Dec. 12, 1944. C. H. RASMUSSEN 2,364,916

PACKAGE

Filed March 12, 1941

Fig. 1.

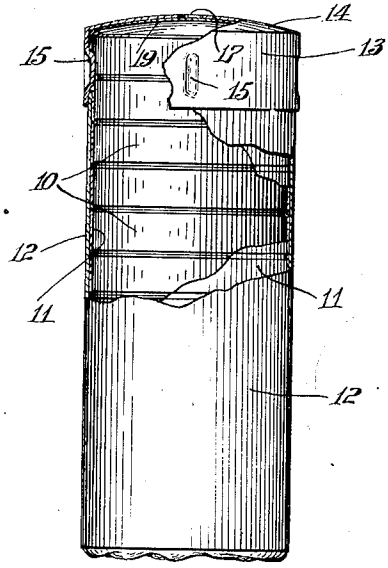


Fig. 2.

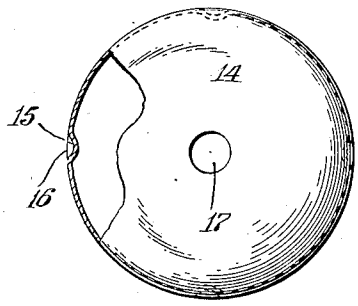
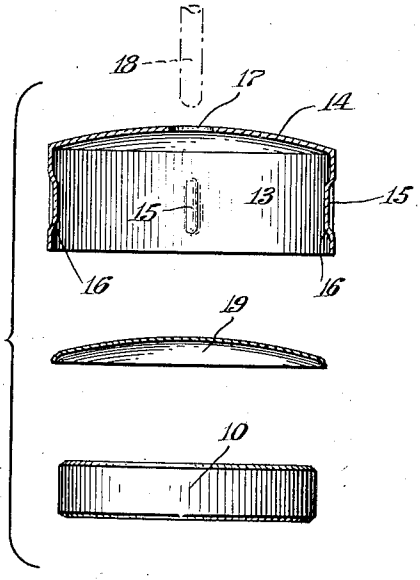


Fig. 3.



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Patented Dec. 12, 1944

2,364,916

UNITED STATES PATENT OFFICE

2,364,916

PACKAGE

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Application March 12, 1941, Serial No. 382,925

7 Claims. (Cl. 206—56)

The invention relates to packages, and more particularly to a package for tablets or lozenges in which the wrapper is of tearable material so as to permit the withdrawal of the tablets or lozenges only as a removal of a part of the wrapper.

Prior to the present invention, it was the practice to wrap tablets or lozenges either in a paper wrapper held in position by folding the edges thereof against the ends of the stacked tablets or lozenges, or to similarly wrap the tablets or lozenges in a metal foil, providing an outer wrapping of paper and weakening the covering structure in a manner to facilitate the separation of the portion of the covering adjacent a tablet or lozenge when removing one of the tablets or lozenges from the package.

Packages having the above characteristics were objectionable because, in the event of tearing of the wrapping when removing a tablet or lozenge, the adjacent tablet or lozenge was so exposed as to accumulate dirt or be impaired by moisture.

To correct the objectionable characteristics above referred to, it was attempted to use a skirted metal shell, the skirt of which had a close friction fit with the tearable wrapping material carried by one end of the package, which closure was removed when a tablet or lozenge was to be taken from the package, accompanied by the tearing away of the adjacent portion of the wrapper, and replaced so as to protect the uppermost of the remaining tablets or lozenges from dust and dirt and the effects of moisture.

This expedient, however, did not prove satisfactory because, upon the succeeding removal of the closure, it was found that the uppermost tablet or lozenge, in many instances, was removed from the stack with the closure and it was practically impossible to remove the tablet or lozenge from this closure without mutilating the tablet or lozenge. Furthermore, the presence of the tablet or lozenge in the closure prevented the replacement of the closure upon the body with a sufficiently tight fit to ensure its retention upon the body of the package.

