United States Patent [19]

Chiappe

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[54] **PUSH-IN EASY OPENING CONTAINER**

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[52] **U.S. Cl.** **220/339,** 220/359

[51] **Int. Cl.**... **B65d 41/00,** B65d 43/14, B65d 51/04

[58] **Field of Search** ..... 220/47, 30, 32, 36, 51, 220/27, 53, 86 R, 375, 359

[56] **References Cited**

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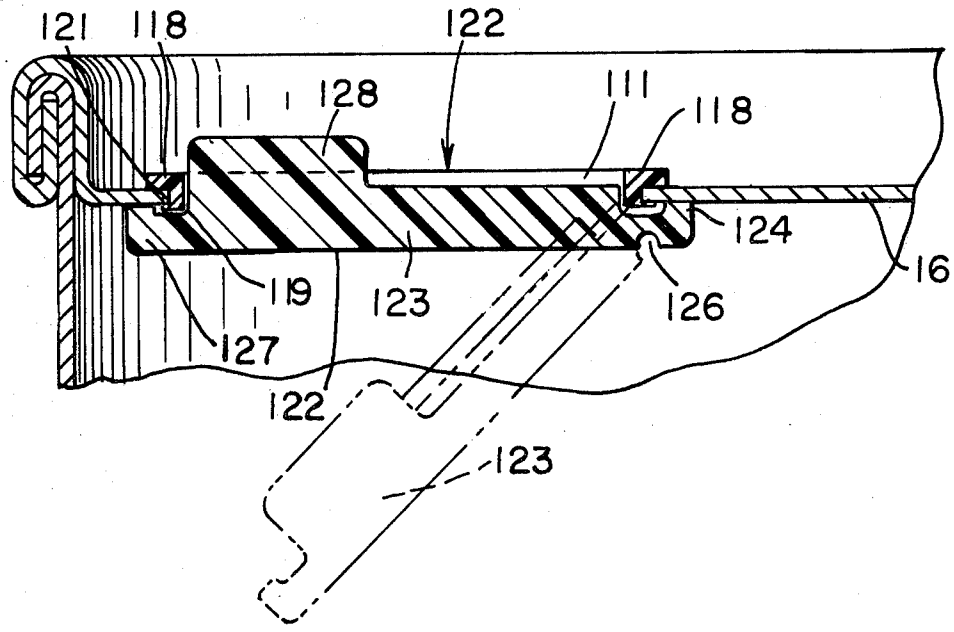
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[57] **ABSTRACT**

An easy opening end closure for a container in which the end closure includes a panel having a pre-cut pour opening. The pour opening is sealed by a plastic closure having a portion permanently bound to the underside of the end. A remaining portion is releasably adhered to the underside so that upon downward pressure on the closure, it is released and hinges about the permanently bonded portion.

