May 9, 1950 E. C. WEBB 2,506,820

CLOSURE STRUCTURE

Filed Sept. 17, 1946

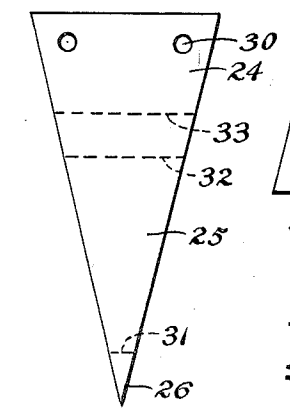


Fig. 3.

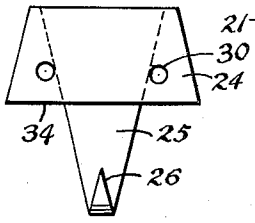


Fig. 4.

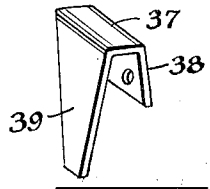


Fig. 5.

Fig. 1.

Fig. 2.

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Patented May 9, 1950 2,506,820

UNITED STATES PATENT OFFICE

2,506,820

CLOSURE STRUCTURE

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Application September 17, 1946, Serial No. 697,463

9 Claims. (Cl. 229—44)

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This invention relates to a closure or cover structure for caddies or containers fabricated from fibrous material such as cardboard, paperboard, and the like, which is capable of being penetrated or punctured by means of a pointed instrument. Such containers are commonly used for the transporting and display of cookies, small cakes, crackers and similar edibles which are packed at the bakery and then delivered to retail stores for sale.

One object of the invention is to provide an improved closure or cover device for caddies or containers of the character referred to, whereby is eliminated the difficulty usually experienced in maintaining a reliably assembled condition of the cover device and the container.

Another object is to provide a cover device or closure structure with simple, inexpensive, and durable means which is easily applied, for maintaining the cover device or closure structure in place upon a container of carboard, paperboard or the like.

Another object is to provide a cover retaining means which may easily be applied to existing caddy covers, as well as to covers initially undergoing fabrication at the factory.

The foregoing and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a container, showing a cover structure about to be applied over the upper marginal portion of the container.

Fig. 2 is a cross-sectional view on an enlarged scale, taken on line 2—2 of Fig. 1.

Fig. 3 is a plan view of a flat blank from which is formed the retaining means of Fig. 4.

Fig. 4 is a front elevational view of the retaining means, which is shown applied to the cover structure in Figs. 1 and 2.

Fig. 5 is a perspective view of a barbless retaining member which may be used in conjunction with the assembly of Fig. 1.

Containers and covers of the character disclosed herein, while useful for various other purposes, are customarily found in retail stores to display cookies, cakes, crackers and other bakery products. The bakery products generally are packed in a caddy or container constructed of cardboard, paperboard or the like, so that the caddies or containers may be disposed of when empty. Usually, the containers of the goods are placed upon a rack having a sloping shelf, so that the containers may rest upon one side, at an angle to the floor, with the open top conveniently disposed for easy access to the contents of the containers.

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In order to close the open top of each container, and at the same time permit of displaying the contents, it has been customary to furnish covers of the general character illustrated by Fig. 1. These covers generally are in the form of a light metal frame to be slipped over the outer marginal faces of the container, the frame being provided with a hinged lid which is suitably glazed as indicated upon the drawing.

Considerable difficulty has been encountered in the use of such covers, since in opening and closing the lid, the frame invariably exhibited a tendency to leave the upper marginal portion of the container. It has been proposed heretofore, to punch barbs or grippers from the material of the frame, with the intention that the barbs or grippers would engage the wall of the container and thereby preclude disconnection of the frame from the container. Such expedients, however, have invariably failed due to the flimsy nature of the material from which the frames are constructed, and due also to the fact that it was impossible to make the barbs or grippers penetrate the material of the containers. The gripping means heretofore proposed also became ineffective for holding the cover in place upon the container, as soon as the level of goods within the container was reduced sufficiently to permit inward flexing of the container walls, the barbs or grippers then becoming mere spacers between the cover flange and the adjacent container wall.

