United States Patent [19]

Burdick

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[45] **June 26, 1973**

[54] **CONTAINER WITH SNAP-OPEN COVER**

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[22] Filed: **Apr. 1, 1971**

[21] Appl. No.: **130,267**

[52] **U.S. Cl.** ..... **220/43 P**
[51] **Int. Cl.** **B65d 43/04**
[58] **Field of Search** ..... 220/43 P, 43 R, 47

[56] **References Cited**

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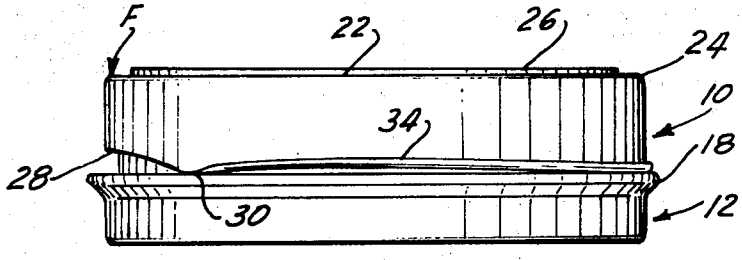
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[57] **ABSTRACT**

A container having a snap-open cover in which the cover is provided with a skirt having a single acruate cut-away portion, curled edge for strengthening and improved fulcrum zones joining the cut-away portion and curled edge which cooperates with a flattened peripheral ledge on the container bottom to facilitate opening in a snap action.

2 Claims, 12 Drawing Figures



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SHEET 1 OF 2

FIG. 1

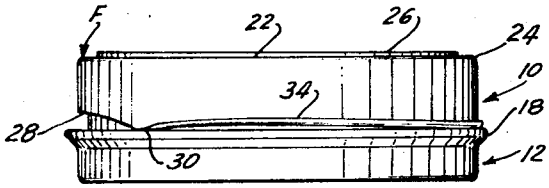


FIG. 2

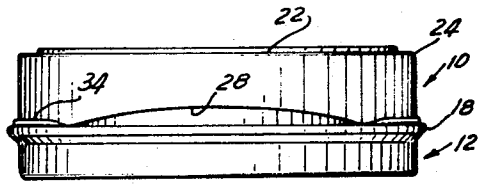


FIG. 5

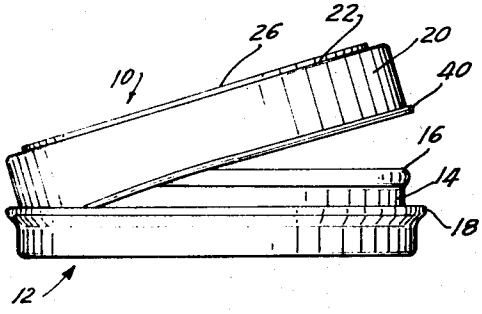
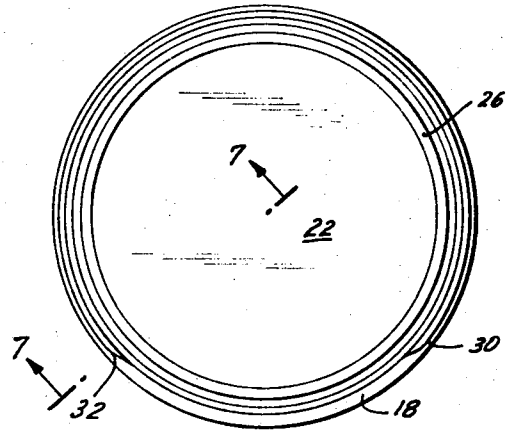


FIG. 3



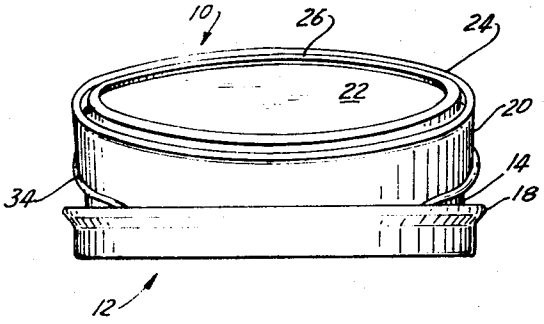


FIG. 6

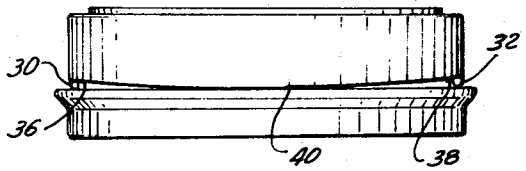


FIG. 4

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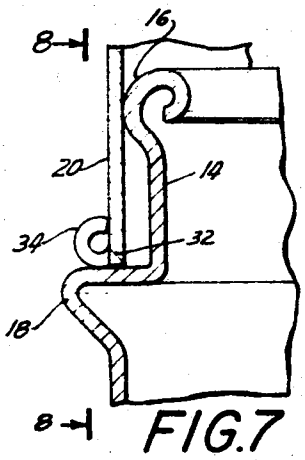


