United States Patent

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[54] **SINGLE-PLY CROWN SUPPORT CARRIER**
6 Claims, 3 Drawing Figs.

[52] **U.S. Cl.** **206/65,**
294/87.2
[51] **Int. Cl.** **B65d 71/00**
[50] **Field of Search** ..... 206/65 (E),
65 (C); 294/87.2; 229/40

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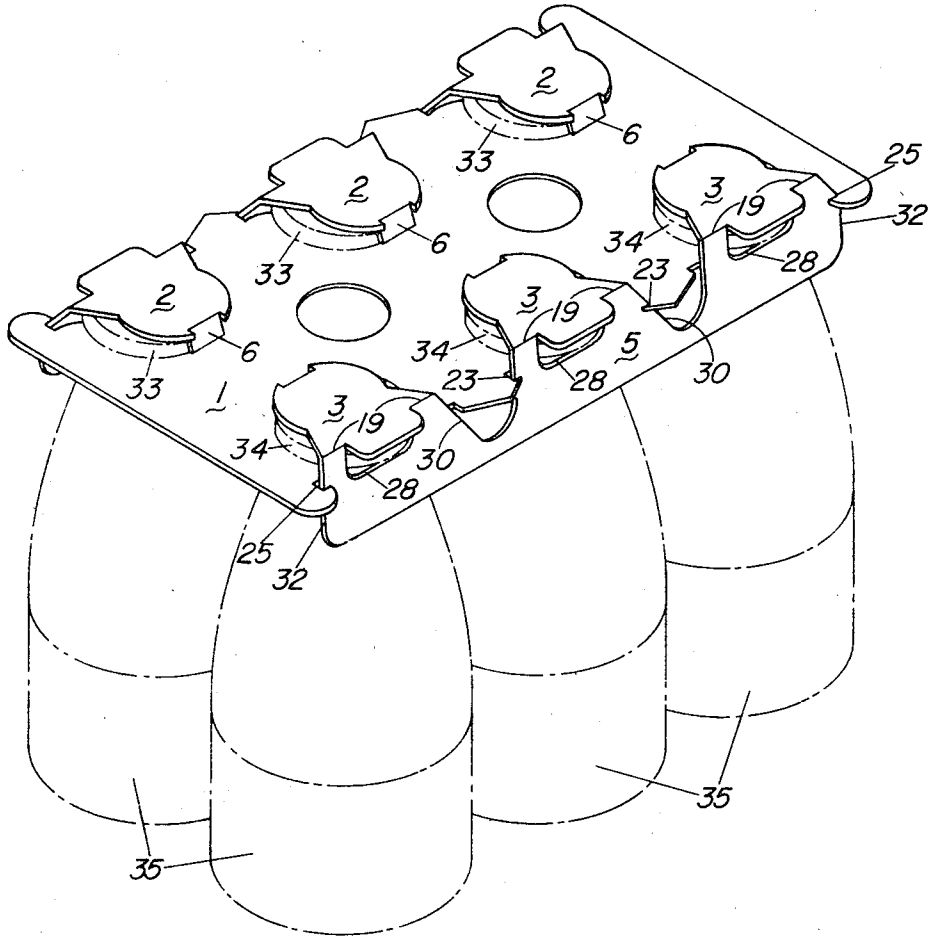
ABSTRACT: A single-ply, multiple-article carrier comprising a base panel having means therein to secure said panel to the carried articles, crown cover panels and crown locking panels for securing the carried articles in place.



