

July 2, 1963

L. H. PFOHL
PACKAGE

3,095,966

Filed Dec. 16, 1960

2 Sheets-Sheet 1

FIG. 1

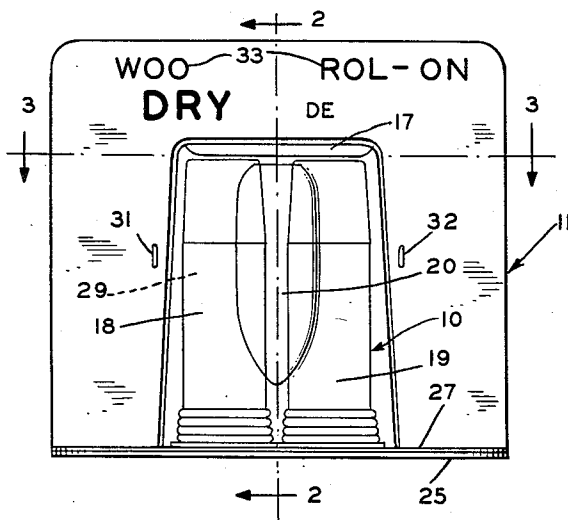


FIG. 2

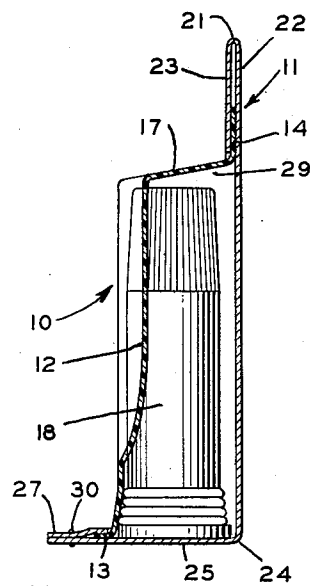


FIG. 3

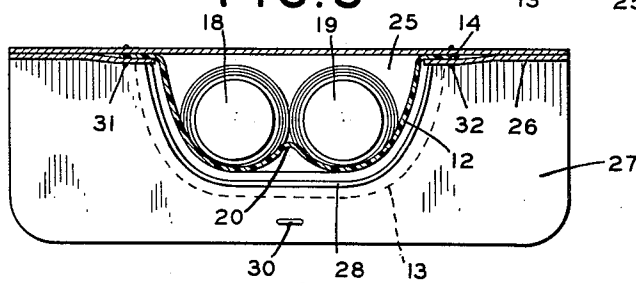
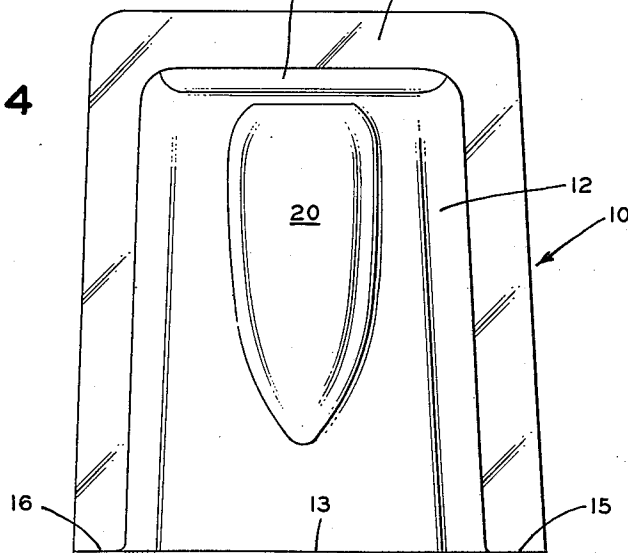


