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EASY-OPEN BLISTER CONTAINER

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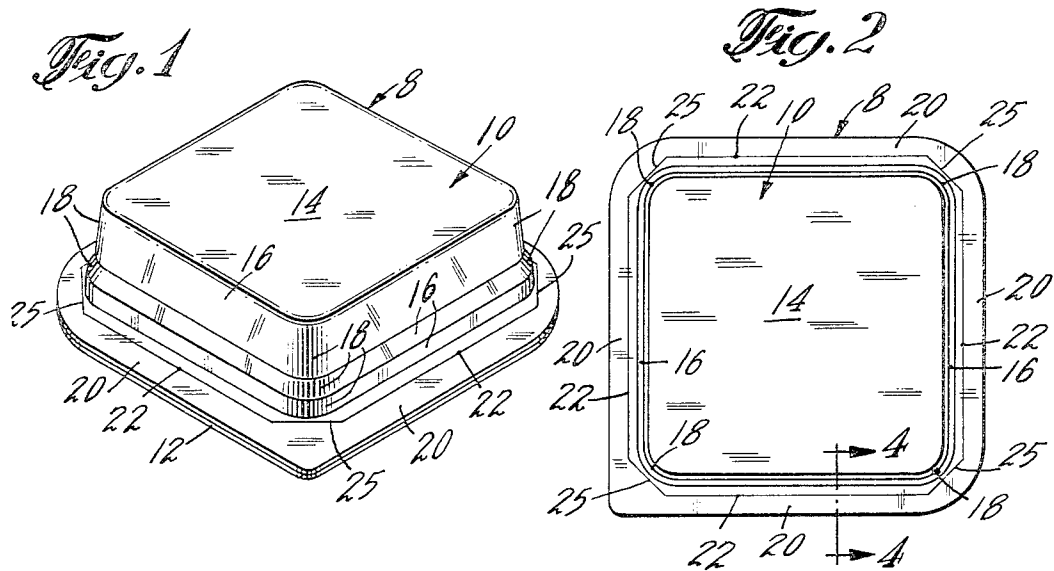


*Fig. 3*

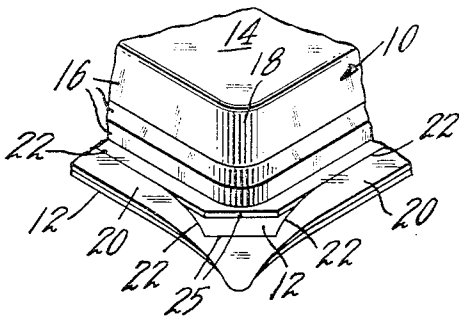
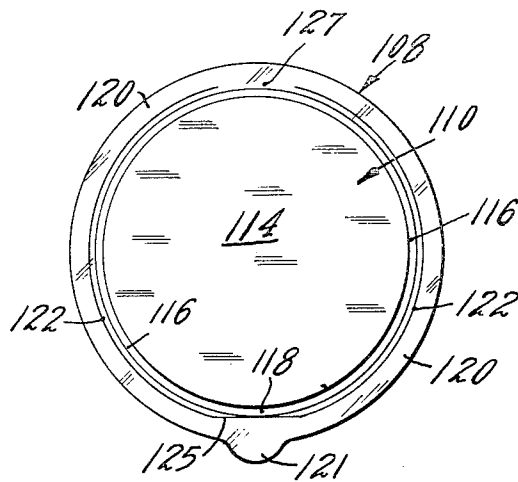
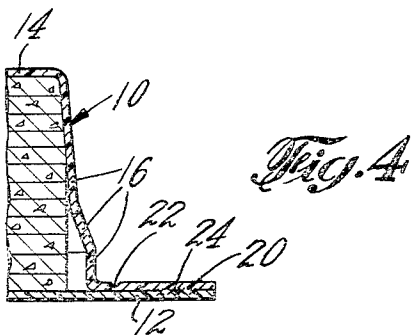


*Fig. 5*



INVENTORS  
CHARLES LLOYD MUEHLING  
HARLEN EDGAR WILKINSON

BY *Donald J. Koprowski*  
ATTORNEY

1

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## EASY-OPEN BLISTER CONTAINER

Charles Lloyd Muchling, Batavia, and Harlen Edgar Wilkinson, Crystal Lake, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

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### ABSTRACT OF THE DISCLOSURE

A hermetically sealed transparent plastic blister container having a relatively flat base and a substantially cup- or dish-shaped body surrounding a product, which body has a flange surrounding its open end and which flange, scored for easy tearing, secures the body to the base.

### BACKGROUND OF THE INVENTION

This invention relates to containers. In particular, it relates to a plastic blister container which is easily openable by tearing along a weakened line. The container may be transparent so that the consumer may easily see the product contained therein when it is on display in the marketplace. Although the container is particularly useful for packaging smoked or preserved meats, it may be used to package any desirable product. It may be hermetically sealed, if desired.