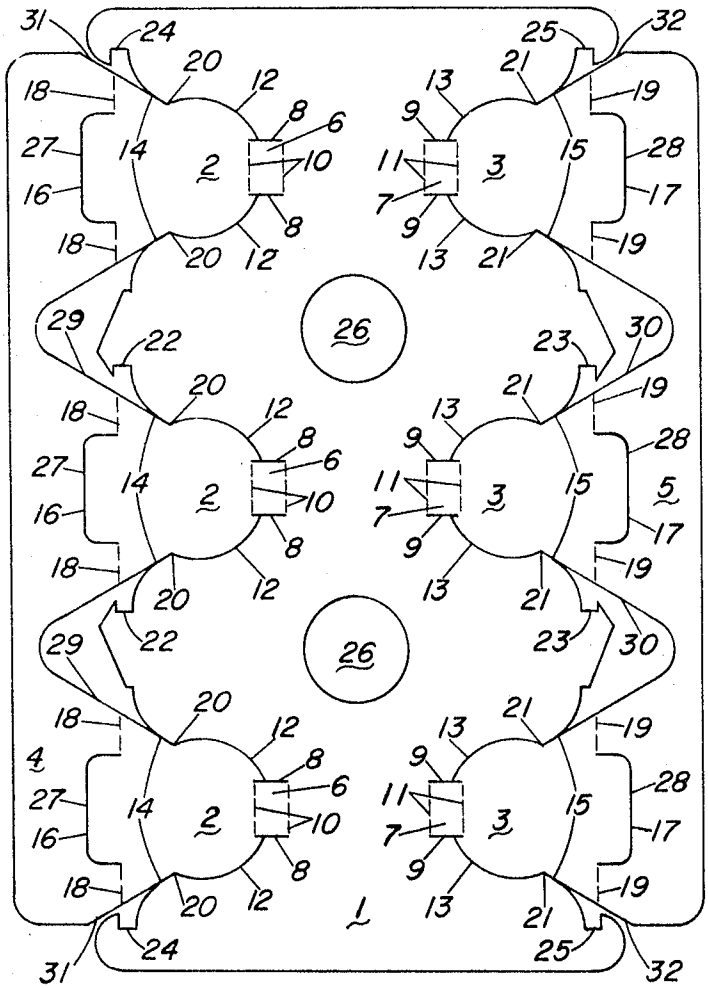


FIG. 1

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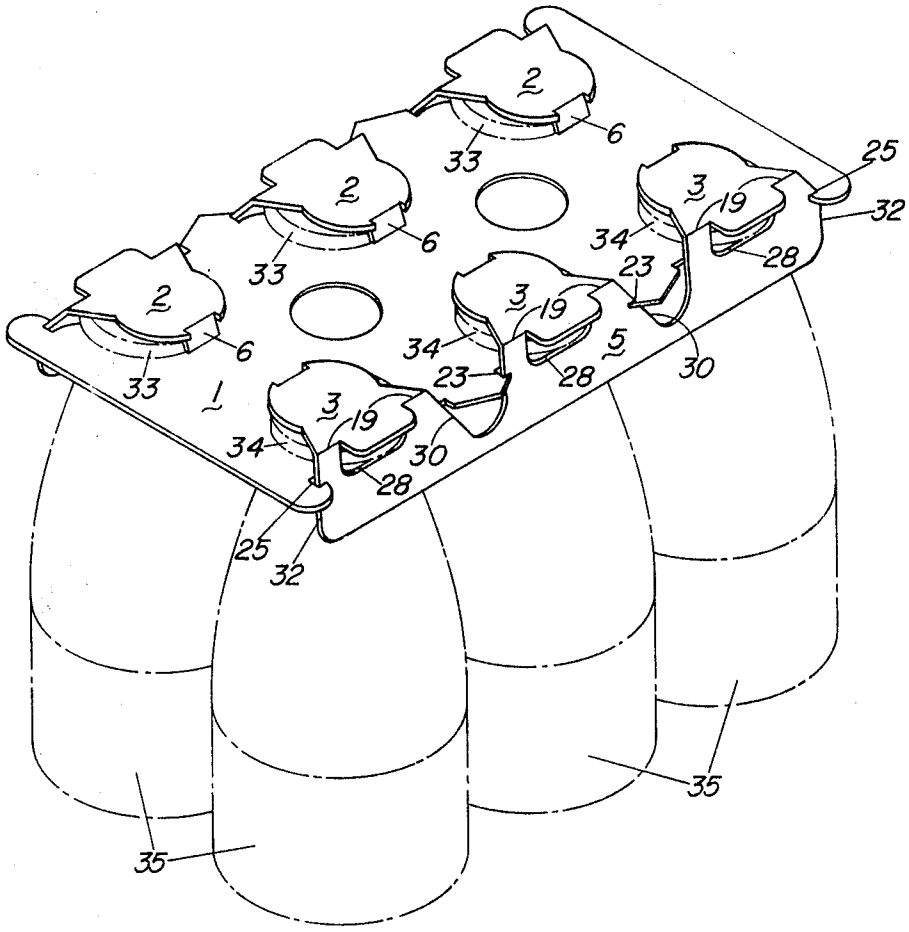