2 Claims, 3 Drawing Figures



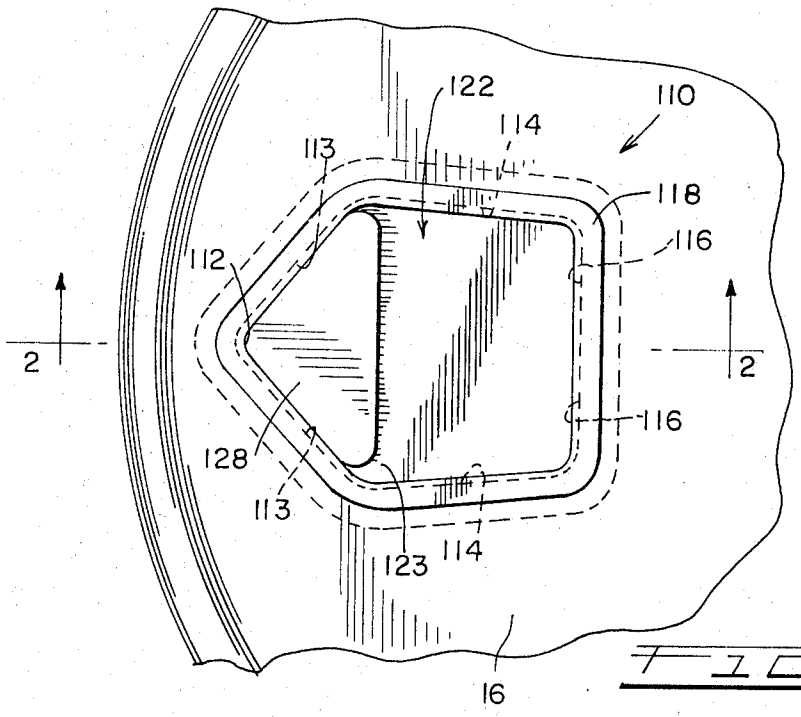
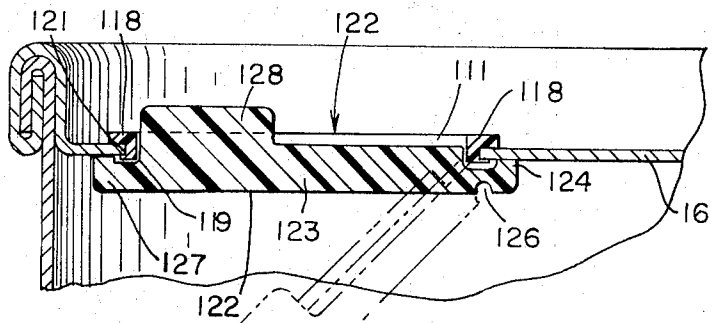


FIG. 1.

FIG. 2.



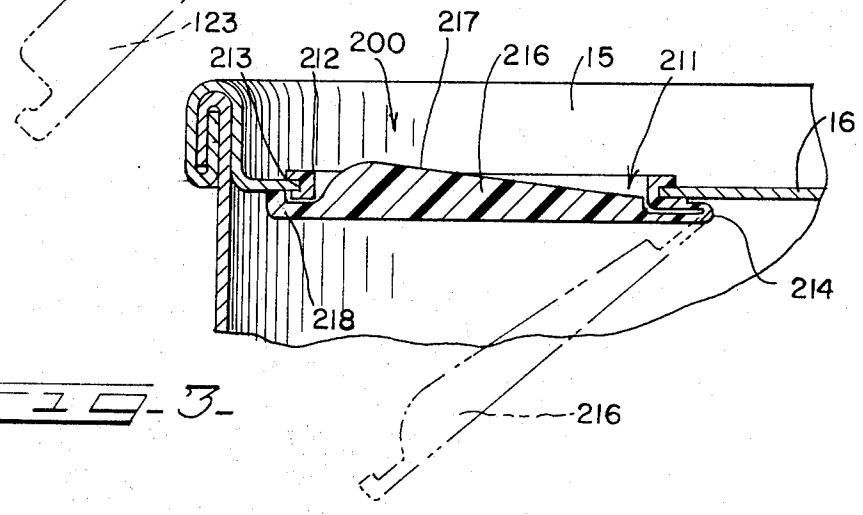


FIG. 3.

PUSH-IN EASY OPENING CONTAINER

BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to easy opening containers and more particularly to an improved easy opening structure having a closure which is opened by the application of inward pressure to depress the closure into the container.

Push-in closures are well known as exemplified by U.S. Pat. Nos. 3,246,791, 3,334,775, and 3,236,409. The structure disclosed in these patents includes a closure member which is formed from a separate piece of material or from the metal end closure itself. These structures also each have a raw cut edge exposed to the product prior to opening or a cut edge exposed after opening.

The raw exposed edge prior to opening should be covered to prevent exposure and reaction with the product. The cut exposed edge after opening is undesirable because it may cause injury to the user of the container, particularly, if the container contents are of the type which may be consumed directly through the opening.

By the present invention, it is proposed to provide an easy opening structure of the push-in type which obviates the difficulties encountered heretofore with regard to cut-edges.