Presently used plastic blister containers have encountered problems in providing an easy-opening feature while maintaining a hermetic and abuse-resistant seal and relatively simple construction. In particular, it has been difficult to provide a blister container having a line of weakness which is strong enough to prevent premature rupture or leakage, and yet weak enough to allow it to tear easily when the container is opened.

Accordingly, an object of the present invention is to provide a container with an opening feature which overcomes the problems mentioned above.

Another object of the invention is to provide an improved, hermetically sealed container in which the product therein is readily visible to the consumer.

A further object of the invention is to provide a container with a manual opening feature which may be simply and economically produced.

Still another object is to provide a container which may be reclosed after part of the contents have been removed therefrom.

Other objects and advantages of the invention will be pointed out specifically or will become apparent from the following description when it is considered in conjunction with the accompanying drawings.

### SUMMARY OF THE INVENTION

A blister package has a plastic body member comprising an end wall and a side wall integral with the end wall. The side wall has, in its periphery, at least one arcuate section and terminates in an outwardly extending peripheral flange. When the body member is filled with its intended contents a plastic closure is secured to the peripheral flange preferably by means of a heat seal. To supply the package with an easy-open feature the flange is provided with a line of weakness or score line located inwardly from the heat seal. The score line is substantially tangential to an arcuate section of the side wall. Thus, when the flange at that point is bent out of its normal plane, the score line will easily rupture. Once this initial rupture occurs the rest of the flange is easily torn along the score line and the closure is removed from the body member along with the portion of the flange outward

2

from the score line. The entire periphery of the flange may be scored to enable the closure to be completely separated from the body member, or, a portion of the flange may be left unscored. The unscored portion will then act as a hinge when the rest of the score line is torn, and the package may be reclosed after part of the contents is removed.

### DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of the container of the present invention.

FIGURE 2 is a plan view of the container.

FIGURE 3 is a fragmentary perspective view of the container showing the rupture of the score line upon bending the flange out of its normal plane.

FIGURE 4 is an enlarged, fragmentary sectional view taken substantially along line 4—4 of FIGURE 2.

FIGURE 5 is a plan view of a modified form of the present invention.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

As a preferred or exemplary embodiment of the present invention the drawings in FIGURES 1 thru 5 illustrate a substantially rectangular container often referred to as a "blister pack." It is preferably formed of a transparent plastic material so that its contents are visible to the consumer. The container is comprised of a body member 10 and a base closure 12.

The container body member 10 is comprised of an end wall 14 and a side wall 16 integral therewith. The side wall 16 has an arcuate section 18 at each corner and terminates in an outwardly extending peripheral flange 20. The flange 20 is provided with a line of weakness, such as a score line 22, spaced inwardly from the outer edge of the flange 20. The line 22 will usually be scored with a scoring tool but may be provided by any suitable means.

After the container body 10 is filled with its intended contents, such as a comestible, the closure 12 is secured to the peripheral flange 20 thereby completing the package which may be hermetically sealed if desired. Preferably, the means of securing the closure 12 to the flange 20 is a heat seal 24 around the entire perimeter of the flange 20 but any suitable means may be used. For example, plastic or other materials, such as paperboard or metal foil, may be sealed to the body flange 20 by means of an adhesive bond disposed outwardly of the score line 22. The heat seal 24 also is located entirely outwardly of the score line 20. Otherwise, if the heat seal 24 crosses the score line 22, the line is restrengthened and it becomes difficult to rupture.

The purpose of the score line 22 is to weaken a portion of the flange 20 which, when manually torn, permits detachment of the body 10 from the closure 12. A segment 25 of the line 22 at one or more of the corners of the container body 10 is substantially tangential to the arcuate section 18 of the body wall 16. This location of the score line segment 25 insures easy initial rupture of the line and thereby easy access to the contents of the package. The initial rupture is accomplished by bending the flange 20 out of its normal plane at the arcuate section 18 of the side wall 16. The arcuate section 18 of the side wall 16 is relatively firm in contrast to the flexible flange 20. Thus, when the flange 20 adjacent to the score line segment 25 is bent, forces are concentrated along the segment 25 and the flange 20 ruptures easily along this segment 25. Once the segment 25 is initially ruptured in this manner the flange 20 is easily torn along the entire length of the score line 22 by continuing to peel back the closure 12 and flange 20 as shown in FIGURE 3.

If the score line 22 extends completely around the perimeter of the package the entire flange 20 outward from the score line 22 will be separated from the container along with the end closure 12. If the score line 22 extends around only a major portion of the package, any unscored portion of the flange 20 acts as a hinge, thereby leaving the closure 12 attached to the body of the container. After a part of the contents is removed the container may then be reclosed.