FIG. 2

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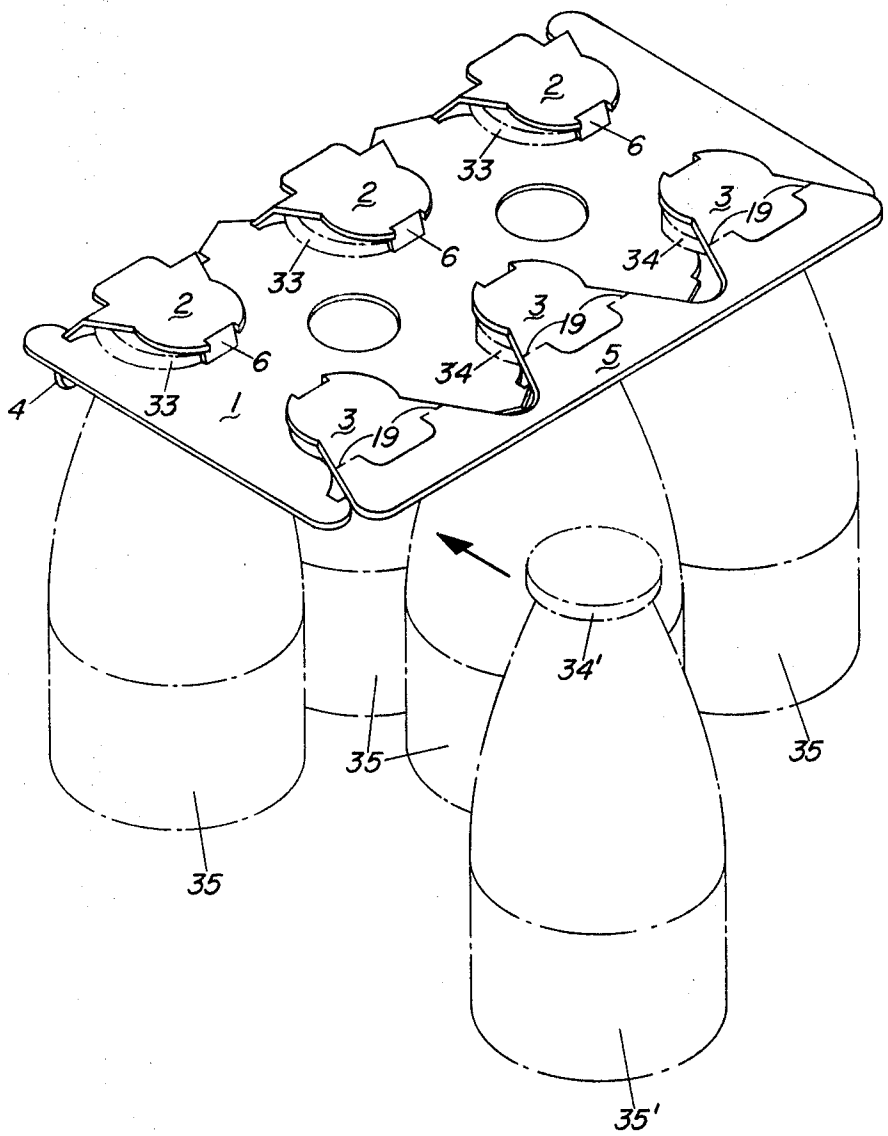

