United States Patent

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[54] CROWN-SUPPORT CARRIER
9 Claims, 5 Drawing Figs.

[52] U.S. Cl. ..... 206/65 E, 294/87.2
[51] Int. Cl. B65d 71/00, B66f 19/00
[50] Field of Search ..... 206/65 E, 65 C; 220/116, 102; 294/87.2, 87.26, 87.28

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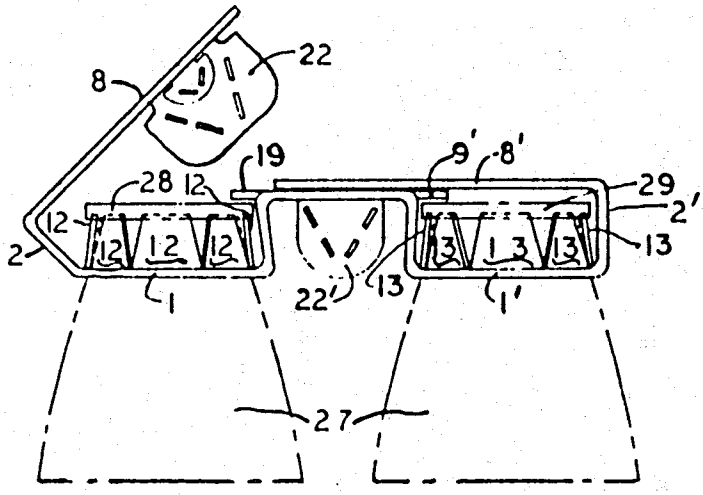
ABSTRACT: An improved carrier of the crown-support variety comprising at least two article-support panels, which panels comprise means for securing said blank to a carried article. The carrier also comprises side panels and overlapping top panels which are locked above the article crowns.