FIG. 4



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FIG. 5

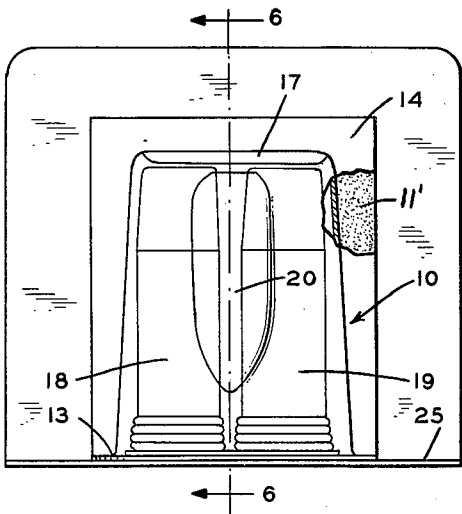


FIG. 6

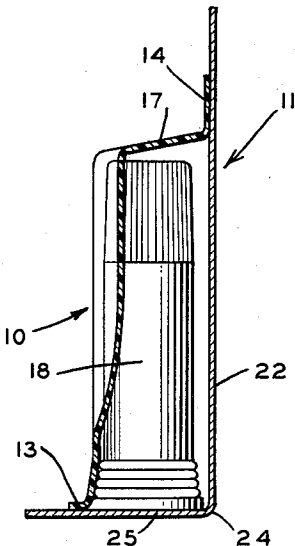


FIG. 7

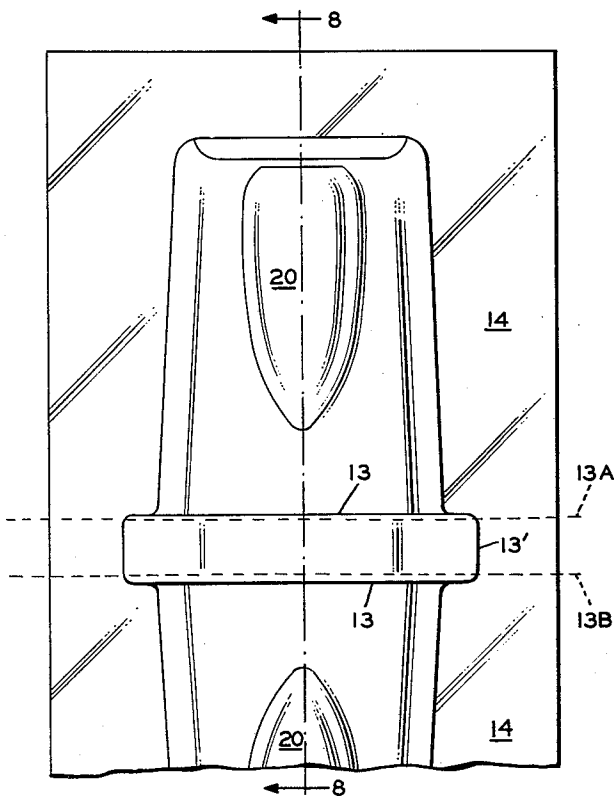
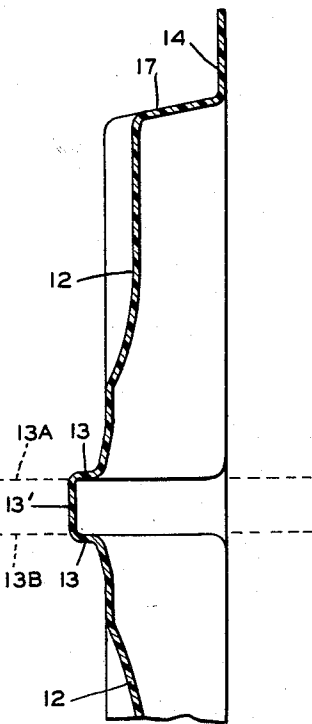


FIG. 8



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3,095,966
PACKAGE

Louis Henry Pfohl, Forest Hills, N.Y., assignor to Design Center, Inc., Long Island City, N.Y., a corporation of New York

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4 Claims. (Cl. 206—45.31)

The present invention relates to packaging, and more particularly to the packaging of merchandise for display and sale and to a method for producing such packages.

In packaging merchandise for display and sale, it is desirable in many instances to so construct the package that the package and merchandise will stand upright on a counter or other horizontal display surface. It is also desirable that such package be of the blister type, in which a major portion of the package is formed from a transparent sheet of plastic. Such blisters are desirably prepared by a thermoforming procedure in which a web of a suitable transparent plastic, e.g., oriented styrene, is heated and then shaped by means of dies into the desired configuration. By thermoforming, blister packages which conform generally in shape to the goods to be packaged therein can conveniently be made. A highly satisfactory thermoforming machine is shown in United States Patent 2,961,137 to Menkel, which issued November 22, 1960. Another suitable machine is shown in United States Patent 2,522,956 to Middleton, which issued September 19, 1950.

The principal object of the invention has been the provision of a blister package which has a structure adapted to permit the articles of merchandise packaged therein, whether they be bottles, tubes or other shaped objects, to stand upright on a counter.

Another object of the invention has been the provision of such a package which can be produced and assembled economically.

Still another object of the invention has been to provide a plastic blister which cooperates with a simple paperboard structure to form an attractive upright display package.

A feature of the invention has been to provide a plastic blister structure having an open back and an open base and in which the back and base are provided with peripheral flanges at right angles.

