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Hawk

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[54] **SELF-HINGING COVER FOR CONTAINER**

[75] Inventor: **Bob R. Hawk,** Crowley, Tex.

[73] Assignee: **Loma Corp.,** Fort Worth, Tex.

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[52] **U.S. Cl.** ..... **220/338,** 220/1 T

[51] **Int. Cl.**..... **B65d 43/15,** B65d 51/10

[58] **Field of Search**..... 220/31 S, 31 R, 30, 55 E, 220/55 G, 1 T

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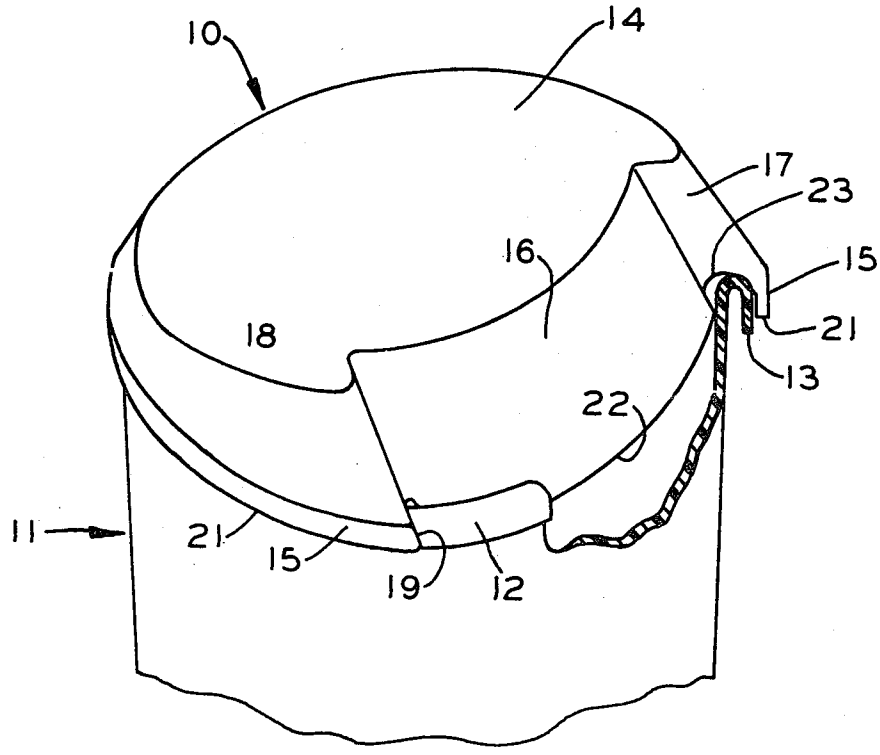
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Primary Examiner—William I. Price
Assistant Examiner—Joseph Man-Fu Moy
Attorney, Agent, or Firm—Mahoney, Miller & Stebens

[57] **ABSTRACT**

A cover for a container is provided having an edge construction that interconnects with the upper rim of the container for relative hinged movement. The cover is formed with a peripheral flange having a first portion which overlies and extends outwardly of the outer periphery of the container rim and a second portion which is spaced inwardly of the first portion. Both of the flange portions are of a depth such that, when the cover is positioned on a container, the flanges extend from a point above the container rim to a point below the container rim. Interconnecting the flange portions are spaced apart walls each having a notch formed therein and engageable with the container rim to permit pivotal support of the cover relative to the container.