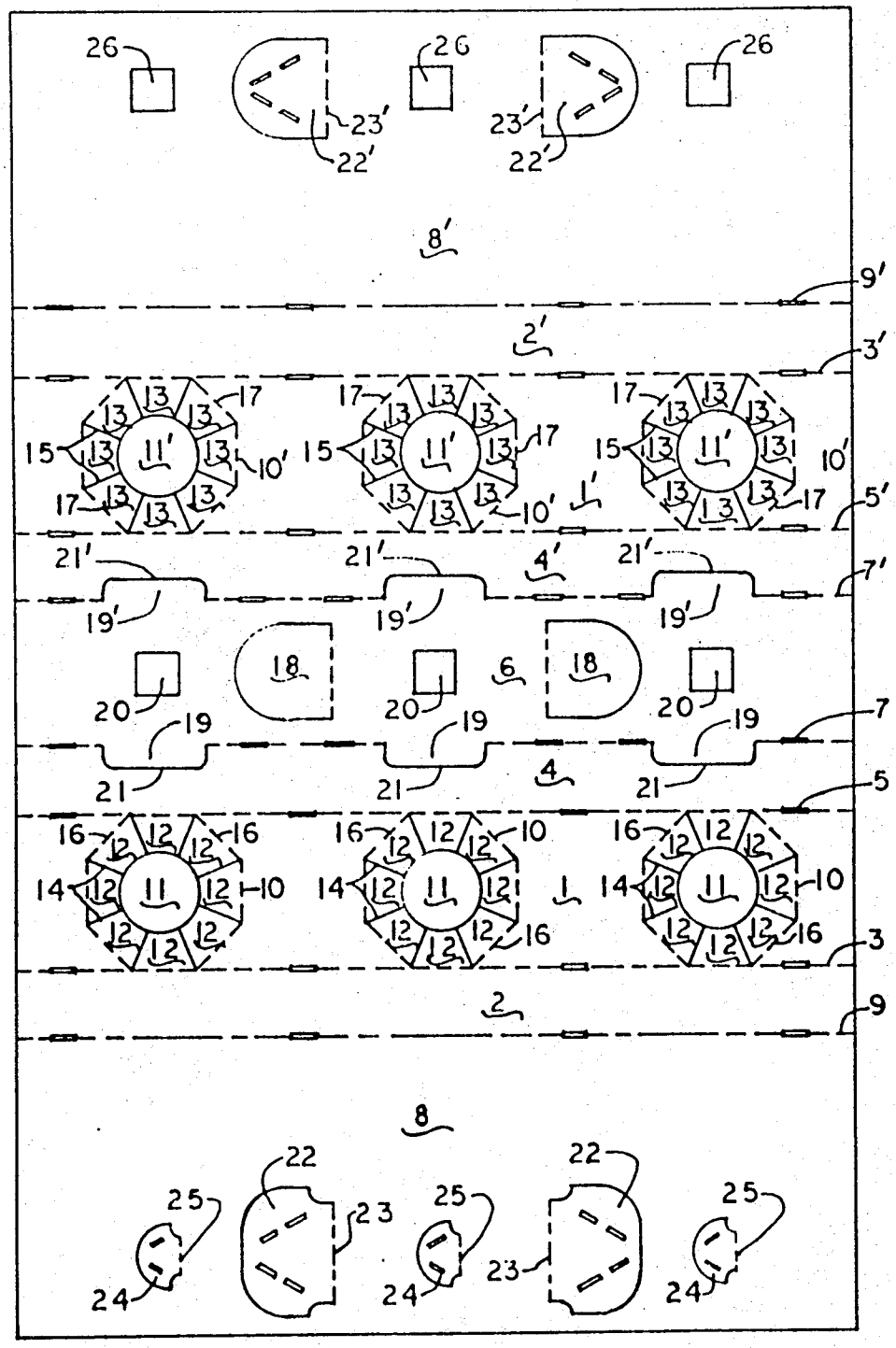


FIG. 1

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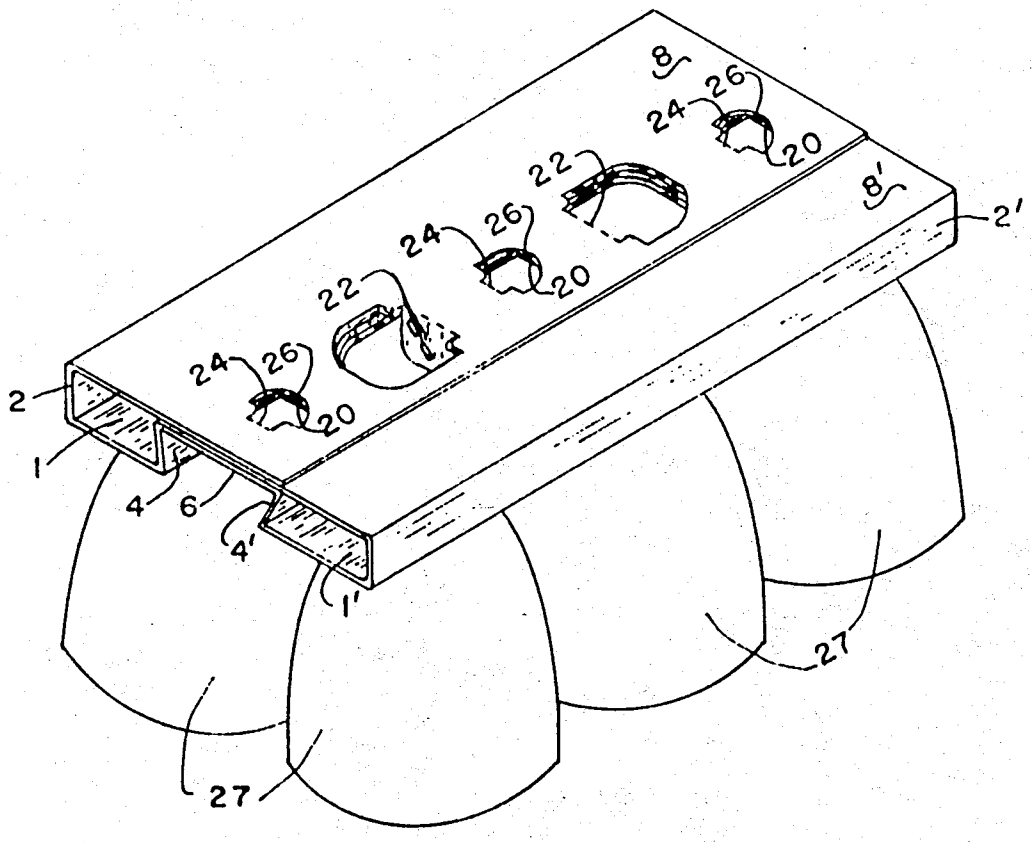

