

[54] **TAPE SEAL FOR CONTAINER**

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[73] Assignee: **Continental Can Company, Inc., New York, N.Y.**

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[52] U.S. Cl. **220/359; 220/260; 222/485; 222/541; 229/7 R**

[51] Int. Cl.² **B65D 41/00**

[58] Field of Search **220/260, 270, 359; 229/7 R; 222/485, 541**

[56] **References Cited**

UNITED STATES PATENTS

3,292,828	12/1966	Stuart	220/359 X
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Primary Examiner—George T. Hall

Attorney, Agent, or Firm—John J. Kowalik; Joseph E. Kerwin; William A. Dittmann

[57] **ABSTRACT**

A tape seal end closure for closing pour openings in the end panel of a container. The tape is of rectangular configuration applied to a round end panel and to cover all of the openings extends to an area proximate the circular peripheral seaming chuck guide groove in the end panel. The tape is provided with a ring pull which is folded over the tape and forms corners with the body portion of the tape at its lateral edges. These corners, when the body portion is positioned to adequately cover all of the pour openings in the end panel project over and encroach upon the chuck guide groove since the proximate edge of the body portion of the tape extends chordally with respect to the groove. Cutting off these corners develops notches which concentrate failure — promoting stresses causing the tape to tear and thus frustrating opening of the container. The invention solves the problem by providing novel dart folds in these corners which clear the groove and which unfold when the ring pull is lifted thereby developing the full strength of the tape.