The means of the present invention has eliminated all of the difficulties above mentioned, including the tendency of the thin walls of the container to collapse inwardly as the contents are removed. In fact, the present gripping or retaining means remains effective to the last layer of goods remaining in the container, and will hold the cover in place thereon even when the container is empty.

With reference to the accompanying drawing, the characters 5, 6, 7 and 8 indicate the marginal upper portions of the walls of a container 9 which may be fabricated from a material such as cardboard, paperboard or the like. The bottom of the container is indicated at 10. Such containers generally are cubical or rectangular in shape, in which case the cover structure therefor will likewise be rectangular. However, the invention contemplates and embraces an improved means of holding the cover upon the container, whether the cover and container is rectangular, annular or of any other geometrical shape.

In the case of the rectangular structure, for example, the closure means may consist of a rec-

tangular body or frame 12 having the depending container flange indicated by the characters 13, 14, 15, and 16. Those flanges which are opposed to one another preferably are arranged in parallelism, and all of the flanges are joined at the corners of the frame. The circumferential horizontal portion 17 of the frame is made rather narrow, and may be provided with a circumferential bead or rim 18 which defines the sides of the opening through the frame. The rim may be wire reinforced, if desired. A reinforcement may be furnished along the lower edge of all of the cover flanges, as by turning the edge upon itself in the fashion indicated at 19.

It is considered desirable in most instances to furnish the frame with a lid such as 20, said lid consisting of a frame having a bounding rim 21 circumferentially thereof to fit about the corresponding rim 18 of frame 12. The frame of the lid may include a pane of glass 22 or other transparent material through which the contents of container 9 may be observed. By means of hinge eyes 23 applied at opposite sides of the cover frame, the lid may be hinged to the cover frame so that it may be swung to open and closed conditions, the lid when open permitting access to the contents of the container. The construction of lid 20 is more or less conventional, and forms no material part of the present invention.

Referring to Fig. 2, there is shown the closure retaining means of the invention, which consists of a rigid plate-like element bent to form a mounting base 24, a depending leg 25 having a barb 26 at its lower end, and a connecting portion or strut 27 which provides an interior seat 28 upon which the upper edge of the container wall 5 may abut when the frame is applied to the container. By means of rivets, screws or other fasteners 29 passed through apertures 30 in the mounting base of the retaining device, the base may be firmly mounted upon the flange 13 of the cover frame. In mounting the retaining element, the connecting portion 27 preferably abuts the horizontal portion 17 of the frame interiorly thereof. The retaining element may be welded, soldered or brazed to the frame, if desired. Attachment may be effected also by tapping the apertures 30 and inserting short screws.

To produce the retaining elements in quantities and at a minimum of expense, they may be punched or sheared from flat sheets of medium weight steel or similar material, in the triangular shape illustrated by Fig. 3. The broken lines 31, 32 and 33 indicate lines of bending along which the flat blank may be turned to provide the barb 26, the leg 25, the mounting base 24, and the connecting portion 27, as illustrated by Figs. 2 and 4. In forming up the blank, all that is required is a simple and rapid bending operation, followed if necessary by sharpening the barb. The procedure is rapid and inexpensive, and may be performed wholly by automatic machine, if desired.

As is evident upon reference to Figs. 1 and 2, the barb 26 is turned outwardly and slightly upwardly relative to the flange 13 of the caddy frame, so that the barb will penetrate the material of container wall 5 from the inside thereof when the frame is applied thereto. The point of the barb is located a substantial distance beneath the lower edge 19 of the frame, and will preferably reach an extension of the plane of the mounting base 24, or the plane of the flange 13. This relationship of the parts results in the provision of a throat between the barb point and the lower edge 34 of the mounting base, through which the

upper portion of the container wall 5 must be introduced in applying the frame to the container. Since the barb 26 extends outwardly to the plane of the mounting base 24, it is necessary in applying the frame to the container wall, to slightly tilt the frame so that the container wall may enter between the barb point and the lower edge 19 of the cover flange. After the frame has thusly passed over the container wall to the extent that the upper edge of the wall enters the channel formed between parts 24 and 25 of the retaining element, the frame may be righted with the perimeter of the container resting flatly against the under face of the horizontal portion 17 all around the frame. This righting of the frame automatically effects penetration of the container wall by the barb, at approximately the location indicated at X upon Fig. 1. Once the barb has penetrated the container wall as stated, the frame will remain in place upon the container top irrespective of any careless or severe treatment imposed in swinging lid 20 to the open position.