If the skirt of the closure were to have a free sliding fit with the wrapping of the package, allowing sufficient clearance to permit a tablet or lozenge to drop freely therefrom, the close friction fit between the skirt of the closure and the wrapping, necessary to ensure the closure remaining in place so as to protect the contents of the package, was impossible.

It has also been found by extensive experiment that the retention of the uppermost tablet or lozenge by the skirted closure is a matter of such frequent occurrence as to make the use of such a structure commercially impracticable.

With the above conditions in mind, I have produced a package, the body portion of which consists of flexible tearable material wrapped about stacked tablets or lozenges and folded to close the ends of the covered stack, one end of which body has removably mounted thereon a skirted slip closure so constructed as to permit the ejection therefrom, when the closure is removed, of a tablet or lozenge which may be removed from the stack by the engagement therewith of the skirt of the closure.

The closure is so constructed that the skirt thereof will take a firm grip upon the exterior of the flexible material of the body of the package, consisting of the wrapping for the tablets or lozenges, or upon the exposed edge of the end tablet or lozenge if this is exposed, as a result of the tear in the wrapper extending below the top of the tablet or lozenge.

The closure is also so constructed as to protect the uppermost tablet or lozenge from dirt and moisture and avoid possible injury thereto from the instrumentality used in forcing the tablet or lozenge from within said closure.

The invention consists primarily in a package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, and a closure having a skirt of a form to slip over an end of and frictionally engage the exterior of said body, and a top having an opening therethrough permitting the passage of a push rod for ejecting from the closure after its removal from the stack a tablet or lozenge which may be frictionally retained within the skirt of the closure and accidentally removed from the stack with the closure, whereby replacement of the closure upon the stack is permitted; and in such other novel characteristics as are hereinafter set forth and described and more particularly pointed out in the claims hereto appended.

Referring to the drawing,

Fig. 1 is a side view of a package embodying the invention with portions of the wrapping envelope and the closure broken away;

Fig. 2 is a top view of the closure, upon a slightly larger scale, partly broken away; and

Fig. 3 is a sectional illustration view of the closure.

Like numerals refer to like parts throughout the several views.

In the embodiment of the invention shown in the accompanying drawing, which is upon an

enlarged scale compared with packages actually in use, a pile of tablets or lozenges is shown at 10. These tablets or lozenges are contained within a body portion of the package consisting of a tearable wrapping closely enveloping the stack and folded over the ends thereof before the removal of any of the tablets or lozenges. In Fig. 1, one folded end of the wrapping has been torn away and some of the tablets or lozenges have been removed from this end of the stack 10.

In actual practice, this wrapping consists of an inner ply of metal foil 11, or other weatherproof readily tearable material, and an outer ply 12 consisting of a paper label, which also may be readily torn by the fingers in removing a tablet or lozenge from the package. When a tablet or lozenge has been removed, the uppermost one remaining in the package is usually exposed throughout its entire top area and generally also about a portion of its edge, since there is no clearly defined line of tearage of the material of the body.

To protect the exposed areas of one or more of the upper tablets or lozenges, I provide a closure having a skirt 13 and a top 14. The skirt 13 conforms generally to the contour of the tablets or lozenges and has inside dimensions which will ensure a close frictional fit with the body of the package and force the plies 11 and 12 towards and against the edges of tablets or lozenges in the stack 10 in a manner to preclude possibility of accidental escape of the closure from the body. Some flexibility of the skirt is essential to avoid tearage of the body wrapping when applying the closure and to permit the skirt to adapt itself to tablets or lozenges of slightly different dimensions.

