid is in its intended sealed position, but preferably includes a sealing area **6** which is slightly larger. This sealing area can thus be folded upwardly (or downwardly), and then crimped, adhered, melted or otherwise sealed against the body in order to seal the container. Suitable score lines **7** preferably are provided to facilitate this upward fold.

[0022] Any suitable means may be used to open the container to gain access to its contents. For example, the lid could be provided with one or more puncture points **10** for puncturing by a straw or by other like puncture means, for example a spout. The puncture points could be weakened spots in the lid, or simply spots indicated by printed matter as being preferred locations, the whole lid being puncturable by suitable means. Alternatively, a tear-back tab or metal foil cover or the like (not shown) could be provided, which when removed, would expose an opening **11** in the lid. Alternatively, a pull tab **12** could be provided, extending upwardly from the lid, which would permit the seal between the lid and the body to be broken, for example by peeling the lid back from the body, either partially or fully. In some cases, for example where the seal is truly permanent (melted plastic, for example), this may not be possible.

[0023] Another alternative construction is that a blank such as the one in **FIG. 7** could be used. This configuration

results in a seam (where edges **3** and **4** overlap) running across the center of the lid. A pull tab (not shown) where one edge overlaps the other could be used to pull the seam apart to gain access to the contents. In some embodiments, this may not be possible, for example when the container is made of plastic and the seam is permanently fused.

[0024] In some embodiments, the lid may be closed prior to filling, except for an opening being left uncovered. After filling, a cover such as a pull tab or foil overlay could be positioned over the opening, and glued, heat-sealed or otherwise secured in place.

[0025] As mentioned briefly above, bottom-filling is an alternative in some embodiments. In such embodiments, the container may be inverted for filling, with the top sealed and the bottom open. After filling, the bottom of the container could then be secured.

[0026] A configuration for the container which has been found to be particularly advantageous is as illustrated, with the score line **5** being a straight line parallel to the bottom of the container, resulting in a planar lid. If the lid is dimensioned suitably, it can thus be folded over to a position where the entire lid is horizontal. This is significantly different from the lid in the prior patent, where a curved score line produces an arcuate lid which "snaps" from concave to convex when being closed, and where the lid is not permanently sealed against the body. A curved score line could be used in the invention as well, if desired, but has no particular advantage and indeed a straight line is both preferable and more advantageous. The score line, straight or curved, does not necessarily need to be parallel to the bottom of the container, if for some aesthetic or marketing reason an angled lid is desired. However, this horizontal lid configuration is particularly advantageous, as illustrated in **FIG. 3**, in that it permits containers to be readily stacked on top of each other, for more efficient packaging and shipping of filled containers.

[0027] Additional score lines **13** have been found to be further advantageous, in that they facilitate folding along the score line **5**, and furthermore tend to assist in flattening the side of the container where the lid is folded. When the container is viewed from above, the score line **5** of course is straight, whereas if the bottom of the container is round, there has to be a transition from the straight line to the curvature of the bottom of the container. The additional score lines slightly delay that transition from straight to round and in effect reduce the diameter of the upper portion of the container. When the container is viewed from the side, as in **FIG. 3**, the side with the lid thus is close to vertical instead of tapering outwardly as it otherwise would. Thus for shipping purposes, it is an advantage that two adjacent containers can be butted against each other with very little loss of space between them. Because of the preferably horizontal lid, vertical stacking of the containers is also possible.

[0028] The materials used for the container may vary according to preference and according to the requirements of the product being packaged (for example, liquid vs. granules vs. powder; food or beverage grade vs. other). The specific materials selected are not part of the invention as broadly defined. In some cases, the container may be of paper. In other cases, the container could be of coated paper, for example paper coated with polyethylene, polystyrene,

polypropylene or other plastic. Or the containers could be made entirely from polyethylene, polystyrene, polypropylene or other plastic. Many other materials may be available or chosen by those knowledgeable in the field of the invention.

[0029] The above embodiments and variations are examples only. Additional embodiments and variations will be apparent or become apparent immediately or in the future to those knowledgeable in the field of the invention. The invention is not limited to the specific embodiments and variations described herein, but rather is defined by the claims which follow.

What is claimed is:

1. A disposable container, comprising a container body having an integral lid extending upwardly from an upper edge portion thereof, provided with a score line between the container body and the lid, permitting the lid to be folded over to a closed position against an opposite side of the container, the lid being shaped so that it conforms generally to the shape of the container body when in said closed position, the lid being sealable against the container body.

2. A disposable container as in claim 1, said lid having an edge portion foldable from a main portion of said lid, said edge portion being sealable against the container body to seal said lid.

3. A disposable container as in claim 1, wherein said score line is a straight line, thereby resulting in a planar lid.

4. A disposable container as in claim 3, wherein said straight line is substantially parallel to the bottom of the container.

5. A disposable container as in claim 4, wherein said lid is sealable to the container body in a substantially horizontal position, thereby providing a generally planar substantially horizontal lid surface to facilitate stacking and shipping.

6. A disposable container as in claim 1, further comprising means for accessing the interior of said container once sealed, said access means being selected from the group consisting of: at least one puncture point in said lid for puncture by puncture means; a removable cover over an opening in said lid; a pull tab extending upwardly from the lid, which would permit the seal between the lid and the body to be broken; a pull tab arranged to separate at least part of a seam running across said lid.

7. A disposable container as in claim 2, further comprising means for accessing the interior of said container once sealed, said access means being selected from the group consisting of: at least one puncture point in said lid for puncture by puncture means; a removable cover over an opening in said lid; a pull tab extending upwardly from the lid, which would permit the seal between the lid and the body to be broken; a pull tab arranged to separate at least part of a seam running across said lid.

8. A disposable container as in claim 3, further comprising means for accessing the interior of said container once sealed, said access means being selected from the group consisting of: at least one puncture point in said lid for puncture by puncture means; a removable cover over an opening in said lid; a pull tab extending upwardly from the lid, which would permit the seal between the lid and the body to be broken; a pull tab arranged to separate at least part of a seam running across said lid.

9. A disposable container as in claim 4, further comprising means for accessing the interior of said container once

sealed, said access means being selected from the group consisting of: at least one puncture point in said lid for puncture by puncture means; a removable cover over an opening in said lid; a pull tab extending upwardly from the lid, which would permit the seal between the lid and the body to be broken; a pull tab arranged to separate at least part of a seam running across said lid.

10. A disposable container as in claim 5, further comprising means for accessing the interior of said container once

sealed, said access means being selected from the group consisting of: at least one puncture point in said lid for puncture by puncture means; a removable cover over an opening in said lid; a pull tab extending upwardly from the lid, which would permit the seal between the lid and the body to be broken; a pull tab arranged to separate at least part of a seam running across said lid.

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