10 Claims, 7 Drawing Figures

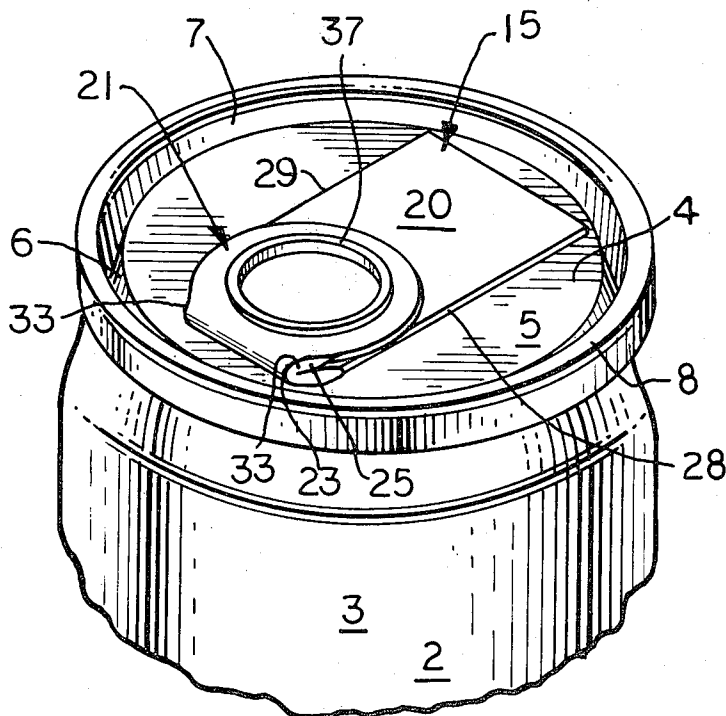


FIG. 1

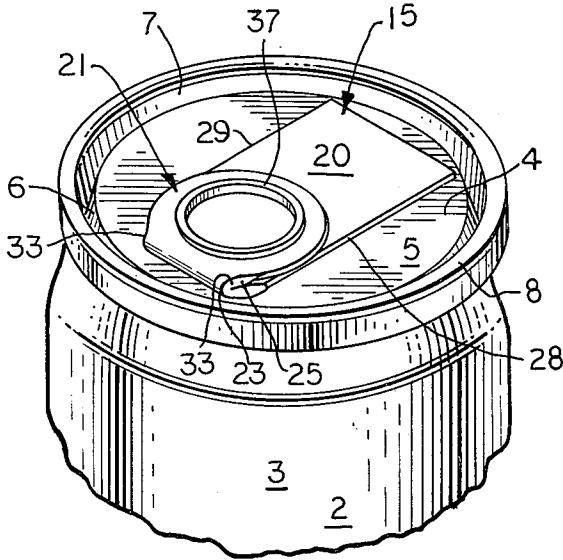


FIG. 2

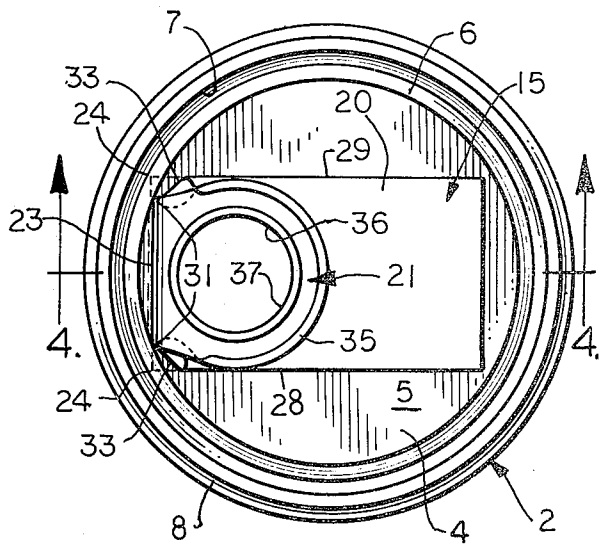


FIG. 5

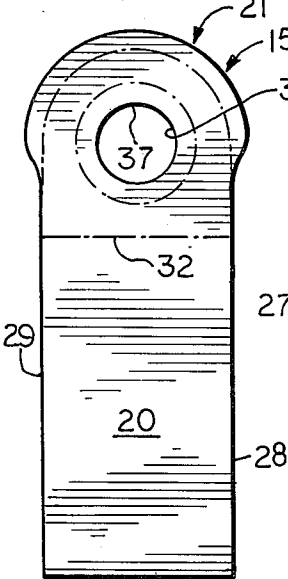


FIG. 6

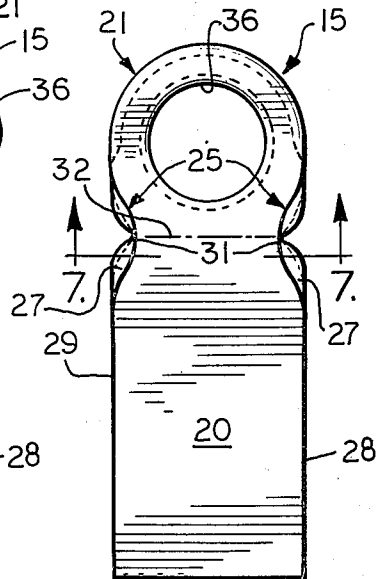


FIG. 3

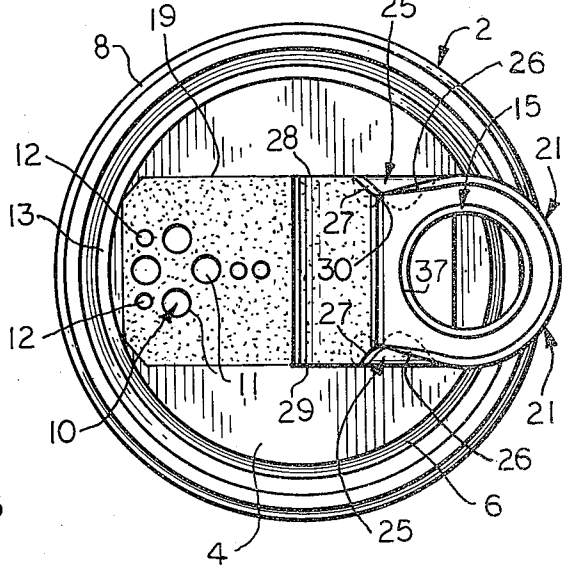


FIG. 7

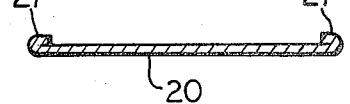
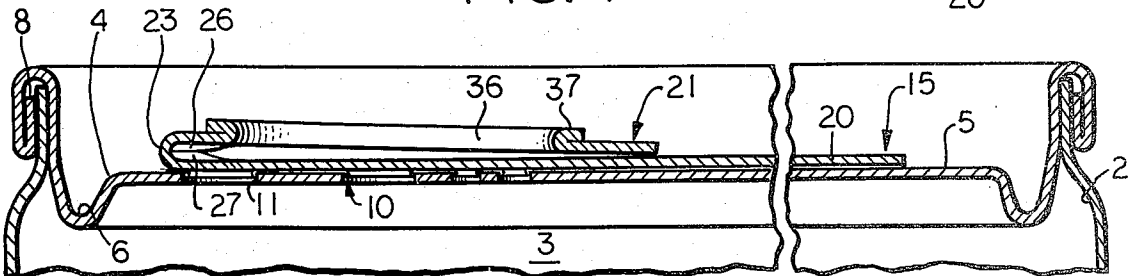


FIG. 4



TAPE SEAL FOR CONTAINER

DISCUSSION OF THE PRIOR ART

In devices utilizing tapes for closing the pour openings, the tape is usually secured by pressure sensitive adhesives. In closing pressured beverages such as beer or soft drinks, pressure sensitive tapes have not been successful and even heat sealed tapes have more or less consistently failed. The problem at least partially resides in having a single opening defining the pour aperture which has to be placed close to the rim or seam of the can thus minimizing the area to which the adhesive is applied and concurrently limiting the area of tape which can be adhered since the tape has to clear the chuck guide groove.

SUMMARY OF THE INVENTION

This invention is directed to a tape seal for the pour opening of a container for pressurized beverages.

A general object of the invention is to provide a novel tape having a rectangular body which is applied diametrically across the top of the round end panel in closing relation to the pour aperture and which has a ring-pull portion at one end folded over the body portion and wherein sufficient surface areas of the end panel and body tape are securely adhered particularly in the location between the edge of the pour opening and the chuck guide groove.