FIG.7

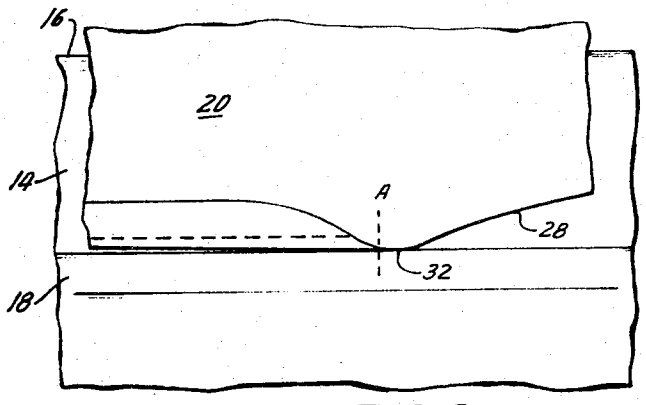


FIG.8

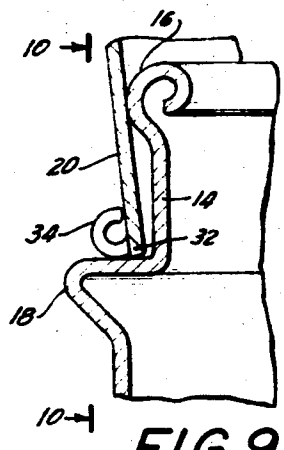


FIG.9

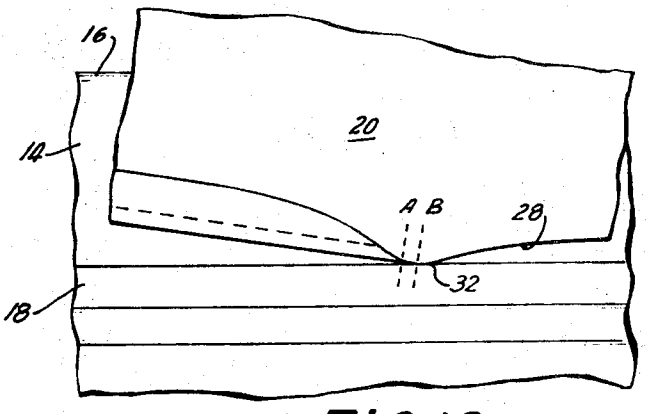


FIG.10

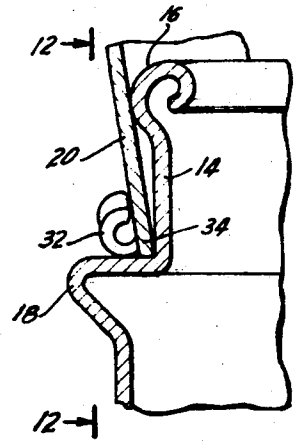


FIG.11

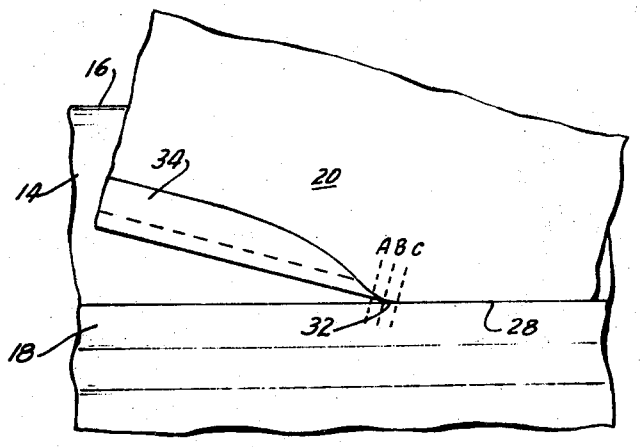


FIG.12

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CONTAINER WITH SNAP-OPEN COVER

BACKGROUND OF THE INVENTION

This invention relates generally to containers wherein are packaged, for the most part, semi-solid materials containing volatiles, such as shoe polishes, waxes, ointments, creams, paints and the like. The invention is described herein in terms of a container for packaging shoe polishes for simplicity of description, however, it is recognized that the particular description is by way of illustration only and the container described herein can be used for packaging any product which could normally be contained within a metallic container.