8 Claims, 5 Drawing Figures



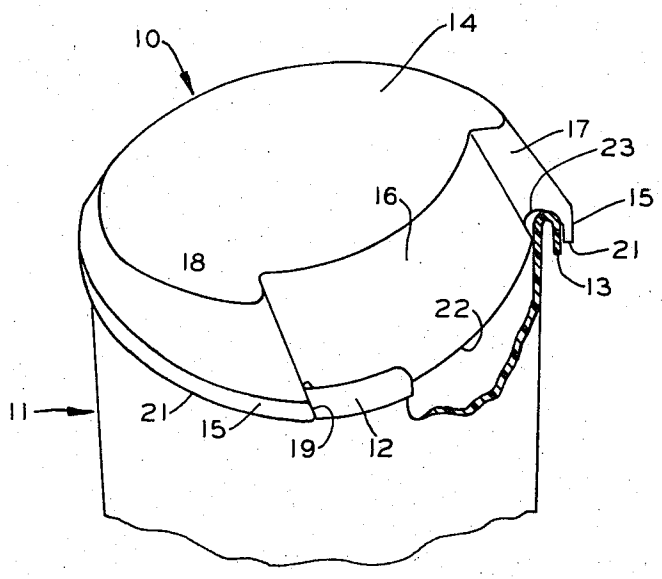


FIG. 1

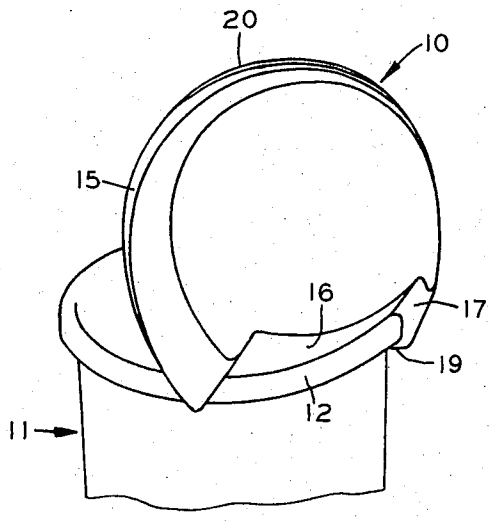


FIG. 2

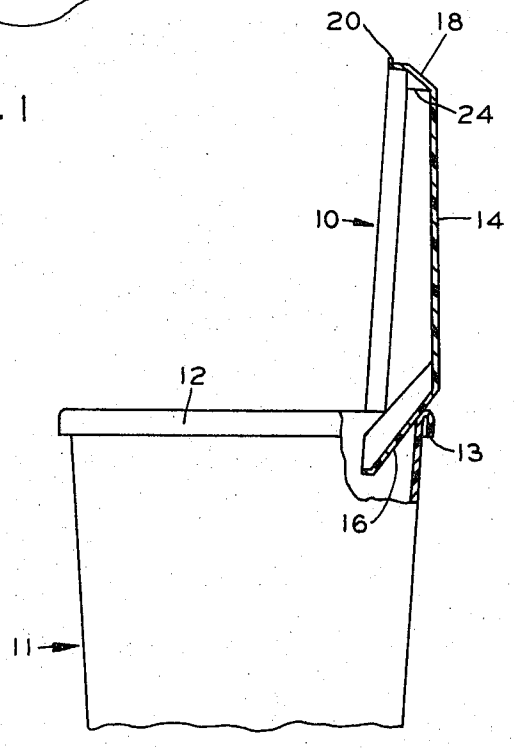


FIG. 3

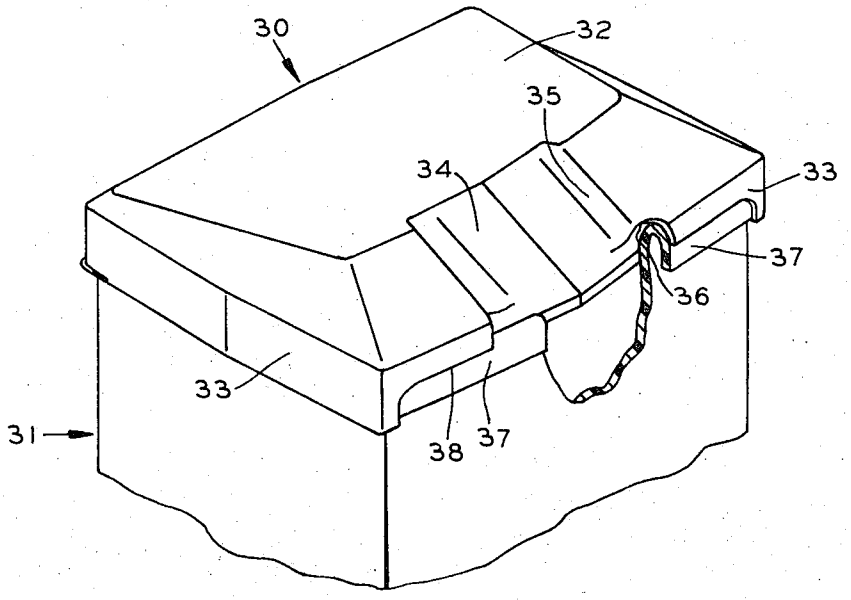


FIG. 4

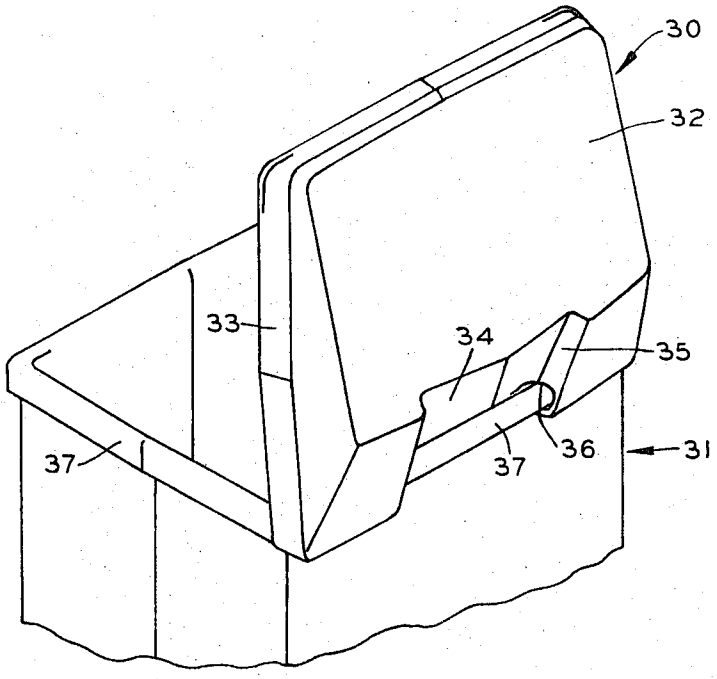


FIG. 5

SELF-HINGING COVER FOR CONTAINER

BACKGROUND AND SUMMARY OF THE INVENTION

In accordance with prior art practice, containers designed for refuse or trash collection, as in home kitchens, are preferably provided with a cover. The cover not only enhances sanitation practices but greatly improves appearance through concealment of refuse. Containers and covers of the prior art are usually fixedly interconnected by hinge mechanisms or utilize a two-part cover having one part fixedly hinged on a supporting ring that is readily removable from the container.

These prior art structures have not proven fully satisfactory in that fixed hinge mechanisms are relatively costly to fabricate. This is particularly true in the case of plastic material containers generally formed by molding operations. A disadvantage of the fixed hinge mechanisms with respect to the plastic material containers is that the hinge members of molded plastic are very susceptible to breakage and, when broken, are generally non-repairable thereby substantially reducing the usefulness of the container provided with a cover of this type.

A self-hinging cover is provided by this invention which is particularly advantageous to plastic container and cover constructions. As suggested by its title, this cover does not require a hinge mechanism that fixedly interconnects the cover in hinged relationship to the container. The cover of this invention is formed with a hinging structure that detachably engages the upper peripheral rim of a container but maintains the cover in association with the container throughout hinged movement of the cover between closed and open positions. This self-hinging structure is readily molded into the cover thereby substantially reducing the manufacturing or fabricating costs. Also, the self-hinging aspect eliminates the disadvantage of prior art devices that are susceptible to breakage since the structure of this invention does not have a hinge mechanism that can be broken.

These and other objects and advantages of this invention will be readily apparent from the following detailed description of an embodiment thereof and the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a fragmentary perspective view of a container provided with a cover embodying this invention with the cover in closed relationship to the container.

FIG. **2** is a fragmentary perspective view similar to FIG. **1** but on a smaller scale with the cover in open relationship to the container.

FIG. **3** is a vertical sectional view of the cover disposed in open relationship to the container.

FIG. **4** is a fragmentary perspective view of a modified cover.

FIG. **5** is a fragmentary perspective view of the modified cover, pivoted to an open position.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

Having reference to the drawings, a cover **10** embodying this invention is shown positioned on a container **11.** In FIG. **1,** the cover is disposed in closing relationship to the open top of the container while FIGS. **2** and **3** show the cover pivoted to an open position. The illustrated container **11** is of a cylindrical configuration having an upper peripheral rim defining the open top. As illustrated, this rim **12** is integrally formed with the container sidewall and comprises an outwardly and downwardly turned lip terminating in a circumferential edge **13.** The illustrated embodiment, both container and cover, is fabricated from a thermosetting synthetic resin material by a suitable molding operation although it is to be understood that other materials may be utilized in appropriate fabricating operations in producing embodiments of this invention.