FIG. 2

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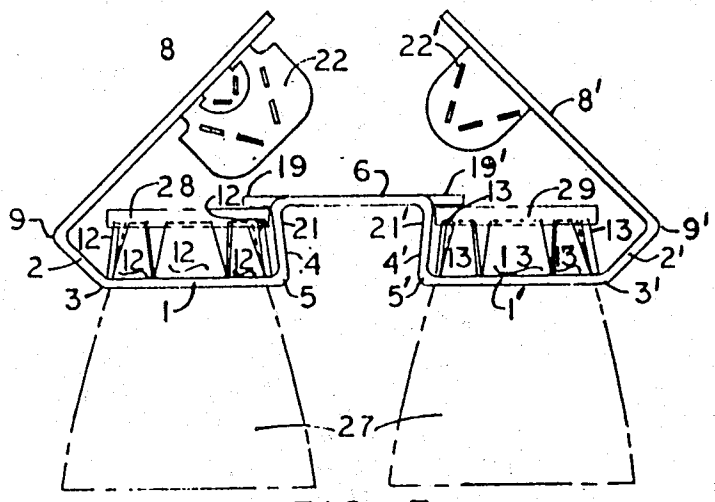

FIG. 3

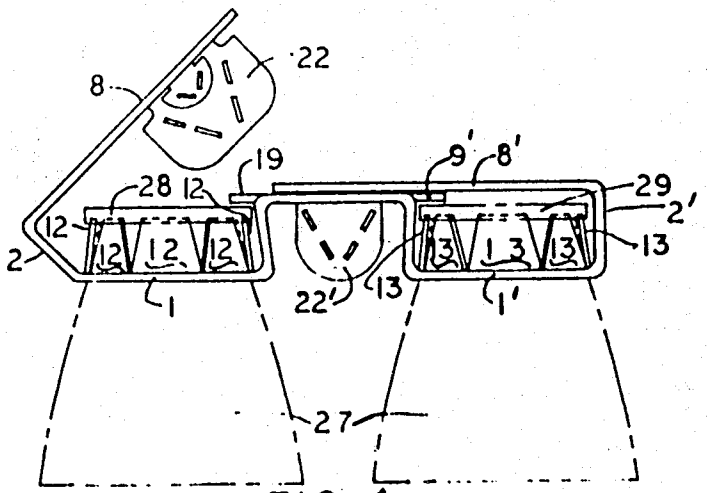

FIG. 4

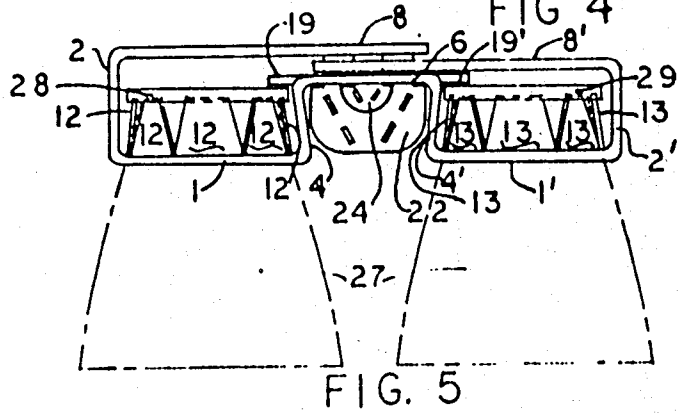

FIG. 5

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CROWN-SUPPORT CARRIER

BACKGROUND

This invention relates to an improved multiple-article carrier. More particularly, this invention relates to a multiple-article carrier of the crown-support variety.