The invention contemplates providing a tape of sufficient width not only to cover the pour aperture comprising multiple selectively arranged holes to minimize pressure on the tape, but also to provide an extensive sealed sanitary area maintained free of contamination and providing a ring pull end portion of adequate size to admit the finger of most users.

A further object is to provide a tape which has a rectangular body with edge hems along its longitudinal edges to increase its tensile as well as tear or shear strength and of adequate width to form a ring pull at one end of the same diametrical dimension as the width of the body, so that the tape may be easily fed through and fabricated in suitable tape making equipment.

The invention comprehends providing a wide rectangular tape which intermediate its lateral edge is secured to the end panel close to the chuck guide by a novel folding of the corners of the tape formed by the juncture of the body and ring pull end portion, the corners being folded away to a nonobstructing position and unfolding during opening of the tab to provide an uninterrupted full width of tape from end to end.

These and other objects and advantages inherent in and encompassed by the invention will become more readily apparent from the specification and drawings, wherein:

FIG. 1 is a top perspective view of the structure incorporating the invention;

FIG. 2 is a top plan view of the structure showing the tab in folded position;

FIG. 3 is a top plan view of the structure showing the tab in unfolded position preparatory to opening of the container;

FIG. 4 is an enlarged cross-section on line 4 of FIG. 2;

FIG. 5 is a top view of a partially formed tape;

FIG. 6 is a top view of a formed tape with the folds between the ring pull end portion and body portion of the tape partially formed; and

FIG. 7 is a cross-sectional view taken substantially on line 7—7 of FIG. 6.

