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[73] Assignee **The Mead Corporation**

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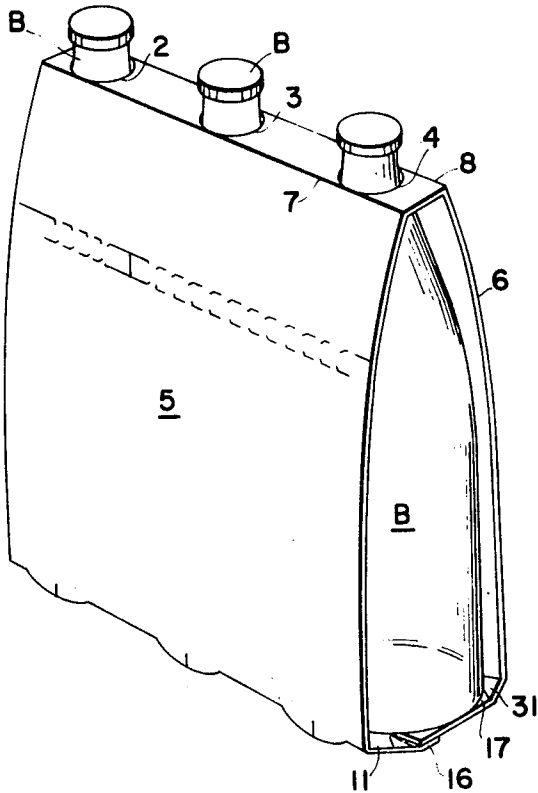
[54] **ARTICLE CARRIER**
4 Claims, 4 Drawing Figs.

[52] U.S. Cl. **206/65 E,**
229/40
[51] Int. Cl. **B65d 75/06**
[50] Field of Search 229/40;
206/65 E, 65 C; 220/114, 115, 116

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ABSTRACT: An article carrier having top, bottom and sidewalls foldably joined together to form a tubular structure for disposition about a plurality of articles arranged in side-by-side rectilinear relation in at least one row includes at certain corners of the carrier a pair of divergent fold lines arranged to form a web panel which effectively aids in retaining the articles in the wrapper against dislodgment through the open ends thereof. Where apertures are formed at the carrier corners for receiving portions of the packaged articles to aid in retaining the articles, the web panel formed by divergent fold lines also inhibits tearing of a blank and thus further enchances package security.



