May 30, 1961 W. G. ATKINSON 2,986,322

END CLOSURES FOR CONTAINERS

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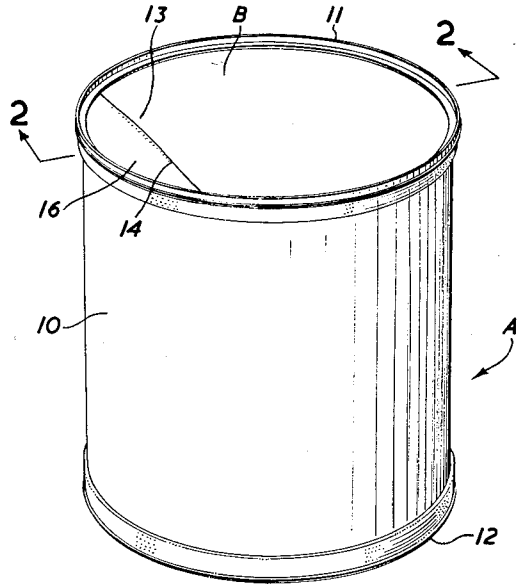


FIG. 1

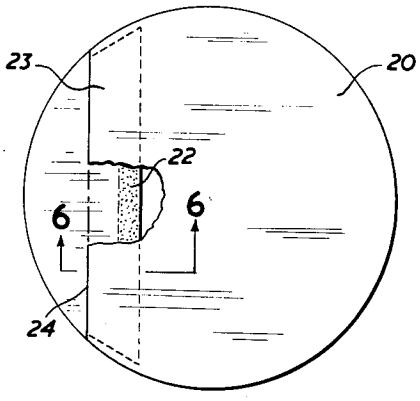


FIG. 5

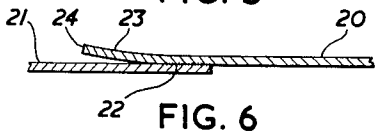


FIG. 6

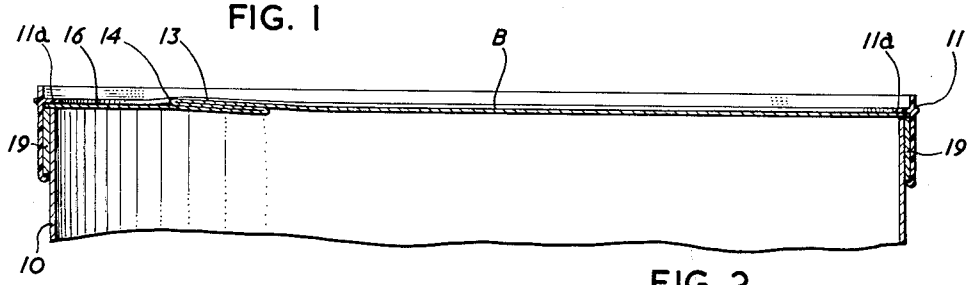


FIG. 2

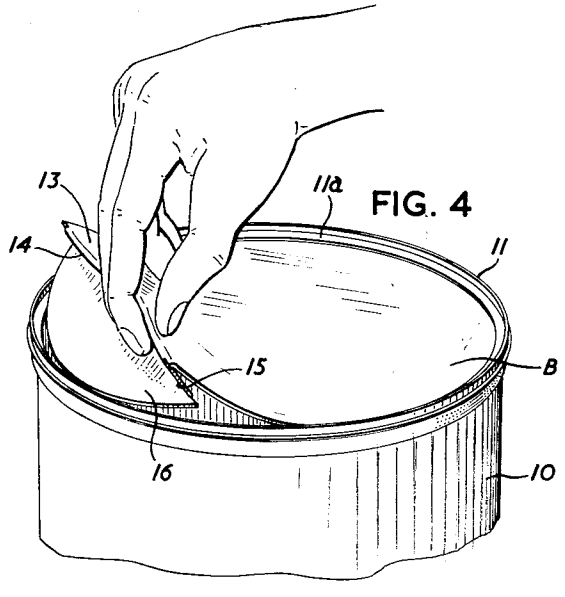


FIG. 4

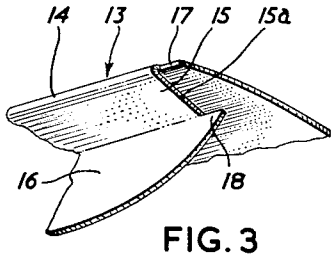


FIG. 3

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END CLOSURES FOR CONTAINERS

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1 Claim. (Cl. 229—34)

This invention relates to end closures for containers and particularly containers for packaging frozen bulk ice cream.

It has been the practice to package bulk ice cream in rimmed containers usually formed from a body, top and bottom of flexible sheet fibrous material connected together by top and bottom metal rims. The ice cream is shipped in a frozen condition and when it reaches its destination for use, it is desirable to remove the top end closure of fibrous material but to leave the top rim on the container body. This usually proves a difficult operation because the sheet fibrous cover is usually frozen to the top surface of the ice cream contained in the container and is firmly secured around its peripheral edges by the top rim of the container. Accordingly, substantial difficulty is experienced in removing the cover which normally requires the use of some type of instrument for the purpose and, in some cases, the top rim of the container is dislodged thereby depriving it of necessary reinforcement during the subsequent removal from time to time of ice cream from the container.