It is considered within the scope of the invention, to apply a second retaining member such as is illustrated at 25—26 of Fig. 1, to the frame flange indicated at 15, should it ever be considered desirable to more securely fix the caddy frame to the container walls. Ordinarily, however, it is considered sufficient to apply the retaining element to that flange of the cover which is opposed to the lid hinge.

The container with the cover applied thereto may be placed upon a display rack with its wall 8 resting upon the shelf of the rack, so that the lid will swing upon the hinge means with the latter in an upwardly inclined condition; however, it is sometimes desirable to place the container upon the display rack with the wall 7 thereof resting upon the shelf of the rack, in which case the hinge will be horizontal to permit swinging of the lid forwardly and downwardly to a substantially horizontal position when fully opened. The rear edge 35 of the lid then may rest upon the face 17 of the cover. In either of the above mentioned cases, the retaining element will perform effectively to preclude displacement of the caddy frame from its operative relationship with the upper marginal edges of the container. Due to the fact that the barb and its arm 25 lend support to the container wall 5 interiorly thereof, while the mounting base portion 24 furnishes exterior support for the wall, it is impossible to disassociate the caddy cover from the wall without deliberate action, and under no circumstances will the barb release its hold upon the container wall incident to collapse of the container resulting from a lowering of the level of goods within the container.

In the case of highly flexible or inherently weak containers such as 5, it may be desirable to provide auxiliary supporting means upon the cover for precluding excessive deformation of the container under the weight of the cover and lid, resulting in a sagging and rather unsightly appearance of the assembly. To overcome this objection, a barbless retaining member 37 shown in Fig. 5, may be applied to that flange of the cover 12 which is opposed to the flange carrying the barbed retainer. In the illustration of Fig. 1, for example, the retainer 37 would be applied to the flange 15, with its base 38 secured to the flange and its leg 39 spaced therefrom in precisely the relationship illustrated by Fig. 2. With the barbless retainer so applied to flange 15, the upper margin of the container wall 7 will rest within

the channel between parts 38 and 39 of the retainer, thereby to overcome any tendency of the cover to sag outwardly away from wall 7, particularly when the assembly is placed upon a shelf with wall 7 resting upon the shelf and with the cover overhanging it.

Use of the auxiliary barbless retaining member is particularly advantageous when a plurality of covers is applied to a single caddy, such as a double caddy, wherein the side walls of the caddy are quite long and therefore more flexible and deformable than the corresponding walls of a single caddy. The auxiliary retaining member in such cases performs very effectively to maintain the original shape of the caddy, and enhances the fitting of covers thereon.

As was previously pointed out herein, the barbed retaining member may be applied to any of the flanges 13, 14, or 16, depending upon the direction in which the lid 20 is to swing when the assembly is placed upon a shelf of the display rack. The auxiliary or barbless retainer, if one is required, will then be applied to that flange of the cover which is opposed to the flange carrying the barbed retainer.

The barbless retaining element 37 may be identical to the barbed type of retaining element, except for omission of the barb or prong, and either may be fixed to the cover in any suitable manner.

Although the retaining elements might possibly be fabricated from flexible or resilient metal, the use of a rigid material such as medium gauge steel is preferred, since it renders positive the penetrating action of the barb when applying the caddy cover to the container. It is conceivable that the blanks from which the retaining elements are fabricated, might be substantially T shaped, or even rectangular of contour, rather than of the triangular configuration illustrated by the drawing. It is to be understood that various other modifications and changes in structural details may be made, within the scope of the appended claims without departing from the spirit of the invention.

What is claimed is:

1. In a removable container cover, the combination of a peripheral open frame including a flange to telescope about the marginal upper portion of a container, with the flange substantially contacting a wall of the container, a lid hinged near one side of the frame, and retaining means secured to the frame, said retaining means including a barb to penetrate the container wall from the inside of the container, the barb being directed outwardly and upwardly relative to the wall of the container.