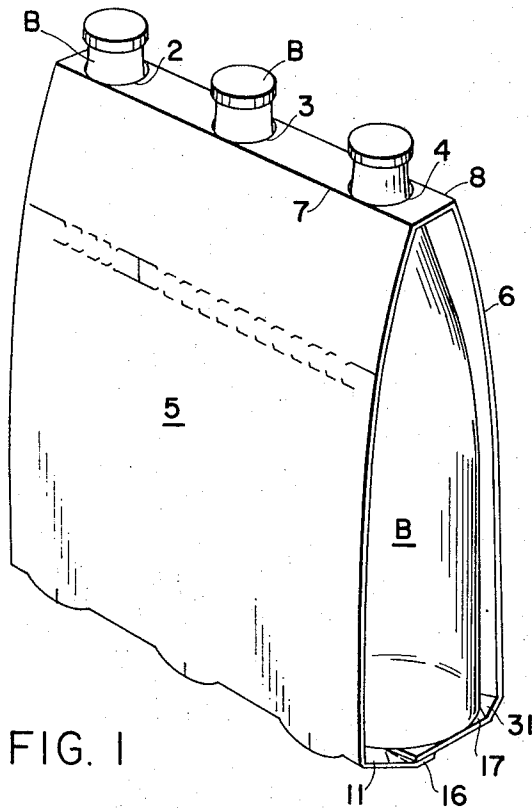


FIG. 1

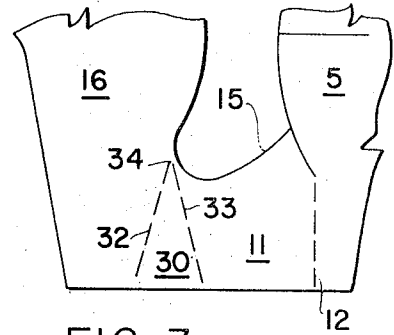


FIG. 3

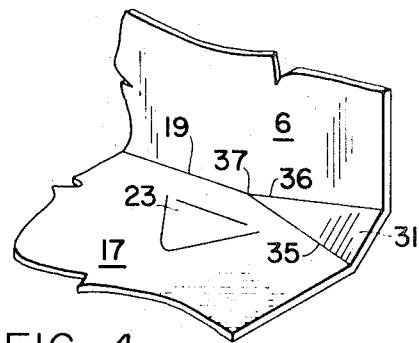


FIG. 4

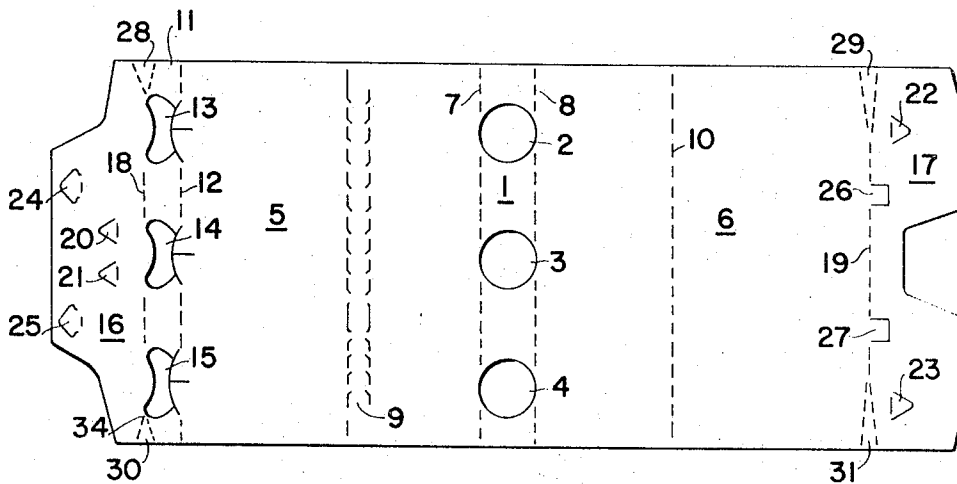


FIG. 2

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ARTICLE CARRIER

The well-known corner weakness of article carriers may be overcome at least partially by utilizing a pair of parallel fold lines which are slightly offset from the corner of the package and which interconnect the end edge of the package with an article-receiving aperture formed at the package corner. Such an arrangement is primarily adaptable for use in conjunction with the packaging of cans having end flanges.

According to the present invention, divergent fold lines are utilized at certain corners of a tubular package and serve to improve substantially the article-retaining capability of the tubular structure. Furthermore, such diverging fold lines when utilized according to this invention in close proximity to corner apertures, formed in the tubular structure for receiving portions of the packaged items, significantly inhibit the tendency of the package to tear at the corners. The invention is useful in packaging both cans and bottles but is particularly well adapted for bottle packages.

For a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective view of an article carrier constructed according to the invention;

FIG. 2 is a plan view of a blank from which the carrier depicted in FIG. 1 is formed;

FIG. 3 is an enlarged fragmentary plan view of a portion of the blank depicted in FIG. 2 and represents one form of the invention; and in which

FIG. 4 is a perspective fragmentary view of another form of the invention.

In the drawings the numeral 1 designates the top panel of a wrapper in which a plurality of apertures 2, 3 and 4 are formed for receiving the necks of the packaged bottles "B." Sidewalls 5 and 6 are foldably joined to top wall 1 along fold lines 7 and 8 respectively. A removable tear strip 9 is formed in sidewall 1 and is of conventional construction. A fold line 10 is formed in sidewall 6 and functions in a manner similar to tear strip 9 to facilitate folding of the sidewalls in such manner as to cause the sidewalls to conform generally with the exterior configuration of bottles "B."

The panel formed at the lower edge of sidewall 5 and forming a part thereof is a bevelled panel 11 which is foldably joined along fold line 12 to the upper portion of sidewall 5 and in which conventional corner apertures 13, 14 and 15 are formed. As is well known, portions of the bottle "B" extend into the apertures 13, 14 and 15 which aid in retaining the bottles against dislodgment through the open ends of the wrapper. As utilized herein, bevelled panel 11 is considered as a part of sidewall 5.