The cover **10** of the illustrative embodiment of this invention comprises a cover plate **14,** first and second flanges, **15** and **16,** and a pair of hinge flanges **17.** A central section of the cover plate **14** is of generally circular, planar configuration with an outwardly divergent, depending sidewall **18** extending around a portion of the central planar section. The cover plate **14** inclusive of the sidewall **18** is substantially coextensive with the container's open top and overlies a substantial portion of the rim **12.**

Formed with the cover plate **14** is the first flange **15** which is appended to the lower edge of the sidewall **18.** Thus appended, the flange **15** projects vertically downward around the peripheral rim **12** adjacent the exterior vertical surface thereof. When the cover plate **14** is disposed in closing relationship to the container **11** as shown in FIG. **1,** flange **15** not only prevents lateral displacement of the cover relative to the container but more completely effects a sealing of the container top. The flange **15** is discontinuous in that it does not extend entirely around the periphery of the cover plate **14** and has terminal ends **19** spaced a distance apart thereby defining an opening. The sidewall **18** is also discontinuous in the same region and terminates at the terminal ends **19** of the flange **15.** A horizontal, outwardly projecting lip **20** is formed at the front portions of the lower edge **21** of flange **15** thereby providing a finger lift facilitating lifting and pivoting of the cover.

The second flange **16** is formed with the central planar section of the cover plate **14** and is disposed in relatively inwardly spaced relationship to the first flange **15.** Being formed with this planar section, flange **16** extends through the opening defined by the first flange **15** and the sidewall **18.** Flange **16** also extends downwardly terminating in a lower edge **22** that is at about the same elevation as the lower edge **21** of flange **15** but is spaced relatively inward and projects into the interior of the container **11.** Preferably, flange **16** is outwardly inclined at substantially the same angle as the cover plate sidewall **18** which places its lower edge **22** conterminous with the interior surface of the container **11** thereby cooperating with the cover plate **14** in effectively completely closing the open top of the container.

Each hinge flange **17** is integrally formed with the flanges **15** and **16** at respective ends of the opening defined by the terminal ends **19** of flange **15.** In addition, each flange is integrally formed with respective portions of the cover plate sidewall **18** and cooperates therewith in forming a complete cover surface with respect to the container. A downwardly opening, hinge notch **23** is formed in the lower marginal edge portion of each hinge flange **17** and is configured to receive the container's peripheral rim **12** with the upper edge portion of the notch being arcuately curved to facilitate

relative pivotal movement of the cover on the container.

The hinge notches **23** engage the container rim **12** at relatively spaced points and support the cover **10** on the container at the hinge side. Vertical support of the cover at the front at the desired elevation is effected by a pair of ribs formed on the interior of the cover in spaced relationship at either side of the front center. One of these ribs **24** is shown in FIG. **3** and is seen to have a bottom edge which is engageable with the uppermost surface of the container rim **12.**

A cover **10** embodying this invention is readily assembled with a container **11** as the cover is simply placed vertically downward onto the container rim **12.** The hinge notches **23** receive the rim **12** with the upper arcuate edge in engagement therewith while the support ribs **24** engage the rim at the front of the container.

Displacement of the cover **10** to an open position relative to the container **11** as shown in FIGS. **2** and **3** merely requires lifting of the cover at the front. Lifting of the cover in this manner results in pivoting of the hinge notches **23** on the rim **12.** As the cover reaches an upstanding position as shown in FIG. **2,** the terminal ends **19** of the first flange **15** extend under the rim edge **13** while the inclined surface of the second flange **16** engages the rim **12** intermediate the hinge plates **17.** Interengagement of the flange **15** with the rim **12** limits further pivotal movement of the cover and the structure is designed to result in such interengagement when the cover is disposed with its center of gravity rearwardly of the support points to maintain the cover upright. The vertical support points for the cover in the open position are the hinge notches **23.** Lateral displacement is prevented by engagement of the flange **16** with the container rim **12.** When the cover is pivoted into closing relationship to the container, the first flange **15** prevents lateral displacement of the cover thereby maintaining the cover in its proper position. The spacing of the terminal ends **19** of the first flange **15** is of a length that the end portions of flange **15** will clear the exterior side wall of the container **11** until engaged with the container rim.