The skirt 13 has a plurality of spaced inwardly directed nubs 15 towards its lower edge which take a firm bite upon the body 11—12 and provide gripping areas at divergent points about the tablets or lozenges while affording intermediate free sliding areas so that the edges of the skirt may freely pass over the body without likelihood of tearing the material of the plies 11 or 12. These nubs 15 taper towards and merge into the material of the skirt adjacent its lower edge, as shown at 16, Fig. 3, flexibility of the skirt permitting the nubs to adapt themselves to the body of the package and, by reflexure, causing a continuing pressure of the nubs against same. Preferably, the nubs are elongated vertically of the skirt and are of a length to lap two adjacent tablets or lozenges.

If, in removing a tablet or lozenge, the plies 11 and 12 are so torn as to expose a substantial part of the edge of the uppermost tablet or lozenge remaining in the stack 10, the nubs 15 are, when applying the closure to the body, pressed directly against the tablet or lozenge so that upon the succeeding removal of the closure, this tablet or lozenge is retained by the nubs within and adjacent the top 14 of the shell of the closure.

Experience has shown that a tablet or lozenge so retained within the closure cannot be removed without breaking it, if access to it can be had only through the open bottom of the closure; that the skirt cannot be flexed sufficiently to relieve the grip of the nubs 15, and that its presence within the closure usually prevents the restoration of the closure to the body of the package with a sufficiently tight fit to retain it in place.

To permit the removal of the tablet or lozenge from the closure under the conditions above referred to, I provide the top 14 of the closure with an opening 17 therethrough permitting the passage of a push rod such as a pin, tooth pick, match stem or other instrumentality, indicated at 18 in the drawing, for the purpose of applying pressure against the tablet or lozenge for ejecting it from within, and through the open bottom of, the skirt of the closure.

With such removal of the imprisoned tablet or lozenge, the full capacity of the closure is available for properly applying it to the body of the package.

The opening 17 permits air to enter the shell of the closure, with outward movement of the imprisoned tablet or lozenge, with sufficient rapidity to relieve any sub-atmospheric pressure which may result from such movement, although the space between the nubs 15 will admit some air.

To prevent dirt and moisture entering the closure through the opening 17 affecting the portion of the tablet or lozenge exposed therethrough, I provide a liner 19 within and bearing upon the top 14 of the closure. The edge of this liner frictionally engages the skirt 13, and while it may be moved when ejecting a tablet or lozenge from the closure, its accidental escape from the closure before application is prevented by such frictional engagement with the skirt and by the nubs 15 located between it and the open bottom of the closure.

The package of the invention as actually used and as shown in the accompanying drawing, is cylindrical. When placed on sale, the inner wrapping 11 is folded over both ends of the stack 10 and the outer wrapping 12 has its vertical edge portions glued together. The closure is slipped over the top of the package, as indicated by the label.

When it is desired to remove one of the tablets, the closure is removed and a portion of the wrappings 11 and 12 about the uppermost tablet or lozenge is removed by tearing. While the inner wrapping 11 may have a crease defining the meeting faces of adjoining tablets or lozenges, the wrappings usually are torn irregularly, leaving an exposed edge area of the tablet or lozenge below that removed.

As the closure is replaced upon the body, if one or more of the nubs 15 engages this exposed area, upon the next removal of the closure, the uppermost tablet or lozenge will be gripped by these nubs and retained within the skirt. If the uppermost tablet or lozenge remaining in the body of the package is removed, a sufficient length of nubs 15 is covered by the tablet or lozenge within the skirt of the closure to leave an exposed length of nubs insufficient to more than lightly grip the body of the package and there is great likelihood of the closure falling off the body.

Hence, I provide the opening 17 and liner 19 to permit the forcible ejection or expulsion of the tablet or lozenge from the closure. This may not be required with the removal of each tablet or lozenge, but it does occur sufficiently frequently to make the use of the package commercially impracticable unless some provision be made to remove a tablet or lozenge imprisoned in the closure so as to permit the closure to be replaced upon the remaining portion of the body after the removal of a tablet or lozenge.

By terminating the nubs above the bottom edge of the skirt, the portion of the skirt below the nubs serves to guide the closure and prevent tearing of the body wrappings when placing or replacing it upon the body, and the tapered lower ends of the nubs act to develop the desired lo-

calized pressure only after the closure is properly positioned on the body of the package.