Containers of this type and for the particular uses intended must be designed to maintain a substantially airtight fit between the cover and the bottom portion. The cover and bottom are formed of resilient material and the cover is generally provided with a depending skirt portion which maintains an airtight engagement with the wall of the bottom. For opening in a snap-open action the cover skirt is in the prior art provided with an arcuate cut-away portion whereby downward pressure on the cover directly over the cut-away portion effects a rocking of the cover about fulcrum points and the extremities of the cut-away portion causing the cover skirt opposite the cut-away portion to rise off the bottom side wall.

Examples of such containers are found in U.S. Pat. No. 3,130,857 and U.S. Pat. No. 3,327,890. In the U.S. Pat. No. 3,130,857 two cut-out portions are provided. One is provided in the zone of the cover whereat pressure for opening is applied while the remaining cut-out portion is provided opposite the first cut-out portion to relieve or release the cover skirt from sealing engagement with the container bottom portion when the opening force is applied. In U.S. Pat. No. 3,327,890 there is provided a curl for strengthening the skirt of the cover in the zones whereat the cut-out portions are not present.

The provision of two cut-away portions, as taught in the first of these patents, limits the effectiveness of the teaching of the second patent, namely strengthening through curling. Also, whenever uncurled cover edges are present there is scratching and scraping of adjacent covers or lids during storage, shipping and in the hopper. In addition, the necessity of providing in fabrication the two cut-out portions presents increased problems.

It has been found that by improving the fulcrum action an improved and more economical container can be provided with a single cut-away portion while providing the same effective sealing ability of the container.

SUMMARY OF THE INVENTION

A container for use in containing semi-solid material having a cover portion and a bottom portion with the bottom portion including a circular bottom, an upwardly extending side wall, a top beaded edge of the side wall and an outwardly formed flattened peripheral ledge intermediate the side wall and the cover portion including a top surface, a downwardly extending resilient skirt joined to the top surface at the periphery thereof, an arcuate cut-away portion of the skirt, a curled portion of the skirt formed with bending resistant curled edges, and the cut-away portion and the curled portion joined by depending fulcrum zones, the skirt sealingly embracing the beaded edge with each of the fulcrum zones and a contact zone of said curled portion opposite the cut-away portion contacting the flattened ledge, whereby downward pressure on the cover above the cut-away portion will unseat the cover as the fulcrum zones are pivoted on the ledge and the contact zone is disengaged of the bead.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawing:

FIG. **1** is a side elevation of a container constructed in accordance with the teachings of the invention;

FIG. **2** is a front elevation of the container shown in FIG. **1** illustrating the arcuate cut-away portion of the skirt of the cover;

FIG. **3** is a top plan view of the container;

FIG. **4** is a rear elevation of the container illustrating the contact zone of the skirt of the cover;

FIG. **5** is a side elevation similar to the view of FIG. **1** with the cover pivoted to the opening position;

FIG. **6** is a front elevation view similar to the view of FIG. **2** but with the cover pivoted to the opening position as in FIG. **5**;

FIG. **7** is a fragmentary elevation taken along the line **7—7** in the direction of the arrows in FIG. **3** illustrating a fulcrum zone of the cover contacting the flattened ledge of the bottom when the cover is in the closed position;

FIG. **8** is a sectional view taken along the line **8—8** in the direction of the arrows in FIG. **7**;

FIG. **9** is a fragmentary elevation similar to that of FIG. **7** but illustrating a fulcrum zone when the cover is in an intermediate position between closed and open positions;

FIG. **10** is a sectional view taken along the line **10—10** in the direction of the arrows in FIG. **9**;

FIG. **11** is a fragmentary elevation similar to FIGS. **7** and **9** but illustrating a fulcrum zone when the cover is in the position of opening; and

FIG. **12** is a sectional view taken along the line **12—12** in the direction of the arrows in FIG. **11**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the drawings there is shown a container which has been constructed in accordance with the teachings of this invention for use in containing semi-solid materials such as shoe polish or the like. The container comprises a cover portion **10** and bottom portion **12**.

The bottom portion has an upwardly extending side wall **14** which is provided with a top peripheral edge **16** herein shown as having an outwardly expanded, rolled over, beaded edge around which the proper seal is effected by engagement with the cover portion as described below. An outwardly directed flattened peripheral ledge **18** is formed in said side wall **14** intermediate thereof.

The cover portion **10** is provided with a downwardly directed circular skirt **20** which is joined to the top surface **22** of the cover by a strengthening knuckle **24** as is common in the art. A stacking ridge which is also known in the art is shown and indicated by the numeral **26**.

The skirt is provided with an arcuate cut-away portion **28** which extends over a distance of the skirt which is not more than half the circumference thereof. The

remainder of the skirt, with the exception of fulcrum zones **30** and **32**, is provided with a strengthening curl **34**. The uncurled fulcrum zones join the curled portion of the skirt with the cut-away portion which is not curled, and the fulcrum zones depend or project slightly below the curled portion.