A further object of the invention has been to provide a method for producing such blisters by a thermoforming process.

Other and further objects, features and advantages of the invention will appear more fully from the following description taken in connection with the appended drawings, in which:

FIG. 1 is a front elevational view of a completed package in accordance with the invention;

FIG. 2 is a longitudinal sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is a horizontal sectional view taken along the line 3—3 of FIG. 1;

FIG. 4 is a front elevational view of the plastic blister of the package of FIG. 1;

FIG. 5 is a front elevational view of a modified form of package construction in accordance with the invention;

FIG. 6 is a longitudinal sectional view taken along the line 6—6 of FIG. 5;

FIG. 7 is a front elevational view of a blister blank at an intermediate stage of blister formation; and

FIG. 8 is a sectional view taken along the line 8—8 of FIG. 7.

Referring now to the drawings, and more particularly to FIGS. 1—4, the package of the invention comprises a plastic blister designated generally by the reference

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numeral 10 and a paperboard stand designated generally by the reference numeral 11.

The plastic blister 10, which is preferably produced by a thermoforming process from a web of transparent plastic such as polarized extended styrene, comprises a hollow body portion 12 having an open back and an open base. A horizontally extending flange 13 is provided around the periphery of the open base of body portion 12. A vertically extending flange 14 is provided around the periphery of the open back of body portion 12. The planes of the flanges 13 and 14 extend at right angles to each other and the flanges join along the lines 15 and 16 at the juncture of the periphery of the open base and the periphery of the open back. The body portion 12 and the flanges 13 and 14 are an integral structure produced from a web of thermoplastic material. The top of the body portion 12 is closed, as shown at 17.

The body portion 12 may be shaped to conform generally to the shape of the merchandise to be packaged, shown here as two bottles 18 and 19. For holding the bottles 18 and 19 in proper vertical position, a recess or dimple 20 is provided in the front of the body portion 12. The recess 20 effectively divides the body portion into two compartments.

The paperboard stand 11 may be formed from a single sheet of paperboard folded along a line 21 to provide a vertical back section 22 and a vertical front section 23. The portion of the paperboard containing the back section 22 is folded along a line 24 to provide a horizontal bottom section 25. The portion of the paperboard containing the front section 23 is folded along a line 26 to provide a horizontal section 27 which overlies the bottom section 25. The section 27 is provided with an aperture 28 corresponding in size and shape to the open base of the blister body portion 12. The front section 23 is provided with a similar aperture 29 corresponding in size and shape to the open back of the blister body portion 12.

The apertures 28 and 29 join along the line 26 to provide a composite aperture in the front paperboard sheet (23 and 27) which has a periphery substantially the same size and shape as the composite periphery of the open back and open base of the blister body portion 12. The horizontal flange 13 lies between the paperboard sections 25 and 27, while the flange 14 lies between the paperboard sections 22 and 23.

After assembly, the paperboard sections 25 and 27 may be joined together, as by the use of one or more staples or by the use of a suitable adhesive, yielding a unitary structure in which the front and back paperboard sections 23 and 22 retain the flange 14 and the bottom paperboard sections 25 and 27 retain the flange 13. It is desirable that the front and back paperboard sections be joined by staples or adhesive. Suitable staple locations are indicated at 30, 31 and 32.

Suitable advertising matter may be printed on the front face of the paperboard section 23, as indicated at 33, and also on the upper surface of the paperboard section 27. The paperboard used for the stand 11 need not be sufficiently rigid as to be able to stand upright since the blister 10 affords added rigidity to the assembled structure, thus maintaining the package in an upright position.

The package as described above is a preferred form of the invention and the composite structure affords numerous advantages. However, the blister 10 may be used in a simpler package structure. Such a structure is shown in FIGS. 5 and 6 and involves only the paperboard sections 22 and 25 and the blister 10. The flanges 13 and 14 are affixed to the sections 25 and 22, respectively, by suitable means such as an adhesive as shown at 11' in FIG. 5. In this simpler form of construction, the

rigidity afforded by the integral construction of the flanges 13 and 14 affords considerable stability.

In the process of forming the blister of the invention, a web of plastic material, e.g., oriented styrene, is advanced step by step through a thermoforming operation. In this operation the web is seized adjacent each edge thereof, is advanced to a heating station where the plastic material is heated to a softened condition and is then advanced to a forming station. In the forming station the softened web is contacted by dies which produce two blister blanks in axial alignment and with open bases facing each other but separated by a short length of web. Actually, a series of such pairs of axially aligned blister blanks may be formed simultaneously across the web width.