FIG. 3

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SINGLE-PLY CROWN SUPPORT CARRIER

BACKGROUND

This invention relates to a multiple-article carrier. More particularly, this invention relates to a multiple-article carrier of the crown-support type. Still more particularly, this invention relates to a multiple-article carrier which may be fashioned from a single sheet of blank material. Yet more particularly, this invention relates to a multiple-article carrier which can be used in packaging operations without the conventional steps of folding and gluing.

Due to the advent of the "one-way container" and the increased consumer demand for goods packaged in multiple-article carriers, it has become necessary to develop cheaper multiple-article carriers which can be used in high-speed packaging operations. A significant improvement over the prior art "basket style" carriers was realized through the introduction of the "wraparound" carriers; however, there continues to be a need for a carrier requiring even less material than the wraparound carrier and which requires fewer and simpler steps for its erection.

BRIEF DESCRIPTION

Accordingly, it is an object of this invention to provide a carrier requiring a reduced amount of blank material. Another object of this invention is to provide such a carrier of the crown-support variety. Still another object of this invention is to provide a carrier which may be erected into a package with a minimum number of steps. Yet another object of this invention is to provide a carrier which may be erected without the conventional folding and gluing steps. A still further object of this invention is to provide a carrier which may be used in high-speed packaging operations. These and other objects will be apparent from the description hereinafter set forth and the appended drawings.

In accordance with this invention, the foregoing and other objects are accomplished with a carrier prepared from a blank of packaging material such as heavy paperboard, plastic or other cellulosic material. The carrier of the present invention comprises a base panel, having means therein for securing said panel to the articles packaged thereby, crown-cover panels hinged to said base panel and crown-locking panels hinged to said crown-cover panels.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a unitary blank cut and scored in a manner necessary to the formation of a carrier as shown in FIG. 2;

FIG. 2 is a perspective view of a typical package embracing the present invention;

FIG. 3 is also a perspective view of a typical package embracing the present invention and showing the manner in which the package articles are loaded into the carrier.

DETAILED DESCRIPTION

Referring now to FIG. 1, there is shown a unitary sheet of blank material which is cut and scored so as to define the bounds of the various panels and other elements on the carrier. The blank may be prepared from a heavy paperboard, plastic or other cellulosic material. As can be seen in the FIG., the blank comprises a base panel, 1, crown-cover panels, 2–2 and 3–3, and crown-locking panels, 4 and 5.

The crown-cover panels, 2–2 and 3–3, are hinged to the base panel, 1, by hinge elements, 6–6 and 7–7, respectively. The hinge elements, 6–6 and 7–7, are defined by a combination of cut lines, 8–8 and 9–9 and scored lines 10–10 and 11–11, respectively. The crown-covers, 2–2 and 3–3, are defined in part, by curved cut lines 12–12 and 13–13, and straight cut lines 14–14 and 15–15, and cut lines 16–16 and 17–17, and in part, by scored fold lines 18–18 and 19–19. As can be seen from the FIG., cut lines 12–12 and 14–14 and cut lines 13–13 and 15–15 intersect at points 20–20 and 21–21, respectively. As can also be seen from the drawing, cut lines 14–14 and 15–15 diverge as they extend outwardly from their respective points of intersection. As can also be seen in FIG. -, diverging lines 14–14 and 15–15 extend outwardly beyond scored lines 18–18 and 19–19 to define, in part, the boundaries of crown-locking panels 4 and 5. For reasons more fully set forth, hereinafter, it is essential to the present invention that at least one part of diverging lines, on each side of the carrier, define edges which can be used to lock the carrier in an erected position. It will be appreciated, however, that these locking edges need not, necessarily, be formed by a continuous extension of diverging lines, 14–14 and 15–15, although this will be the case in a preferred embodiment.