Crown-support carriers, of the type shown in U.S. Pat. No. 3,156,358 which was granted Nov. 10, 1964 to B. F. Randrup, are known in the prior art. These prior art carriers have not, however, been widely accepted in the industry, principally because they are not sufficiently rigid for use with the several article sizes presently on the market and because they do not afford maximum protection to the articles without the use of additional protective device such as the netlike sleeves disclosed in the above cited patent. In this regard, it should be noted that articles carried in the prior art crown-support type carriers are subject to a rotation in a lateral plane which causes contact at or near the bottoms thereof. Moreover, the prior art carriers do not afford maximum protection against crown damage and pilferage or inherent loss therefrom since a portion of the crown is exposed in all such carriers. Further, the prior art carriers have employed a single-ply handle which is inherently weak, as is readily apparent.

BRIEF DESCRIPTION OF THE INVENTION

Accordingly, it is an object of this invention to provide an improved multiple-article carrier of the crown-support type. Another object of this invention is to provide a multiple-article carrier which can be prepared from a single blank of sheet material. Still another object of this invention is to provide a multiple-article carrier which will lend itself to high-speed packaging operations. Yet another object of this invention is to provide a multiple-article carrier of the crown-support type having improved strength and rigidity. A still further object of this invention is to provide a multiple-article carrier of the crown-support type which affords increased protection to the article crowns. Yet a further object of this invention is to provide a multiple-article carrier of the crown-support type having a handle section of increased strength. These and other objects and advantages will be apparent from the description hereinafter set forth and the accompanying drawings.

In accordance with the present invention, the foregoing, and other objects, are accomplished with a carrier which may be erected from a single sheet of blank material and comprising an article-support panel having means associated therewith for securing said carrier to the carried articles, and a top panel, which top panel has means associated therewith for carrying the erected carrier. The carrier is most conveniently erected by first securing the support panel to the articles to be packaged in said carrier and then folding the top panel into position and securing the carrier as erected. As will be apparent from the discussion hereinafter, the carrier also comprises side panels, means for securing the support panel in place and means for securing the carrier in an erected configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is 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 a partial end view showing the initial steps required in the assembly of the package as shown in FIG. 2;

FIG. 4 is also a partial end view showing the position of the top panels at an intermediate point in the erection of a carrier as shown in FIG. 2; and

FIG. 5 is a partial end view of the package shown in FIG. 2.

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 a carrier within the scope of the present invention. The blank may be prepared from paper, paperboard, polymeric and other similar materials. The blank, as shown, comprises two article support panels, 1 and 1', which panels are disposed on opposite sides of the blank and fashioned in a manner such that each will support a single row of carried articles. Each of said article support panels, 1 and 1', have, pivotally attached thereto, sidewall wall panels, 2 and 2', along longitudinal scored fold lines, 3 and 3', respectively, and elevation panels, 4 and 4', along longitudinal scored fold lines, 5 and 5'. As can be seen in the Figure, the sidewall panels are disposed along the outer edge of said article support panels whereas the elevation panels are disposed along the inner edge of said support panels. The elevation panels, 4 and 4', are pivotally connected to securing panel, 6, respectively, along scored fold lines, 7 and 7' which securing panel is disposed between said elevation panels. The sidewall panels, 2 and 2', are pivotally connected to top panels, 8 and 8', along longitudinally extending scored fold lines, 9 and 9', respectively.