The present invention avoids these past difficulties by providing a cover of special form which, by means of a simple pulling operation effected by the user's hand, will quickly remove the cover and leave the top rim completely intact to reinforce the upper edge of the container during its subsequent use.

The invention generally comprises an end closure for a container, held thereon by the top container rim secured on the container and overlapping the peripheral edges of said closure, wherein the end closure is formed of a sheet of flexible material of an area substantially coinciding with the cross-sectional area of the container, said sheet having a flap extending thereacross from one peripheral edge to the opposite peripheral edge thereof, the flap being connected with said sheet as to freely overlap a portion of said sheet, said flap forming a finger grip for removing said cover readily whereby said cover is distorted by an outward pulling force on said flap as to free it from said container rim.

The invention will be clearly understood by reference to the following detailed specification taken in conjunction with the accompanying drawings, in which,

Fig. 1 is a perspective view of an ice cream container illustrating the improved end closure of the present invention.

Fig. 2 is an enlarged fragmentary transverse section taken through the upper part of the container substantially along the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary perspective illustration of a portion of the end closure illustrating a preferred manner of forming the flap of the present invention.

Fig. 4 is a fragmentary perspective illustration of the top portion of a container showing the manner in which the cover is readily removed therefrom.

Fig. 5 is a top plan view of an alternative form of end closure formation with a part broken away for illustration of detail; and

Fig. 6 is an enlarged fragmentary transverse section taken through a part of the cover substantially along the line 6—6 of Fig. 5.

Referring to the drawings, A indicates a generally conventional ice cream container of cylindrical form having the cylindrical body 10 which is capped at top and bottom by rims 11 and 12, respectively, which hold in place top and bottom end closure discs to enclose the container completely. The rims are of generally conventional form and are such that they will grip the body 10 as to retain the top and bottom covers securely on the body.

According to the present invention, the top end closure B composed of a sheet of flexible fibrous material is formed with a flap 13 which extends thereacross from one peripheral edge to an opposite peripheral edge to present within the perimeter of the cover a free gripping edge 14 which, in the case of a cylindrical container, extends across the cover in the manner of a chord. The flap may be formed as a fold in the cover by shaping a major portion thereof as the major segment of a disc and providing a web of material 15 between a remaining minor portion 16 which is formed as a minor segment of a disc of the same diametrical proportions as the major portion so that when the web of material 15 is folded under the major portion of the disc, the flap 13 having the free edge 14 is formed while the minor segment of the disc then merges with the major portion to form the complete disc with the web of material 15 overlying part of the minor segment of the disc and underlying a portion of the major segment of the disc as to form the flap 13 with the free edge 14. As shown in Fig. 3, the end edges 15*a* of the web 15 are cut at an angle leaving adjacent the periphery of the disc a free single edge 17 on the major segment and a free single edge 18 on the minor segment as to provide only a double layer of material, to underlie the container rim, formed by the lapping margins of the major segment and the minor segment of the disc at opposite ends of the flap 13. In other words, the third ply formed by the web 15 when folded does not extend under the overlapping flange of the container rim.

As shown in Fig. 2, the rim 11 is anchored around the top edge of the body 10 over a shoulder formed on the exterior of the body such as by a circumferential band of fibrous material 19 and the rim is provided with a radially inwardly extending flange 11*a* which overlaps the peripheral edges of the end closure B as to firmly secure it in position with its peripheral edges resting upon the upper periphery of the body 10. It is apparent, therefore, that difficulty would ordinarily be experienced in removing the disc because of the secure manner in which it is held on the container and having regard particularly to the packaging of ice cream where the cover, in addition, will tend to be frozen to the product.

As particularly illustrated in Fig. 4, it is clear that the cover of the present invention may be removed with facility since it is only necessary for the user to introduce fingers of his hand under the flap 13 and by applying an outward pulling force, the cover will tend to distort so that it is readily freed from the grip of the container rim.

While it is generally preferred to form the flap as a fold in the end closure, as above described, it will be obvious that it may be formed otherwise. In this instance, reference is made to Figs. 5 and 6 wherein a major segment of the disc 20 is lapped with a minor segment 21 and a portion of these lapped surfaces is secured together as at 22 such as by adhesive, stapling, etc., to leave the flap 23 haivng the free edge 24. It is obvious that with the parts firmly secured that the same action

can be obtained in removing the cover by gripping the flap 23 and subjecting it to an outward pulling force.

The advantages of the invention are, therefore, apparent in the foregoing and while the invention has been illustrated in respect to a cylindrical container, it will be appreciated that it will apply also to containers of other cross-section, such as a rectangular container, and wherein the free flap might readily be disposed to extend across a top corner from one edge of the cover to the adjacent meeting edge normal thereto. Moreover, while the utility of the invention has been particularly described with reference to containers for ice cream, it will be obvious that it can be applied to containers, having a fibrous or flexible top closure, used for other purposes.

What I claim as my invention is:

A disc end closure for cylindrical containers held thereon by a container rim secured to the container and

designed to overlap the peripheral edges of said closure comprising a sheet of flexible material having a major segment and a minor segment, the curves of which are substantially of the same radius connected by a web of said material extending between the chords of said segments, said web being foldable along the lines of said chords to underlap one of said segments and overlap the other as to units said segments in a disc and form a free edged flap extending across said disc from one margin thereof to its opposite margin, said web of material being shorter in length than the length of said chords whereby said segments form a two-ply lap at the periphery of the disc adjacent the ends of said flap.

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