DESCRIPTION OF THE INVENTION

The invention is disclosed in association with a can or container 2 having a cylindrical body 3, an end member 4 including a central flat panel portion 5 circumscribed by an annular chuck guiding groove 6 and a chuck wall 7 which is double seamed at 8 with the upper edge of the can body.

The panel is provided with a pour aperture generally designated 10 including a plurality of geometrically arranged openings 11, 12 which extend from the peripheral edge 13 of the panel 5 inwardly.

A tape 15 of a metal foil and plastic such as polypropylene is used as a closure for the openings. The specific details of such closure are disclosed in U.S. application Ser. No. 507,036 filed in the same names of Joseph Kerwin et al., on Sept. 18, 1974 and the disclosure therein is herein incorporated by reference.

Suffice it to say that the tape is secured by an adhesive to the can top 17 as in the aforesaid application for patent.

The tape herein shown is of a laminate metal foil and plastic and of substantial width and covers the area designated 19 (FIG. 3) on the can top. The tape comprises a rectangular body portion 20 and at one end has an integral finger-grip portion 21 which is folded over the body portion in a fold bend juncture 23 transverse to the longitudinal extent of the tab.

As best seen in FIG. 2 the ends of the bend juncture 23 form right angle corner portions 24, 24 shown (shown in phantom lines in FIG. 2) which would normally project over and encroach upon the chuck guide groove.

A feature of the present invention is the provision of dart folds 25, 25 tucking in the corner portions 24, 24 between the pull ring portion and the body portion of the tab.

Each dart fold has upper and lower triangular dart sections 26, 27 which converge inwardly from the respective lateral edges 28, 29 of the tape and these sections 26, 27 have a fold juncture 30 which merges into an apical point 31 which coincides with the bend line 32 of the juncture 23. It will be noted that the corners 24, 24 at the bend line are folded so that the outer edges clear the guide groove and at these outer edges 33 are preferably 45° to the bend line and adjacent lateral edge of the body of the tape. This angle, however, is not critical and may be of any magnitude which will clear the groove.

It will be observed from FIG. 3 that upon the ring pull portion being lifted the dart folds will unfold and the full width of the tape connects the ring panel portion with the body portion.

The ring pull portion has a circular hem edge 35 and a center finger-admitting opening 36 which also has a hem edge 37.

I claim:

1. A closure for a container end member having a center panel portion and a peripheral chuck wall and a chuck-receiving annular groove in the panel adjacent the chuck wall and having pour opening means disposed in close proximity to said groove;
2. a tape of rectangular shape having a body portion and a finger-grip lift portion folded over the body portion and forming a fold edge at one end of the

body portion and corners therewith at the lateral edges thereof;
 means removably connecting said body portion to said center panel portion in a position disposing said folded edge proximate to said chuck wall chordally with respect to said groove and locating said corners in overlapping relation to the groove, said corners being folded inwardly from said lateral edges to clear said groove.

2. The invention according to claim 1 and said corners being formed as folds disposed between said body and finger-grip portions.

3. The invention according to claim 2 and said folds being in the form of darts.

4. The invention according to claim 3 and said folds having a pair of opposing triangular shaped sections joined in fold edges displaced inwardly from said lateral edges.

5. The invention according to claim 4 and said folds terminating in apical points coincident with said fold edge defined between the body portion and said finger-

grip portion.

6. A tape closure for a pour opening of a container comprising a rectangular body portion and a folded over end portion forming corners therewith at the lateral edges of the tape, said corners being folded inwardly of respective lateral edges and tucked in between said body portion and end portion.

7. The invention according to claim 6 and said corners including sections of both portions of the tape forming opposed fold plies.

8. The invention according to claim 7 and said fold plies being of triangular shape.

9. The invention according to claim 8 and said body and end portions forming a fold edge transverse to the lateral edges and said plies forming edges diagonally subtending the fold edge and respective lateral edges.

10. The invention according to claim 9 and said edges of the plies disposed at approximately 45° to said fold edge and respective lateral edge.

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