Article-support panels, 1 and 1', comprise means, 10 and 10', for securing said support panels to the articles which are packaged in the carrier of the present invention. As shown, means, 10 and 10', comprise apertures, 11—11 and 11'—11', which apertures define the inner boundaries of a series of small, adjacent panels, 12—12 and 13—13, respectively. The small, adjacent panels, 12—12 and 13—13, are further defined, respectively, by starburst cuts, 14—14 and 15—15, and scored fold lines, 16—16 and 17—17, which, respectively, define the outer boundaries of panels, 12—12 and 13—13. For convenience, the combination of cut and scored lines which define apertures, 11—11 and 11'—11', and adjacent panels, 12—12 and 13—13, will be referred, herein, as starburst apertures. It will be appreciated, that although the starburst apertures, as illustrated, are surrounded by six adjacent panels, the term as defined is intended to include any number of panels which may or may not be of uniform size. For example, the number of panels could easily be reduced to four or increases to 12. Moreover, the term as herein defined is intended to include arrangements wherein the various panels are not adjacent in the blank layout.

The securing panel, 6, is cut and scored so as to define apertures, 18—18, securing tabs, 19—19 and 19'—19', and apertures, 20—20. Apertures, 18—18, cooperate with apertures and top panels, 8 and 8', to afford means for lifting the carrier when erected. Securing tabs, 19—19 and 19'—19', are fashioned such that they will rest atop the article crowns when the carrier is formed into a package and thereby afford additional support to the securing panel, 6. Apertures, 20–20, are fashioned so as to receive locking tabs and cooperate therewith to hold the carrier in an erected position. It should be noted, that cut lines 21—21 and 21'—21', which define the outer boundaries of securing tabs, 19—19 and 19'—19', also define a locking edge in elevation panels, 4 and 4', which edges may be secured under the crowns of carried articles to afford yet further support for the securing panel, 6. The top panels, 8 and 8', are cut and scored to define carrier tabs, 22—22 and 22'—22', which are pivotally connected to said top panels along scored fold lines, 23—23 and 23'—23', respectively. As will be readily apparent, the carrier tabs, 22—22 and 22'—22', can be rotated downwardly through apertures, 18—18, and secured below securing panel, 6, to afford added rigidity to the handle section when the carrier is erected and to prevent contact with the raw edges when the erected carrier is carried. To panel, 8, also is cut to define locking tabs, 24—24, which tabs are free to pivot about scored fold lines, 25—25. The locking tabs, 24—24, pass through apertures, 26—26, which are cut in top panel, 8', and are secured below the boundaries of apertures, 20—20, to hold the carrier in an erected position. It will be appreciated, that locking tabs, 24—24, could be secured by the boundaries of apertures, 26—26, but the carrier thus obtained would not be as rigid as that obtained by securing these tabs below apertures, 20—20.

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 blank as shown in FIG. 1 has been used to package six articles, 27—27. As can best be been in FIG. 5, the support panels, 1 and 1', are positioned below the crowns, 28—28 and 29—29, a distance sufficiently below said crowns so as to enable the inner edges of the adjacent panels, 12—12 and 13—13, which are defined by starburst cuts, to engage under said crowns. As can then be seen in FIG. 2, the side panels, 2 and 2', extend upwardly from said support panels and are substantially perpendicular thereto when the carrier is fully erected. The elevation panels, 4 and 4', also extend upwardly from the article-support panels, 1 and 1', but as can be seen in the Figure, the elevation panels, 4 and 4', , lie in a plane which, if extended, would intersect with the plane defined by the side panels, 2 and 2', so as to enable the locking edges formed by cut lines, 21—21 and 21'—21', to engage below the crowns, 28—28 and 29—29 (not shown). Top panel, 8', extends inwardly from said panel, 2', and lies in a plane substantially parallel with that formed by support panels, 1 and 1', and overlaps securing panel, 6. Similarly, top panel, 8, extends inwardly from side panel, 2, and lies in a plane substantially parallel with that defined by support panels, 1 and 1', and overlaps securing panel, 6, and a portion of top panel, 8'. As can be seen in the Figure, locking tabs, 24—24, extend downwardly through apertures, 26—26, and apertures, 20—20, and are secured there below to hold the carrier in an erected position. Similarly, carrier tabs, 22—22, (and 22'—22', not shown) extend downwardly through apertures, 18—18, and are secured below support panel, 6, and thereby afford additional rigidity to the handle section. It should be noted, that that portion of the carrier in which the means for carrying same are provided is three-ply throughout, said three plies comprising securing panel, 6, and the overlapping portions of top panels, 8 and 8'.