A modification of this invention is disclosed in FIGS. **4** and **5** which illustrate a rectangular cover **30.** This rectangular cover is self-hinging, as is the previously described and illustrated circular cover, and operates in the same manner although adapted to a container **31** of rectangular configuration. As such, this cover comprises a cover plate **32,** first and second flanges **33, 34** and hinge plates **35.** The first flange **33** is discontinuous along one side providing an open space through which the second flange **34** extends but in relatively inwardly spaced relationship.

The hinge plates **35** are integrally formed with the flanges **33** and **34** and are formed at the lower end with hinge notches **36.** These hinge notches **36** open downwardly and engage an upper peripheral rim **37** of the container with this rim also having an outwardly and downwardly turned lip.

Each of the marginal end portions of the first flange **33** are cut out to form notches **38.** These notches **38** extend to substantially the adjacent side wall of the container **31** to permit the flange to pass by the container wall during pivotal movement of the cover to an open position.

Operation of the modified cover **30** is substantially the same as the circular cover. Lifting the cover upwardly at the front pivots the cover on the hinge notches **38** until the cover reaches a substantially upright position as shown in FIG. **5.** In this upright position, the flange **15** will have engaged the container rim **37** at the side of the container with the center of gravity rearwardly of the hinge notches **38** which provide vertical support. The inclined surface of the second flange **34** also engages the container rim **37** to prevent lateral displacement of the cover rearwardly of the container while the first flange **33** prevents lateral displacement of the cover to either side of the container.

It will be readily apparent from the foregoing detailed description of two embodiments of this invention that a novel self-hinging cover has been provided for a container. The covers embodying this invention include a self-hinging structure that is readily engageable with a container rim by merely positioning the cover on the container in closing relationship to the open top thereof. The hinge structure engages the container rim permitting pivoting of the cover to an upright open position on the container where the center of gravity of the cover maintains the cover in this upright position. This hinge structure is economically molded into a cover and is not susceptible to breakage such as would destroy its usefulness. Having thus described this invention, what is claimed is:

1. A self-hinging cover for an open-topped container with a peripheral rim defining the open top and which cover comprises:

a cover plate that is substantially coextensive with the open top of the container when positioned in closing relationship thereto and includes bottom surface portions engageable with the container's peripheral rim in supporting the cover on the container,

a first flange formed with said cover plate and extending a distance laterally therefrom in appending relationship to project downwardly around the exterior of the container's peripheral rim, said first flange having terminal ends spaced apart defining an opening in said flange,

a second flange formed with said cover plate and extending a distance laterally therefrom in appending relationship and relatively inward of said first flange to project downwardly into the interior of the container, said second flange being coextensive with the opening defined by the terminal ends of said first flange and angled outwardly toward said first flange, and

a pair of hinge flanges formed with said cover plate and extending between said first and second flanges at respective terminal ends of said first flange, each of said hinge flanges having a downwardly opening hinge-notch formed therein to pivotally engage the container's peripheral rim.

2. A self-hinging cover according to claim **1** wherein said first flange is of a depth to extend under the container rim when the cover is pivoted to an upright position.

3. A self-hinging cover according to claim **2** wherein said first flange has the terminal ends thereof spaced apart a distance to permit passage of said flange by the sidewall of the container into engagement with the container rim.

4. A self-hinging cover according to claim 1 wherein the cover is of a configuration having the center of gravity thereof disposed relatively laterally to the point of contact of said hinge notches with the container rim when the cover is pivoted to an upright position whereby the cover is maintained in an upright position.

5. A self-hinging cover according to claim 1 of circular configuration in plan.

6. A self-hinging cover according to claim 1 of rectangular configuration in plan.

7. A self-hinging cover according to claim 6 wherein said first flange has both terminal ends formed along one side of the cover in inwardly spaced relationship to each respective adjacent side of the cover, and each said first flange has a notch formed therein extending from the respective terminal end to a point where the remainder of said flange can pass by the wall of the container.

8. A self-hinging cover according to claim 1 in combination with a container having a peripheral rim defining an open top formed with a container wall, said rim having a downwardly extending lip disposed outwardly of said container wall and terminating in an edge, said first flange of the cover engageable with said rim edge when the cover is disposed in upstanding relationship to the container.

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