A pair of axially aligned blister blanks is illustrated in FIGS. 7 and 8. It will be observed that the flanges 13 which extend around the open bases of the blanks are joined by a short section of web 13'. After the blanks have been formed they are die cut along the planes 13A and 13B to produce the individual blister as shown in FIGS. 1-4 and 5-6. This die cutting along the planes 13A and 13B separates the two blister blanks and eliminates the web section 13'. Since the flanges 13 and 14 are integral, the web section 13' also extends between the flanges 14 of each blank and is cut out of the web as part of the operation of cutting along the planes 13A and 13B. The pair of blister blanks is cut out of the plastic web from which the blister blanks are formed by a die cutting operation around the periphery of the flanges 14. The cutting out of the blisters from the web is preferably performed before the cutting along the planes 13A and 13B, but may be performed at the same time or subsequently.

While the invention has been described in connection with specific embodiments thereof and in specific uses, various modifications thereof will occur to those skilled in the art without departing from the spirit and scope of the invention as set forth in the appended claims.

What is claimed is:

1. A package, comprising a generally L-shaped flexible stand having a flat horizontal base section and a flat upright back section, a plastic blister having a hollow body with an open base and an open back, said blister body having a first integral flange extending outwardly from the periphery of said open base along at least a major portion thereof and being disposed in a horizontal plane, said blister body having a second integral flange extending outwardly from the periphery of said open back along at least a major portion thereof and being disposed in a vertical plane, said flanges being integrally joined along the line of intersection of said planes, and means to affix said first flange to said base section and said second flange to said back section whereby said stand and said blister form a unitary package.

2. A package, comprising a generally L-shaped stand having a flat horizontal base section and a flat upright back section, said stand being formed from a single sheet of paperboard folded along the line of juncture of said flat sections, a plastic blister having a hollow body with an open base and an open back, said blister body having a first integral flange extending outwardly from the periphery of said open base along substantially the entire periphery thereof and being disposed in a horizontal plane, said blister body having a second integral flange extending outwardly from the periphery of said open back along substantially the entire periphery thereof and being disposed in a vertical plane, said flanges being integrally joined along the line of intersection of said planes, and means to affix said first flange to said base section and said second flange to said back section whereby said stand and said blister form a unitary package, said last mentioned means comprising an adhesive bonding said flanges to said respective sections.

3. A package, comprising a generally L-shaped stand formed from a single relatively stiff sheet folded along a first line to provide a bottom portion and a top portion, each of said portions being folded along an intermediate line to provide an upright back section and a horizontal base section, said sections of said top portion overlying directly the corresponding sections of said bottom portion, a plastic blister having a hollow body with an open base and an open back, said blister body having a first integral flange extending outwardly from the periphery of said open base along at least a major portion of the periphery thereof and being disposed in a horizontal plane, said blister body having a second integral flange extending outwardly from the periphery of said open back along at least a major portion of the periphery thereof and being disposed in a vertical plane, said flanges being integrally joined along the line of intersection of said planes, said upright back section of said top portion of said sheet having an aperture substantially conforming in size and shape to the periphery of said open back and said horizontal base section having an aperture substantially conforming in size and shape to the periphery of said open base, said apertures communicating with each other along said line of intersection of said planes, said body being inserted through said apertures so that said first flange lies between said base sections of said sheet and said second flange lies between said back sections of said sheet, and means to retain said portions in said overlying positions so that said sections of said portions of said sheet contact said respective flanges and retain said body in said apertures.

4. A package, comprising a generally L-shaped stand formed from a single sheet of paperboard folded substantially in half to provide a bottom portion and a top portion, each of said portions being folded along an intermediate line to provide a flat upright back section and a flat horizontal base section, said sections of said top portion overlying directly the corresponding sections of said bottom portion, a plastic blister having a hollow body with an open base and an open back, said blister body having a first integral flange extending outwardly from the periphery of said open base along substantially the entire periphery thereof and being disposed in a horizontal plane, said blister body having a second integral flange extending outwardly from the periphery of said open back along substantially the entire periphery thereof and being disposed in a vertical plane, said flanges being integrally joined along the line of intersection of said planes, said flat upright back section of said top portion of said sheet having an aperture substantially conforming in size and shape to the periphery of said open back and said flat horizontal base section having an aperture substantially conforming in size and shape to the periphery of said open base, said apertures communicating with each other along said line of intersection of said planes, said body being inserted through said apertures so that said first flange lies between said base sections of said sheet and said second flange lies between said back sections of said sheet, and means to retain said portions in said overlying positions so that said sections of said portions of said sheet contact said respective flanges and retain said body in said apertures.

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