United States Patent

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[72] Inventor **Nick S. Khoury**
Worth, Ill.

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[73] Assignee **Continental Can Company, Inc.**
New York, N.Y.
a corporation of New York

[54] **EASY OPENING CONTAINER**
1 Claim, 2 Drawing Figs.

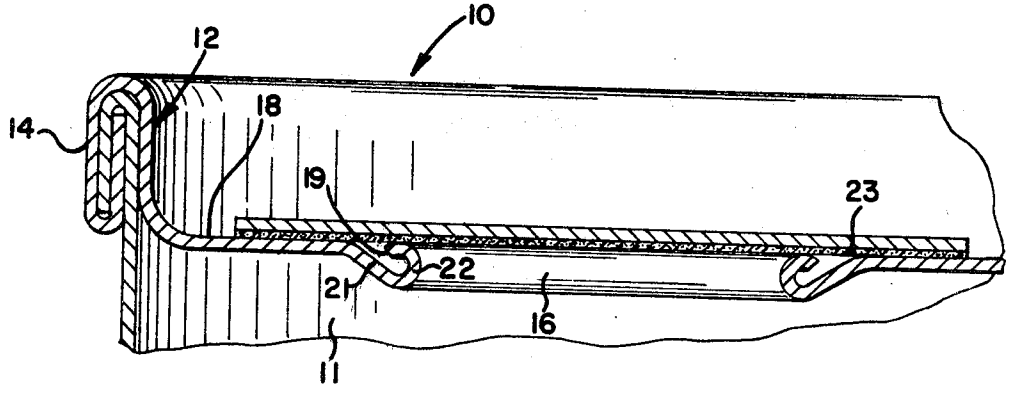
[52] **U.S. Cl.** **220/24,** 220/53
[51] **Int. Cl.** **B65d 37/00,** B65d 41/00, B65d 17/20
[50] **Field of Search** 220/24, 53, 60, 42; 229/51A.5, 5.5

[56] **References Cited**
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Primary Examiner—George F. Hall
Attorneys—Fred P. Kostka, Joseph E. Kerwin and William A. Dittmann

ABSTRACT: The disclosure relates to an easy opening container. The container comprises an end panel formed with an opening bounded by a downwardly inclined marginal edge portion which terminates in an upwardly directed curl. The curl is disposed so that an extension of the plane of the panel surface about said marginal portion is tangential to the outer circumference of the curl. A removable pressure sensitive adhesive tape is adhered to said panel over an opening in tangential contact with the curl.



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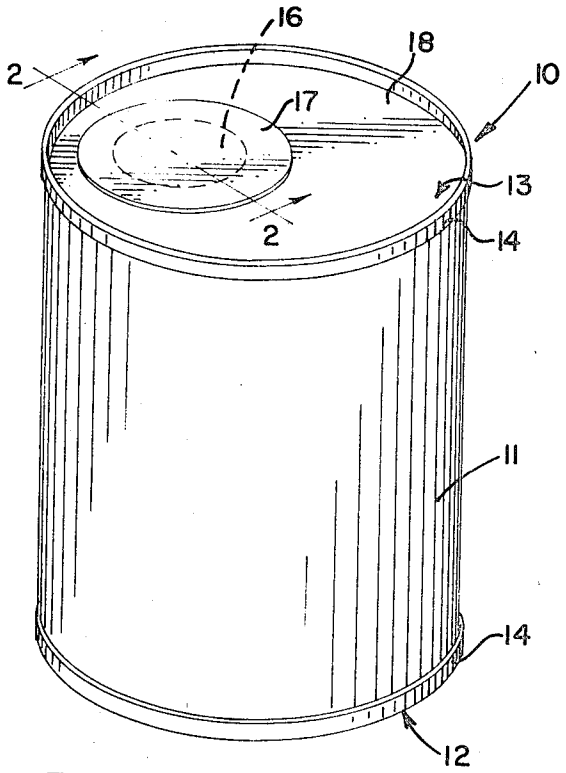


FIG. 1

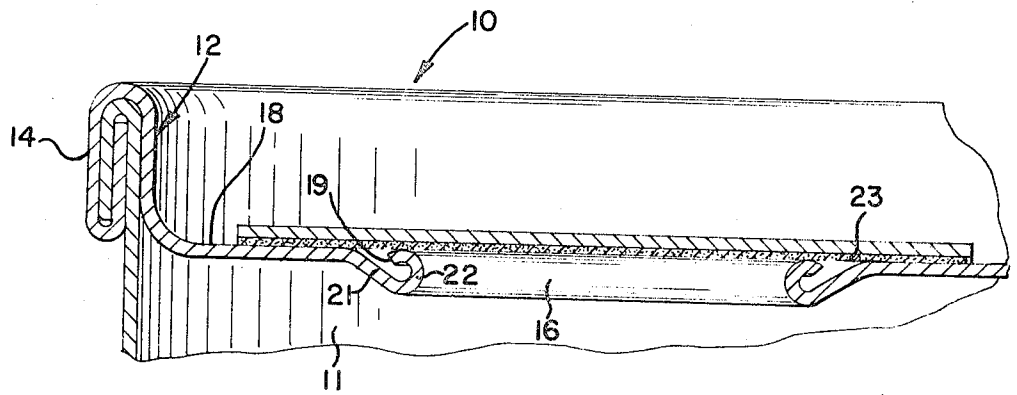


FIG. 2

INVENTOR.
NICK S. KHOURY
BY Fred P. Kotler
ATT'Y.