The closure is preferably made of thin gauge tin or aluminum. The liner 19 may be of thin paper surfaced on the top with any desired material to increase its moisture resistant properties. The top 14 of the closure and the liner 19 may be slightly dished or domed as shown.

It is not my intention to limit the invention to the specific details shown and described, it being apparent that such details may be varied without departing from the spirit and scope of the invention. A package made as shown in the drawing has, however, been in extensive, successful use.

Having described the invention, what I claim as new and desire to have protected by Letters Patent is:

1. A package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, and a closure having a skirt of a form to slip over an end of and frictionally engage the exterior of said body, and a top having an opening therethrough permitting the passage of a push rod for ejecting from the closure after its removal from the stack a tablet or lozenge which may be frictionally retained within the skirt of the closure and accidentally removed from the stack with the closure whereby replacement of the closure upon the stack is permitted.

2. A package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, and a closure having a flexible skirt of a form to slip over an end of said body, said skirt having a plurality of spaced inwardly directed nubs for frictional engagement with the exterior of said body, and a top having an opening therethrough permitting the passage of a push rod for ejecting from the closure after its removal from the stack a tablet or lozenge which may be frictionally retained within the skirt of the closure and accidentally removed from the stack with the closure whereby replacement of the closure upon the stack is permitted.

3. A package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, and a closure having a flexible skirt of a form to slip over an end of said body, said skirt having a plurality of spaced inwardly directed nubs for frictional engagement with the exterior of said body, said nubs being tapered towards and merged into the material of the skirt adjacent its lower edge, and a top having an opening therethrough permitting the passage of a push rod for ejecting a tablet or lozenge from within said skirt.

4. A package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, a closure having a skirt of a form to slip over an end of and frictionally engage the exterior of said body, and a top having an opening therethrough permitting the passage of a push rod for ejecting from the closure after its removal from the stack a tablet or lozenge which may be frictionally retained within the skirt of the closure and accidentally removed from the stack with the closure whereby replacement of the closure upon the stack is permitted, and a liner within said skirt adjacent said top and extending across the opening therethrough, said liner being retained in place by the frictional engagement of its edge with said skirt.

5. A package embodying therein a body formed of a tearable wrapping closely enveloping a stack of tablets or lozenges, a closure having a flexible skirt of a form to slip over an end of said body, said skirt having a plurality of spaced inwardly directed nubs for frictional engagement with the exterior of said body, and a top having an opening therethrough permitting the passage of a push rod for ejecting from the closure after its removal from the stack a tablet or lozenge which may be frictionally retained within the skirt of the closure and accidentally removed from the stack with the closure whereby replacement of the closure upon the stack is permitted, and a liner within said skirt adjacent said top and extending across the opening therethrough, said liner being retained in place by the frictional engagement of its edge with said skirt.

6. A package embodying therein a body enveloping a stack of tablets or lozenges, consisting of an inner ply of metal foil and an outer ply of paper, a closure having a flexible skirt of a form to slip over an end of said body, said skirt having a plurality of spaced inwardly directed nubs for frictional engagement with the exterior of said body, said nubs being tapered towards and merged into the material of the skirt adjacent its lower edge, and a top having an opening therethrough permitting the passage of a push rod for ejecting a tablet or lozenge from within said skirt, and a liner within said skirt adjacent said top and extending across the opening therethrough, said liner being retained in place by the frictional engagement of its edge with said skirt.

7. In a package of the type herein described, a closure consisting of a metal shell having a flexible cylindrical skirt having a plurality of spaced inwardly directed nubs tapered towards and merged into the material of the skirt above its lower edge, and a top having an opening therethrough for the passage of an ejector rod, and a liner within said skirt adjacent said top and extending across the opening therethrough, said liner being of a diameter to cause its edge to frictionally engage said skirt.

CHARLES H. RASMUSSEN.