One tangential score line segment 25 is sufficient to insure easy opening of the package. However, it may be desirable to score tangentially as shown in FIGURE 2 at all corners to eliminate the necessity of orientation during fabricating, trimming and closing operations. This also permits the consumer to open the package at any corner.

Scoring of only the container body flange 20 has the advantage of requiring only one scoring operation. The closure 12 does not have to be scored because it is not necessary to tear the closure 12 in the opening process. The closure 12 remains intact and attached to the flange 20 of the container body 10, the flange forming a peripheral reinforcement of the closure when the container is reclosed. Also, because the closure 12 is not scored, it may be made of a thinner material, perhaps from roll stock. Thus, a savings in material costs may be realized.

FIGURE 5 illustrates an alternate embodiment of the present invention showing a substantially circular container. The construction is substantially the same as that of the rectangular embodiment. The container comprises a body generally designated 110 and a closure which is not shown. The container body 110 is comprised of an end wall 114 and a side wall 116 integral therewith. The sidewall 116 terminates in an outwardly extending peripheral flange 20 having a tab 121. Unlike the rectangular version, however, the sidewall 116 of the circular container has an infinite number of arcuate sections. A score line 122 may thus have a segment 125 located substantially tangential to an arcuate section 118 anywhere around the circumference of the sidewall 116. The tab 121 on the flange 120 is located adjacent to the tangential score line segment 125.

The round container is opened manually by grasping the tab 121 and bending the tab 121 and flange 120 backwardly out of its normal plane. This accomplishes the initial rupture of the score line segment 125 and the rest of the flange 120 may be torn along the entire length of the score line 122 by continuing to peel back the closure (not shown) and flange 120. FIGURE 5 shows a score line 122 which does not extend completely around the circumference of the package. Thus, when the flange 120 is torn along the entire length of the score line 122 a hinge 127 remains in the flange. Then, rather than having the closure (not shown) completely detached from the container body, it remains attached at the hinge 127 with the flange serving as a reinforcing rim. The container may then be reclosed after part of its contents is removed.

Top and bottom orientation of the container as shown in the drawings and as hereinbefore discussed is for the purpose of understanding only. The orientation shown is desirable for such products as smoked or preserved meats. For liquid products subject to spilling, orientation could be reversed while construction stays the same.

The round and rectangular shapes are here set forth as particular embodiments of the invention. Other shapes, such as pentagons and other polygons, ovals, etc., may be used which utilize the placement of a segment of a score line substantially tangential to an arcuate section of the wall of the container.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description and it will be apparent that various

changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

We claim:

1. A container body open at one end and adapted to having a closure secured to said open end, said container body comprising:

an end wall;  
a sidewall integral with said end wall, said side wall having one or more arcuate sections when viewed in transverse cross-section;

an integral flange surrounding said side wall and extending outwardly from said sidewall at said open end of said container body; and

a line of weakness in said flange, said line of weakness surrounding more than half of said side wall, said line of weakness having a straight line segment which is substantially tangential to at least one of said arcuate wall sections so that in a completed container, upon bending said flange outwardly of said arcuate wall section and out of the normal plane of said flange, said line of weakness is easily ruptured to separate said closure and the portion of said flange outwardly from said line of weakness from said body.

2. The container body set forth in claim 1 wherein said body is substantially rectangular, and said straight line segment of said line of weakness is substantially tangential to at least one of said arcuate side wall sections.

3. The container body set forth in claim 1 wherein said body is substantially circular.

4. The container body set forth in claim 1 wherein the line of weakness is a score line.

5. The container body set forth in claim 1 wherein said body is constructed of a thermoplastic material.

6. A package comprising:

a container body having an end wall;  
a sidewall integral with said end wall, said side wall having one or more arcuate sections when viewed in transverse cross-section;

an integral flange surrounding said sidewall and extending outwardly from said side wall at said sidewall at said open end of said container body;

a line of weakness in said flange, said line of weakness surrounding more than half of said sidewall, said line of weakness having a straight line segment which is substantially tangential to at least one of said arcuate side wall sections;

a product disposed within said container body; and

a closure secured to said flange outwardly of said line of weakness, so that, upon bending said flange outwardly of said arcuate wall section and out of the normal plane of said flange, said line of weakness is easily ruptured to separate said closure and the portion of said flange outwardly from said line of weakness from said body thereby enabling the product to be removed from said container body.

7. The package as set forth in claim 6 wherein said product is a comestible.

8. The package as set forth in claim 6 wherein said closure is thermoplastic and is secured to said flange by means of a heat seal.

9. The package as set forth in claim 6 wherein said closure is metal foil.

10. The package as set forth in claim 6 wherein said closure is paperboard.

11. The package as set forth in claim 6 wherein said closure is secured to said flange by an adhesive.

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5

WILLIAM T. DIXSON, Jr., Primary Examiner  
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