This is accomplished generally by providing the end closure of the container with a pre-cut pour opening. A plastic collar having a depending flange is seated in the opening and bonded to the end closure. The depending flange is in overlying relationship to the cut edge to prevent exposure thereof. A plastic closure member including an attachment ledge and a flap hingedly fastened thereto is bonded to the underside of the end closure to seal the opening. The flap is releasably bonded to the end closure so as to be releasable and hingedly pivoted about the attachment ledge upon application of inward pressure thereon.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an enlarged fragmentary top plan view of another embodiment of the invention.

FIG. 2 is a cross-sectional view taken generally along the lines 2—2 of FIG. 1 showing the closure in the sealed position and in the open position in phantom lines.

FIG. 3 is a fragmentary enlarged cross-sectional view through still another embodiment of easy opening structure.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1 and 2, there is shown another embodiment of an easy opening arrangement **110** in which the panel **16** of the end closure of a container is provided with a pre-cut opening **111** having a pointed outer end **112** at the juncture of two inclined edges **113.** The inclined edges extend from two side edges **114** which may be inclined slightly at the other ends. The other ends of the sides are joined to an inner side edge **116.**

Seated about the edges of the opening and shaped complementary thereto is a collar **118** made from a suitable plastic. The collar **118** includes a downwardly depending flange **119** which is formed with a groove **121.** The groove **121** received the cut edges of the opening **111.**

A closure **122** made from a suitable plastic such as polyethylene, polypropylene or the like of a contour generally similar to the opening **115** is mounted on the underside of the panel **16.** The closure **122** includes a flap **123** and an attachment ledge **124.** The flap **123** is connected to the attachment ledge **124** along a hinge line **126** defined by an area of reduced cross-section.

The flap **123** includes a marginal edge portion **127** bounding the edges **113—113** and **114—114** and which is releasably bonded to the underside of the panel **16** while the attachment ledge **124** is permanently bonded thereto.

A button **128** may be formed on the upper side of the flap **123** to project above the collar **118.** Upon the application of a downward force on the button **128,** the marginal edge portion **127** of the flap **123** releases from the underside of the panel. The flap **123** and the tongue **117** are then free to be hinged or bend to the phantom line position shown in FIG. **2** to permit the contents of the container to be emptied through the opening.

Referring now to FIG. **3,** there is shown a third embodiment of easy opening construction **200.** The easy opening structure includes an opening **211** formed in the panel **16** of the embodiment of FIGS. **1** and **2.** Seated about the edge of the opening **211** is a collar **212** having a groove **213** which receives the cut edge of the opening. A strap **214** hingedly connects a flap **216** thereto. The flap **216** is formed with a raised portion **217** and a marginal edge portion **218** which is releasably bonded to the underside of the panel. Downward pressure on the flap **216** causes the bond to be broken so that the flap **216** hinges at the hinge **214** to the phantom line position. In this position, the pour opening **211** is unobstructed to allow the contents to be emptied.

What is claimed is:

1. An easy opening end closure for a container comprising a metal panel, an opening formed in said panel, a closure made from plastic material underlying said opening and having a closure flap, flexible means providing an attachment band hingedly attached to said flap and permanently bonded to the underside of said panel and marginal edge portions about said flap releasably bonded to the underside of said panel about said opening, and said closure having a relatively inflexible thick button portion at one end and having a relatively thin flexible body portion between the band and button and said button projecting upwardly through the opening above the panel.

2. An easy opening end closure for a container comprising a metal panel, an opening formed in said panel, a closure made from plastic material underlying said opening and having a closure flap, flexible means providing an attachment band hingedly attached to said flap and permanently bonded to the underside of said panel and marginal edge portions about said flap releasably bonded to the underside of said panel about said opening, and a collar made from plastic material bonded about the edge of said opening to cover said edge, and said closure flap having a groove in alignment with said opening nesting a lower edge portion of the collar therein.

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