To further illustrate the present invention, reference is now made to FIGS. 3–5, which show partial end views of a package prepared with the carrier of the present invention at various stages of erection of article carrier. FIG. 3 shows the position of article-support panels, 1 and 1', after said panels have been forced over the crowns, 28—28 and 29—29, with said crowns protruding through apertures, 11—11 and 11'—11'. Also as shown in FIG. 3, the elevation panels, 4 and 4', have been rotated about scored fold lines, 5 and 5', and extended upwardly and secured in their finally erected positions. In this regard, it should be noted that the locking edges created by cut lines, 21—21 and 21'—21', are positioned below the crowns, 28—28 and 29—29, such that a portion of said crowns extend through the apertures created by securing tabs, 19—19 and 19'—19'. It will be appreciated, that these locking edges as thus positioned will prevent securing panel, 6, from moving upwardly when the carrier is lifted. As can also be seen in FIG. 3, securing tabs, 19— 19 and 19'—9', extend over the crowns, 28—28 and 29—29. As positioned, these tabs reduce the tendency of securing panel, 6, to move downwardly when locking tabs, 24—24 (not shown) and carrier panels, 22—22 and 22'—22', are secured in the locked position. It should be noted that elevation panels, 4 and 4', extend upwardly from article-support panels, 1 and 1', at an angle less than 90° therewith to enable the edges formed by cut lines, 21—21 and 21'—21', to lock beneath the inner edges or crowns, 28—28 and 29—29. It will be appreciated, that a useful carrier could be constructed by allowing the elevation panels, 4 and 4', to extend upwardly in a plane substantially perpendicular with that containing the article-support panels, 1 and 1', but such a carrier would be less rigid. Similarly, securing tabs, 19—19 and 19'—19', could be omitted, but some handle and stacking strength would be sacrificed thereby. With the article-supported panels, 1 and 1', and the elevation panels, 4 and 4', positioned as shown in FIG. 3, it is then possible to rotate side panels, 2 and 2', respectively, about scored fold lines, 3 and 3', and at the same time to rotate top panels, 8 and 8', about scored fold lines, 9 and 9', in the manner shown.

Top panel, 8', can then be moved to its erected position as shown in FIG. 4. The top panel, 8', may be held in this position by inserting carrier tabs, 22'—22', through apertures, 18—18 (not shown), and top panel, 8, then rotated and secured in position as shown in FIG. 5. It should be noted, that top panel, 8, is held in place, principally, by rotating locking tabs, 24—24, downwardly through apertures, 26—26 and 20—20, and securing same below securing panel, 6. This locking procedure will be reinforced by rotating carrier tabs, 22—22, downwardly through apertures, 18—18, and securing same below securing panel, 6. It will be appreciated, that when the assembled package is lifted, carrier tabs, 22—22 and 22'—22', will be rotated inwardly and will prevent direct contact with raw edges of carrier material.

In general, the multiple-article carrier of the present invention may be used to package any number of articles, it will be appreciated, however, that for practical reasons, the carrier of the present invention will be most suited for the packaging of from two to about 12 articles. Moreover, it should be noted that although the carrier of the present invention has been illustrated by reference to a carrier designed for packaging six articles in a two by three arrangement, the carrier of the present invention could, through only slight modification, be made suitable for use with a single row of articles or with more than two rows of articles. For example, it is contemplate that the carrier, as illustrated, could be easily modified to facilitate packaging of 12 articles in a four by three arrangement.

