Dec. 22, 1942. G. A. MOORE 2,305,631

PACKAGE OPENING DEVICE

Filed July 6, 1940

Fig. 1

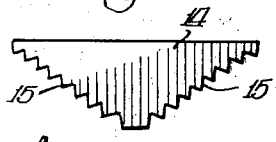


Fig. 2

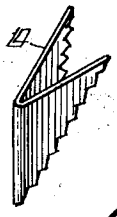


Fig. 3

Fig. 4

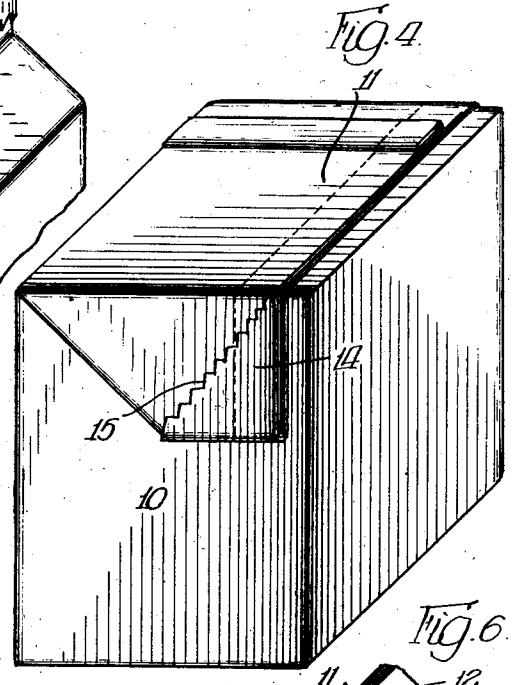


Fig. 5

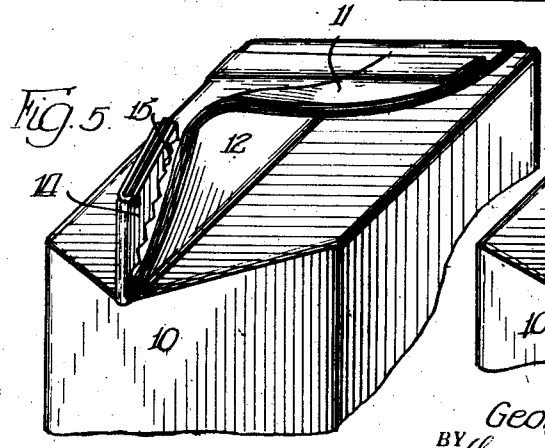
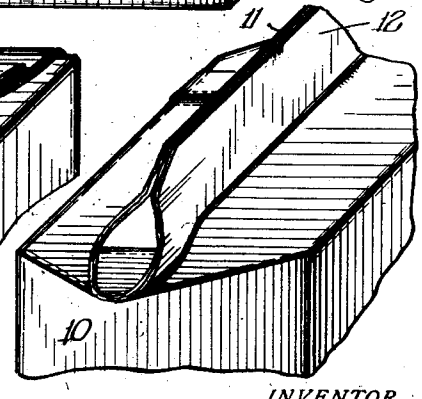


Fig. 6



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UNITED STATES PATENT OFFICE

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PACKAGE OPENING DEVICE

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Application July 6, 1940, Serial No. 344,255

5 Claims. (Cl. 229—51)

The present invention relates to an improved type of package and opening device therefor and has particular reference to an opening device for use in connection with laminated packages composed of paper and transparent rubber hydrochloride.

A principal object of the invention is the provision of a package of the type described having attached to it a clip-like opening device adapted to cut through the particular material of which the package is composed.

Another object of the invention is the provision of a package composed of laminated paper and transparent rubber hydrochloride formed into the shape of a container with the transparent rubber hydrochloride constituting the inner layer of the container and having an end seam formed by heat-sealing the rubber hydrochloride of one portion of the end extension to the rubber hydrochloride of the other end extension and folding the resulting flap downwardly across the end and down the sides of the container, that portion of the end extension being folded adjacent the side of the container having a metallic serrated edge clip extending over a portion of the seal and a portion of the container which is not sealed.

An additional object of the invention is the provision of an end closure for a container including an outer protective layer laminated to an inner transparent rubber hydrochloride film having an end extension provided with a thermal seal and a serrated edge metallic clip passing over a sealed portion and an unsealed portion of the end extension.

These and other objects will be evident upon a consideration of the following description of a preferred embodiment of the invention and by reference to the accompanying drawing, in which

Fig. 1 is a plan view of an opening clip constructed in accordance with the invention;

Fig. 2 is a view showing the clip of Fig. 1 bent into position for engagement with a package;

Fig. 3 is a perspective view of a package including an end closure constructed in accordance with the invention and having closure clips attached thereto;

Fig. 4 is a view similar to Fig. 3 with the end closure folded into final position;

Fig. 5 is a view similar to Fig. 4 showing the method of opening the container by use of the serrated edge clip; and

Fig. 6 is a view of the package shown in Fig. 5 after the opening operation has been completed.