2. In a removable container cover, the combination of a peripheral open frame including a flange to telescope about the marginal upper portion of a container, with the flange substantially contacting a wall of the container, a lid hinged near one side of the frame, and retaining means secured to the frame, said retaining means including a barb to penetrate the container wall from the inside of the container, the barb being directed outwardly and upwardly relative to the wall of the container, and reaching a point which is located substantially within an extension of the plane of the frame flange.

3. In a container cover, the combination of a peripheral open frame including a depending circumscribing flange adapted to telescope about the marginal upper portion of a container, with the flange substantially contacting an outer face of the container wall, a retainer comprising a base fixed to the cover frame in flatwise contact therewith, and a leg integral with the base including a seat portion connecting the base and the leg, the base and leg being spaced apart to receive the upper marginal portion of the container wall to an extent determined by said seat portion, and a barb on the leg depending beneath the flange a substantial distance to provide a throat into which the wall is directed for entry into the space aforesaid.

4. In a container cover, the combination of a peripheral open frame including a depending circumscribing flange adapted to telescope about the marginal upper portion of a container, with the flange substantially contacting an outer face of the container wall, a retainer comprising a base fixed to the cover frame in flatwise contact therewith, and a leg integral with the base including a seat portion connecting the base and the leg, the base and leg being spaced apart to receive the upper marginal portion of the container wall to an extent determined by said seat portion, and a barb on the leg depending beneath the flange a substantial distance to provide a throat into which the wall is directed for entry into the space aforesaid, said barb being directed outwardly toward the plane of the flange.

5. In a container cover, the combination of a peripheral open frame including a depending circumscribing flange adapted to telescope about the marginal upper portion of a container, with the flange substantially contacting an outer face of the container wall, a retainer comprising a base fixed to the flange in flatwise contact therewith, and a leg integral with the base including a seat portion connecting the base and the leg, the base and leg being spaced apart to receive the upper marginal portion of the container wall to an extent determined by said seat portion, and a barb on the leg depending beneath the flange a substantial distance to provide a throat into which the wall is directed for entry into the space aforesaid, said barb being directed outwardly toward the plane of the flange, with the point of the barb disposed directly beneath the base of the retainer.

6. In a container cover, the combination of a peripheral open frame having a lid hinged near one side thereof, and including a depending flange to telescope about the marginal upper portion of an open-top container, with the flange substantially contacting an outer face of the container wall, a retainer fixed to the flange and including a barb beneath the flange directed outwardly of the frame, and having a pointed end terminating substantially at the plane of the flange, whereby the frame must be tilted bodily to introduce the container wall between the flange and the pointed end of the barb, with a resultant penetration of the wall by the barb when the cover is forced to assume a position of parallelism with the open top of the container.

7. In a container cover, the combination of a peripheral open frame having a lid hinged near one side thereof, and including a depending flange to telescope about the marginal upper portion of an open-top container, with the flange substantially contacting an outer face of the container wall, a retainer fixed to the flange and including a barb beneath the flange directed outwardly of the frame, and having a pointed end terminating substantially at the plane of the flange, whereby the frame must be tilted bodily to introduce the container wall between the flange and the pointed end of the barb, with a resultant penetration of the wall by the barb when the cover is forced to

assume a position of parallelism with the open top of the container, the retainer being located upon the cover at a side opposite to the hinge of the lid.

8. In a removable container cover, the combination of a peripheral open frame including a peripheral flange to telescope about the marginal upper portion of a container, with the flange substantially contacting a wall of the container, a lid hinged near one side of the frame, retaining means associated with the frame including a barb to penetrate the container wall from the inside of the container, and an auxiliary barbless retaining means on the frame directly opposed to the barbed retaining means.

9. In a container cover, the combination of a peripheral open frame having a lid hinged near one side thereof, and including a depending flange to telescope about the marginal upper portion of an open-top container, with the flange substantially contacting an outer face of the container wall, a retainer fixed to the flange and including a barb beneath the flange directed outwardly of the frame, and having a pointed end terminating

substantially at the plane of the flange, whereby the frame must be tilted bodily to introduce the container wall between the flange and the pointed end of the barb, with a resultant penetration of the wall by the barb when the cover is forced to assume a position of parallelism with the open top of the container, and an auxiliary barbless retainer fixed to the frame at a location opposed to the position of the barbed retainer upon the frame, to embrace another wall of the container.

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