As can also be seen in FIG. 1, the base panel, 1, is cut so as to define locking grooves, 22–22, 23–23, 24–24 and 25–25. As will be pointed out more fully, hereinafter, these grooves are designed so as to receive a corresponding edge of crown-locking panels 4 and 5, respectively, and secure same in place when the carrier is erected. Moreover, the base panel, 1, has cut therein apertures, 26–26, which provide means whereby the carrier may be lifted and carried.

The crown-locking panels, 4 and 5, are hinged to crown-covers 2–2 and 3–3 along scored fold lines 18–18 and 19–19, respectively. The crown-locking panels, 4 and 5, comprise locking edges, 27–27 and 28–28 which are formed by cut lines 16–16 and 17–17 respectively. The locking edges, 27–27 and 28–28 are designed such that they may be securely locked under the article crown or similar projection extending outwardly from the article. It will be appreciated, that the locking edges 27–27 and 28–28 will be held securely in place when edges 29–29 and 30–30 and edges 31–31 and 32–32 are locked, respectively, in grooves 22–22, 23–23, 24–24 and 25–25.

In order to better understand the present invention, reference is now made to FIG. 2, which is a perspective view of a package embracing said invention. As can be seen in FIG. 2, the base panel, 1, is positioned in a plane extending below the crowns, 33–33 and 34–34, of the packaged articles, 35–35. Though not clearly shown, it will be appreciated that the articles, 35–35, are inserted into the openings created by cutting crown-covers, 2–2 and 3–3, from the base panel, 1. It will also be appreciated, that the opening formed by curved cut lines 12–12 and 13–13 must be smaller than the crowns 33–33 and 34–34 to afford maximum support for the carried articles, 35–35. As can also be seen in FIG. 2, crown-covers, 2–2, assume a position substantially parallel to the crowns 33–33 and substantially cover said crowns after having been rotated out of the base panel along hinge elements 6–6. Similarly, crown-covers 3–3 substantially cover crowns 34–34 and have been rotated out of the plane of the base panel, 1, by hinge elements, 7–7 (not shown). Moreover, as can be seen in FIG. 2, crown-locking panel, 5, is pivoted along fold lines, 19–19, and extends downwardly therefrom. The crown-locking panel is held in this position by engaging edges 30–30 and 32–32 into grooves, 23–23 and 25–25, respectively. When the crown-locking panel, 5, is thus secured in position, locking edges 28–28, are locked under crowns 34–34. It will be appreciated, that crown-locking panel, 5, and its component locking edges 28–28, 30–30 and 32–32 afford both vertical and lateral support to the package; i.e., locking edges 28–28 afford sufficient support for the articles 35–35 to enable the package to be lifted and the crown-locking panel, when secured into position, prevents lateral movement of said articles. It will also be appreciated, that crown-locking panel, 4, is similarly secured, although not shown in FIG. 2.

Referring now to FIG. 3, it can be seen that the articles to be packaged in the carrier of the present invention are first slid into the opening formed by the crown-cover which is cut from the base panel, 1. In FIG. 3, there is shown a partially loaded package with five articles, 35–35, in place, and one article, 35′, in position for loading. As can be seen, the articles in one row are in the loaded position, with crown-covers 2–2 covering crowns 33–33 and with locking panel, 4, locked into the