Further, the carrier of the present invention may be used to package any article having a crown or other projection which extends outwardly from the article a sufficient distance to enable the panels to be secured in the manner herein described. In this regard, it should be noted that the carrier of the present invention could be used to package any articles having a protrusion in the upper portion thereof; e.g., a neck flange, which extends outwardly from said articles a sufficient distance to permit the various panels to be locked in a manner herein described. Moreover, it should be noted that the article-support panels of the carrier of the present invention could be positioned prior to placing the crown on said articles. Further, it should be noted that substantially any method, known in the prior art, could be used to lock the carrier in an erected position. In this regard, it should be noted that the method of locking, as herein described and illustrated, is, however, particularly preferred.

PREFERRED EMBODIMENT

In a preferred embodiment of the present invention, the blank as shown in FIG. 1, is cut from paperboard. The carrier is used to package six or eight containers such as those described in U.S. Pat. No. 3,372,826, which issued to Richard A. Heaton on Mar. 12, 1966, which containers comprise an upper portion of glass and a lower portion of a less frangible material, such as low or medium molecular weight polyethylene. Packaging in a two by three or two by four arrangement is preferred and packaging in a two by three arrangement is particularly preferred. Further, in a preferred embodiment of the present invention, the carrier will comprise locking tabs such as those illustrated in FIGS. 1–5 and designated, 24—24 and 22—22. Moreover, the carrier will comprise securing tabs such as those shown FIGS. 1–5 and designed as 19—19 and 19'—19'and the elevation panels, 4 and 4', will be fashioned with locking edges which will engage below the inner edges of the crowns, 28—28 and 29—29.

Although the present invention has been described and illustrated by reference to particular embodiments, it will be readily apparent that the present invention lends itself to various modifications which will be obvious to those skilled in the art. Accordingly, reference should be made solely to the appended claims to determine the scope the invention.

Having thus described and illustrated the present invention what is claimed is:

1. A multiple-article carrier blank comprising: at least two article-support panels, said article-support panels each com-

prising means for securing the same to a carried article; a side panel pivotally connected to each of said article-support panels along the outer lateral edges thereof; a top panel pivotally connected to each of the side panels; an elevation panel pivotally connected to each of said article-support panels along the inner lateral edges thereof; and a securing panel pivotally connected to and disposed between the elevation panels.

2. The multiple-article carrier blank of claim 1 wherein said means for securing said blank to a carried article is a starburst aperture.

3. A package comprising a multiple-article carrier in combination with two or more articles, said carrier comprising: at least two article-support panels, said article-support panels being secured by suitable means to said articles and disposed below the crowns thereof; a side panel disposed along the outer edge of each of said article-support panels and extending upwardly therefrom, a top panel extending inwardly from each of the sidewall panels such that one of the top panels overlaps the other; an elevation panel pivotally connected to each of said article-support panels along the inner edges thereof and extending upwardly therefrom; and a securing panel pivotally connected to the upper edges of the elevation panels, said securing panel being disposed below the overlapping portion of the top panels.

4. The package of claim 3 wherein said means for securing said article-support panels to said carried articles is a starburst aperture.

5. The package of claim 3 wherein the elevation panels comprise locking edges and said elevation panels extend upwardly from said securing panel at an angle of less than 90°.

6. The package of claim 3 wherein said carrier is held in the erected position with locking tabs which extend downwardly from one of said top panels and are secured below said securing panel.

7. The package of claim 3 wherein securing panel carrier securing tabs, which tabs extend outwardly from said securing panel and over the crowns of said articles.

8. The package of claim 3 wherein said top panels and said securing panel comprise aligned apertures which provides a means for carrying said carrier.

9. The blank of claim 1 wherein said securing panel carries a plurality of securing tabs, which tabs project outwardly from said securing panel.