The container shown in the drawing is produced from a blank composed of a sheet of transparent rubber hydrochloride of the type known as "Pliofilm," which is laminated to an outer sheet of protective material such as paper or foil. The blank is folded into the form of a body portion 10 by providing an overlapped longitudinal seam of the type indicated at 11. This seam may be formed by heat-sealing the folded-over ends of the container and then folding the resulting flap downwardly adjacent the body of the container, as shown in Fig. 4, for example. It will be understood that any type of body-forming fold may be employed, as desired. After formation of the body portion 10 in the manner described two end extensions 11 and 12 are brought together as shown in Fig. 3 and sealed into an integral formation by the application of heat and pressure. The extent of the seal is indicated by the dotted line in Fig. 4. That is, the entire end extension is not thermally sealed, although the extent of the seal may vary quite widely, as will be understood.

After formation of the end extension and application of heat and pressure to complete the closure, there is pressed onto the edge of the end extension a clip of the type indicated at 14. This clip consists of a sheet of thin metal of general triangular shape having its lower edges serrated as shown at 15. These serrations form relatively sharp projections which are capable of cutting through the material from which the container is formed. The clip initially is bent into the position shown in Fig. 2 and then is clamped onto the end extension of the package as shown in Fig. 3. In this position the serrated edge portion of the clip traverses the sealed end of the end extension, as well as a portion beneath the sealed extension which is not thermally joined together. The metal preferably is of such nature as to retain its frictional engagement with the end extensions so as to avoid being accidentally loosened after application. The fibrous nature of the outer protective layer 11 is of particular value in preventing the serrated cutting edges of the clip from accidentally perforating or penetrating the non-fibrous transparent rubber hydrochloride inner layer.

After application of the clip 14 in the manner described, the end extension is folded over against the top of the package as shown in Fig. 4 and that portion of the end extension having the clip attached to it is then folded downwardly adjacent the sides of the package. The clip is of such dimensions as to avoid the necessity of

bending the metal member during this side folding operation.

In opening the container shown in Fig. 4, the portion of the end extension folded down against the side of the package is moved upwardly, thereby causing the end extension to be at least partially raised, and the metal clip is given a twisting movement which causes the projections 15 of the serrated edges to cut into the outer protective layer and through the transparent rubber hydrochloride inner layer. This latter material offers certain difficulties in opening a package which makes it highly desirable to effect a cutting operation. The serrated teeth have such a cutting operation, and when the clip is twisted in either direction the teeth cut through the material of the container and result in the cutting away of the corner of the end extension. Since this corner includes a portion of the sealed edge, as well as a portion which is not sealed, there results an opening of the package so that its contents may be withdrawn through that portion of the torn-away corner which is below the thermal seal. In fact, the tearing away of the corner in the manner described provides a pouring spout of the type indicated in Fig. 6, thereby making the contents of the package easily dispensable.

The metallic clip itself may be of various shapes. On the opposite end of the container shown in Fig. 3 from the strip 14 there is indicated a rectangular type of clip 16, this latter clip having serrated cutting and perforating edges of the same type as the clip 14.

It will be recognized that the clip construction may be varied extensively without departing from the scope of the invention. The particular shape of the cutting edges may be changed from that shown. The configuration of the clip may be different from the two embodiments shown in the drawing. The position of the clip may be varied with respect to the end closure. The serrated teeth of the clips shown in the drawing are positioned to cut into both layers of the material from either direction, although a clip employing serrated or cutting edges on only one side may be used if desired. The body form of the container may be produced in any suitable manner. In my Patent No. 2,200,289, issued May 14, 1940, is described one suitable method of forming the body portion of the container.

The relatively sharp, penetrating or piercing edges of the cutting clips are of benefit in opening the package since rubber hydrochloride has the property of stretching and thereby resisting tearing. In cutting across the corner of the package the clips provide an opening which, if not large enough, can be enlarged by insertion of the finger or an instrument.

The various changes which may be made in the method and construction shown and described herein coming within the scope of the invention are intended to be included in the appended claims.

I claim:

1. The method of forming a container, which comprises folding a blank composed of an outer protective layer and an inner transparent rubber hydrochloride layer into body-forming shape, providing a heat-sealed end extension on said body with the transparent rubber hydrochloride constituting the inner layer of the sealed extensions, and attaching a metallic clip having a cutting portion to said extension covering a sealed portion thereof and an unsealed portion, and folding said extension adjacent the body portion of the container.

2. The method of forming a container, which comprises producing a body from a blank composed of an inner layer of rubber hydrochloride and an outer fibrous protective web, heat-sealing an extension of said body, attaching a cutting clip having serrated edges to one edge of the extension, and folding the extension adjacent the body of the container.

3. The method of forming a container, which comprises producing a body from a blank composed of an outer paper sheet and an inner sheet of transparent rubber hydrochloride, heat-sealing an end extension of said body to provide a closure which is wider than the width of the body portion, attaching a cutting clip having serrated edges to a corner of the end extension beyond the body portion, folding the end extension over adjacent the end of the body portion, and folding the clip portion adjacent the side of the body portion.

4. A container, comprising a body portion composed of a laminated outer protective layer and an inner layer of rubber hydrochloride, said body portion having an end extension heat-sealed to provide an end closure, and a cutting and tearing clip attached to said end extension, said clip having serrated edges extending over a sealed portion and a portion which is unsealed.

5. A container, comprising a body portion formed of paper having an inner layer of transparent rubber hydrochloride, an end extension on said body portion of greater width than the width of the body portion, said end extension being heat-sealed and folded over adjacent the top and side of the body portion, and a cutting and tearing clip attached to the portion of the end extension folded adjacent the side of the body portion, said clip having serrated edges adjacent a sealed portion of the end extension and adjacent an unsealed portion thereof.

GEORGE ARLINGTON MOORE.