EASY OPENING CONTAINER

BACKGROUND OF THE INVENTION

The present invention relates to easy opening containers and, more particularly, to an easy opening container of the type having an opening sealed by a pressure sensitive tape.

Heretofore easy opening containers of the type having a pressure sensitive tape covered opening have been constructed so that a raw edge is exposed to the contents of the container when the tape seal is attached thereto and removed. The containers with which the tape seal is used are generally made from a metal which is subject to oxidation such as steel and the like. Such oxidation of the raw edge is objectionable because it may cause a contamination or otherwise affect the taste or appearance of the container contents. To eliminate this objection, it has been standard practice to line the container interior with a nonoxidizing coating or film. However, in the easy opening taped-sealed container the raw edge formed during the punching of the opening exposes a nonlined surface so that oxidation may occur thereon. In order to eliminate the oxidation at the raw edge, it has been necessary to apply a nonoxidizing coating thereon in a separate operation. This operation materially reduces the production rate of the containers and also is costly.

Moreover, the punched opening has been formed so that the raw edge is exposed to the user upon removal of the tape so that frequently injury as by cutting of the fingers may occur. This hazard is particularly prevalent when the container is left in a position where children may have access thereto. As is well known, children are naturally curious and investigate by probing. Should a child probe his fingers in the opening with a raw exposed edge, he may readily cut his fingers.

SUMMARY OF THE INVENTION

By the present invention it is proposed to provide an improved easy opening container having a tape seal covering and an opening which is constructed in a manner so as to obviate the difficulties encountered heretofore.

This is accomplished generally by forming the opening with a marginal edge portion including a downwardly inclined leg and terminating in an upwardly directed curl of which the upper edge extends toward the upper face or surface of the marginal edge portion. The leg and curl are formed so that an extension of the planar surface of the panel about the opening lies tangential to the circumference of the curl.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a container including the easy opening structure embodying the principles of the present invention; and

FIG. 2 is a cross-sectional view taken generally along the lines 2–2 of FIG. 1 and showing in particular the structure of the opening and the tape seal positioned thereover.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawing, there is shown a container 10

including a body 11, a bottom end closure 12 and top end closure 13. The bottom and top end closures 12 and 13 respectively are attached to the body 11 as by double seams 14. Formed in the top end closure 13 is a pour opening 16 which is covered by a tape seal 17.

The top end closure 13 as well as the bottom end closure 12 are made from metal such as steel, aluminum or the like. The interior surface of the end closures may include a lining which may be either a tin plate or a suitable coating for preventing oxidation thereof. As pointed out heretofore, the oxidation of the metal is undesirable because it may contaminate or otherwise affect the taste or appearance of the contents of the container.

The end closure 13 includes a panel 18 in which the opening 16 is formed as by punching or the like. The punching operation causes a raw edge 19 to be formed thereon. The edge 19, of course, is free of any lining or nonoxidizing coating so that metal is exposed to the contents of the container and could cause the detrimental conditions.

By the present invention, after the initial punching of the opening 16, the marginal edge about the opening 16 is formed to provide a downwardly inclined flange 21 from which there extends an upwardly directed curl 22. The downwardly inclined flange 21 and curl 22 are formed so that the extension of the plane of the upper surface of the panel 18 lies substantially tangential with the curl 22. It is to be noted that the raw or free edge 19 is turned downwardly and inwardly out of the plane of the surface of the panel 18 so that a sharp edge is not exposed. In this manner the likelihood of injury as by cutting is minimized. At the same time the curl 22 reinforces the panel 18 about the opening and also permits a free flow of the contents from the container 10.

The sealing tape 17 is sized to overlie the opening and be adhered to the marginal portion bounding the inclined leg 21 of the opening 16. With the curl 22 disposed as previously described, the sealing tape 17 also tangentially engages and is adhered to the curl 22. The tape 17 is preferably made of a resilient, high tensile stress material such as plastic, metal foil-backed paper, plastic film-backed paper or the like. Moreover, the material is air-impervious to prevent contamination of the container contents. The underside of the tape 17 is formed of a thin film 23 of a suitable pressure sensitive adhesive which is pressed against the panel 17 so as to form a seal. The pressure sensitive adhesive is sufficiently low in peel resistance to permit it to be clearly stripped from the panel surface without requiring the use of opening tools of any type.

I claim:

1. An easy opening container comprising a panel, an opening formed in said panel and sealed by a tape having a pressure sensitive face releasably bonded to said panel, said opening being bounded by a flange inclined downwardly out of the plane of said panel and terminating in an upwardly directed curl having the free edge thereof turned downwardly and inwardly to face said inclined flange, said curl being formed so that an extension of the plane lying in the surface of said panel is substantially tangential to said curl whereby said pressure sensitive face of said tape is tangentially adhered to said curl.