In the embodiment disclosed herein which is the preferred embodiment, the cut-away portion extends over a distance considerably less than one-half the circumference of the skirt. In FIGS. **1, 2, 3, 4, 7** and **8** the cover is shown in the closed position with fulcrum zones **30** and **32** abutting the upper surface of flattened ledge **18**. Since the fulcrum zones project slightly below the curled portion, a small space exists between the upper surface of ledge **18** and curl **34** adjacent each of the fulcrum zones **30** and **32** in the closed position of the cover. These slight spaces which are somewhat exaggerated in the Figs. are indicated by the numerals **36** and **38**. A zone of curl **34** directly opposite cut-away portion **28** is indicated by the numeral **40** and identified herein as the contact zone of the curled portion of the skirt since in the closed position zone **40** is normally abutting the upper surface of flattened ledge **18**.

In the closed position of the cover the skirt completely overlies and sealingly embraces the beaded edge **16** of the bottom portion of the container providing the desired seal.

The cover is shown in a position identified herein as the open position in FIGS. **5, 6, 11** and **12** and is shown in FIGS. **9** and **10** in a position intermediate between the closed and open positions.

When it is desired to open the container, a force is applied to the cover above cut-away portion **28** as illustrated by the arrow F in FIG. **1** causing the depending fulcrum zones to roll on the upper surface of ledge **18** as illustrated by the broken lines labeled A, B and C in FIGS. **8, 10** and **12**, and the pivoting of the cover about these points of contact. The contact zone **40** is raised and passes over the bead **16** as the cover moves from the closed position through the intermediate position to the open position.

FIG. **7** is a section taken on FIG. **3** at the fulcrum zone **32**. FIGS. **9** and **11** are views similar to FIG. **7** with FIG. **11** being the open position of the cover and FIG. **9** being an intermediate position. Since the arcuate cut-away portion occupies a part or section of the circumference of the skirt which is less than one-half the circumference. The changing of the contact point of the fulcrum and the upper surface of ledge **18**, as illustrated in FIGS. **8, 10** and **12**, gives the appearance in section of the fulcrum zone moving closer to the wall **14** of the bottom portion.

It is seen, therefore, that the cover can be readily moved from the closed to the open position by pivoting on the fulcrum zones and that in the closed position of the cover the fulcrum zones and the contact zone **40** provide a firm seating of the cover with these zones abutting the upper surface of ledge **18**.

I claim:

1. In a container of the character described, adapted for use in containing semi-solid material such as shoe polish and the like, having a cover portion and a bottom portion: said bottom portion including a circular bottom, an upwardly extending side wall, a top beaded edge of said side wall, and an outwardly formed flattened peripheral ledge intermediate said side wall; said cover portion including a top surface, a downwardly extending resilient skirt joined to said top surface at the periphery thereof, a single arcuate cut-away portion of said skirt, a curled portion of said skirt formed with bending resistant curled edges, uncurled fulcrum zones joining said cut-away portion and said curled portion and depending below said curled portion, said skirt sealingly embracing said beaded edge with each of said fulcrum zones and a contact zone of said curled portion opposite said cut-away portion abutting said flattened ledge in the closed position of said cover, said depending fulcrum zones providing spaces between the upper surface of said ledge and said curled portion respectively adjacent each of said fulcrum zones in the closed position of said cover, whereby downward pressure on said cover above said cut-away portion will unseat said cover as said fulcrum zones are pivoted on said ledge and said contact zone is disengaged of said bead.

2. A cover for a container adapted for use in containing semi-solid material such as shoe polish and the like, said cover to cooperate with a bottom portion including a circular bottom, an upwardly extending side wall, a top beaded edge of said side wall, and an outwardly formed flattened peripheral ledge intermediate said side wall; said cover portion including a top surface, a downwardly extending resilient skirt joined to said top surface at the periphery thereof, a single arcuate cut-away portion of said skirt, a curled portion of said skirt formed with bending resistant curled edges, uncurled fulcrum zones joining said cut-away portion and said curled portion and depending below said curled portion, said skirt sealingly embracing said beaded edge with each of said fulcrum zones and a contact zone of said curled portion opposite said cut-away portion abutting said flattened ledge in the closed position of said cover, said depending fulcrum zones providing spaces between the upper surface of said ledge and said curled portion respectively adjacent each of said fulcrum zones in the closed position of said cover, whereby downward pressure on said cover above said cut-away portion will unseat said cover as said fulcrum zones are pivoted on said ledge and said contact zone is disengaged of said bead, and said cut-away portion extending over a distance of said skirt which is less than one-half the circumference of the skirt presenting a curled edge over the major portion thereof reducing scraping of adjacent covers during storage, shipping and in the hopper.

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