erected position. While loading the articles into the package, it is necessary to move the crown-covers out of the plane of the base panel, 1, by rotating the hinge elements upwardly such that the crown-covers and the locking bar assume a position as illustrated in FIG. 3 by crown-covers, 3–3 and locking panel, 5. As can be seen, the crown-covers, 3–3, are positioned above the base panel, 1, with the locking panel, 5, extending outwardly therefrom. With the crown-covers and locking panels in a position, substantially as shown, the articles, 35, can be moved into the opening created by the removed crown-cover by sliding said articles inwardly in the direction indicated by the arrow which is shown adjacent article 35'. As can also be seen in FIG. 3, the openings formed by the removal of the crown-cover are occupied by a portion of the article just below the crown, which crown extends over said opening and is thereby supported by the base panel, 1. It will be appreciated, that the article should fit snuggly into the opening formed by cut lines 12–12 and 13–13 to afford maximum longitudinal support to the packaged articles while at the same time attaining maximum vertical support from the base panel, 1. It will also be appreciated, that the locking panel, 5, may be rotated along fold lines, 19–19, and secured in the erected position after the articles have been positioned. It should be noted, that although the loading has been illustrated in FIG. 3 by loading and locking one row and then another, it is contemplated that all articles contained in a particular package will be loaded simultaneously with the locking panels being similarly secured.

Although the present invention has been illustrated by reference to a particular embodiment, it will be readily apparent that the present invention lends itself to various modifications. For example, the carrier of the present invention has been illustrated by reference to a carrier designed to package six articles in a two by three arrangement; however, it is contemplated that the carrier of the present invention could be used to package any number of articles in a two row arrangement. For practical reasons, the carrier of the present invention will, however, be most useful for packaging 2 to 12 articles in a two by one to a two by six arrangement. Moreover, the carrier of the present invention has been illustrated by reference to a carrier having at least one locking groove for each crown-cover. It should be noted, however, that adequate locking can be obtained by securing the locking panels at points corresponding to only one crown-cover on each side, especially if the selected crown-cover is at or near the center of the package. It follows, that for the carrier, as illustrated, adequate support could be obtained without locking grooves 24–24 and 25–25.

PREFERRED EMBODIMENT

In a preferred embodiment, the carrier of the present invention will be prepared from a heavy paperboard and designed for the packaging of either six or eight articles in a two by three or two by four arrangement. A six article carrier in a two by three arrangement, is particularly preferred. It will be appreciated that the weight of the board will depend upon the weight of the articles being packaged, but in every case, must be of sufficient weight to support the carried articles when the material is used, as described and illustrated, in the "single-ply" carrier of the present invention. Moreover, in a preferred embodiment, the openings formed by cutting out the crown-cover panels will be of substantially the same size as that portion of the article which will occupy said openings when the carrier is erected into a package. In addition, the points of intersection between the curved and straight lines which define, in part, the boundaries of the crown-covers, will be positioned at a point such that the distance separating the points which define the same crown-cover will be less than the diameter of the article to be packaged at the height said article is inserted into said opening but not less than 75 percent of said diameter.

I claim:

1. A multiple-article carrier blank which is cut and scored so as to define the boundaries of a carrier comprising: a base panel, said base panel comprising means for securing said base panel to the articles packaged in said carrier; crown-cover panels hinged to said base panel, with hinging elements, such that said crown-cover panels may be rotated upwardly out of the plane defined by said base panel and then into a plane above said plane defined by said base panel; and crown-locking panels hinged to said crown-cover panels such that said crown-locking panels may be rotated downwardly.

2. The multiple-article carrier blank of claim 1 wherein said crown-locking panels comprise a locking edge which is secured under the crown or similar projection of the articles packaged in the carrier formed from said blank.

3. The multiple-article carrier blank of claim 1 wherein said base panel comprises locking grooves.

4. A package comprising, in combination, a multiple-article carrier and the articles carried thereby, said carrier comprising: a base panel, said base panel being secured to said articles by means provided therein; crown-cover panels pivotally connected to said base panel with hinge elements, said hinge elements extending upwardly from said base panel and said crown-cover panels extending outwardly from said hinge elements and in a plane substantially parallel to and above the plane defined by said base panel; and crown-locking panels, which crown-locking panels are pivotally connected to said crown-cover panels and extend downwardly therefrom.

5. The package of claim 4 wherein said crown-locking panels are secured in place with suitable means carried by said base panel.

6. The package of claim 4 wherein said crown-locking panels comprise locking edges which are secured under the outer edges of the crowns of the packaged articles.