The bottom wall of the carrier is a composite structure comprising a pair of lap panels 16 and 17 which are foldably joined along fold lines 18 and 19 respectively to the bottom edges of sidewalls 5 and 6.

In order to tighten the blank about a group of articles to be packaged, a plurality of conventional tightening apertures 20 and 21 are formed in lap panel 16 and similar tightening apertures 22 and 23 are formed in lap panel 17. As is well understood in the art, suitable machine elements enter the tightening apertures 20, 21 and 22, 23 and move in opposite directions underneath the bottles "B" to tighten the blank about the article group.

Once the wrapper is tightened, it is locked by driving the locking tabs 24 and 25 formed in lap panel 16 through the openings defined by retaining tabs 26 and 27 formed in lap panel 17.

According to this invention, package security is substantially enhanced by web panels formed at the lower corners of the package. In the drawings, these web panels are generally designated by the numerals 28-31. The web panels 28 and 30

are arranged with respect to their associated apertures 13 and 15 in an identical manner while the web panels 29 and 31 are of similar configuration and are similarly related to the lap panel 17 and the sidewall 6.

As can best be seen in FIG. 3, web panel 30 is defined by a pair of outwardly divergent fold lines 32 and 33 which intersect at a vertex point 34. As is apparent from FIG. 2, vertex point 34 is disposed in general alignment with the fold line 18 by which the sidewall 5 is adjoined to lap panel 16. Web 30 and its fellow 28 are disposed in a single plane astride the lower left-hand corner of the package as shown in FIG. 1 when the package is assembled and when so disposed effectively aid in retaining the bottles "B" against dislodgment through the open ends of the wrapper. Of course such retaining function is in addition to that afforded in known manner by the corner apertures such as 13, 14 and 15. In addition to aiding in retaining articles within the wrapper, the web panels 28 and 30 also serve to inhibit tearing of the wrapper from apertures 13 and 15 outwardly to the edge of the blank. Stated otherwise, by substituting the divergent fold lines 32 and 33 for a conventional continuation of the fold line 18, effective provision is made for inhibiting tearing of the blank from apertures 13 and 15 along an imaginary fold line aligned with fold line 18 which of course is not incorporated in the blank.

On the other side of the carrier web panels 29 and 31 are of identical construction. For example, and as best shown in FIG. 4 web panel 31 is defined by a pair of divergent fold lines 35 and 36 which intersect at vertex point 37 disposed in alignment with fold line 19. As is apparent from FIGS. 1 and 4, web panel 31 is disposed at an angle to sidewall 6 and to lap panel 17 and is astride the lower right-hand corner of the package as shown in FIG. 1. Web panel 31 and its associated fellow web panel 29 thus aid significantly in retaining the bottles "B" against dislodgment through the open ends of the tubular structure. Panels 29 and 31 are particularly effective since article-receiving apertures such as 13, 14 and 15 are not incorporated along the right-hand corner of the carrier and in general coincidence with the fold line 19. The web panels 28-31 do not require any special treatment when the carrier is formed since these web panels automatically assume their angular positions when the bottom lap panels are folded at an angle to their associated sidewalls.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An article carrier having spaced top, bottom and sidewalls foldably joined together along transverse fold lines to form a tubular structure disposed about a plurality of articles arranged in side-by-side rectilinear relation in at least one row, and wherein the improvement comprises a pair of outwardly diverging fold lines extending to the adjacent end edges of the walls adjoined by one transverse fold line from a vertex point spaced inwardly from said end edges of said structure and disposed in general coincidence with said one of said transverse fold lines to define an article-retaining rupture-inhibiting unitary web panel disposed in a single plane astride one corner of the carrier.

2. An article carrier according to claim 1 wherein an article-gripping aperture is formed along said one transverse fold line and where said vertex point is disposed immediately adjacent the outer portions of the periphery of said aperture.

3. An article carrier according to claim 4 wherein said article-gripping aperture is formed in an inwardly bevelled panel forming a part of one of the walls adjoined by said one transverse fold line.

4. An article carrier according to claim 1 wherein said web panel is of a substantially triangular configuration and wherein the single plane thereof is disposed in angular relation to the planes of both of the walls adjoined by said one transverse fold line.

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