Aug. 26, 1969 R. J. HICKIN 3,463,354

SEPARATOR MEMBER FOR A BASKET-TYPE CARRIER

Filed March 6, 1968 2 Sheets-Sheet 1

Fig. 1

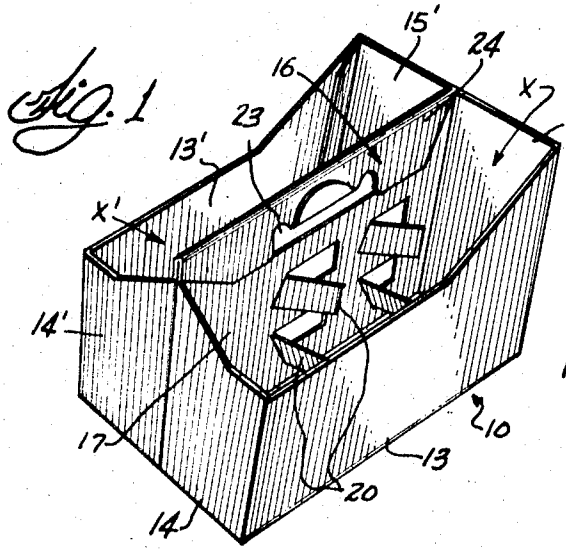
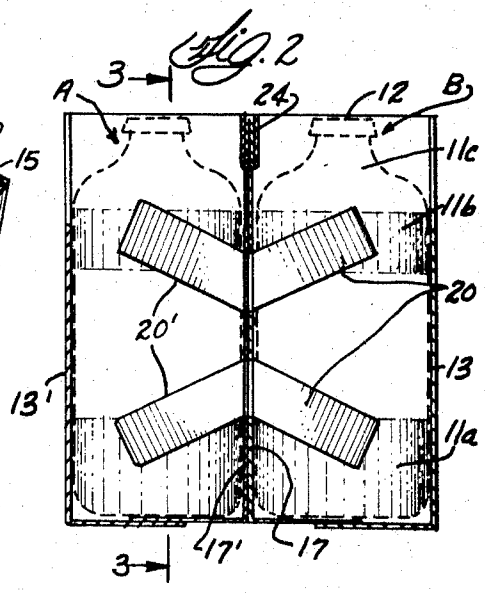


Fig. 2



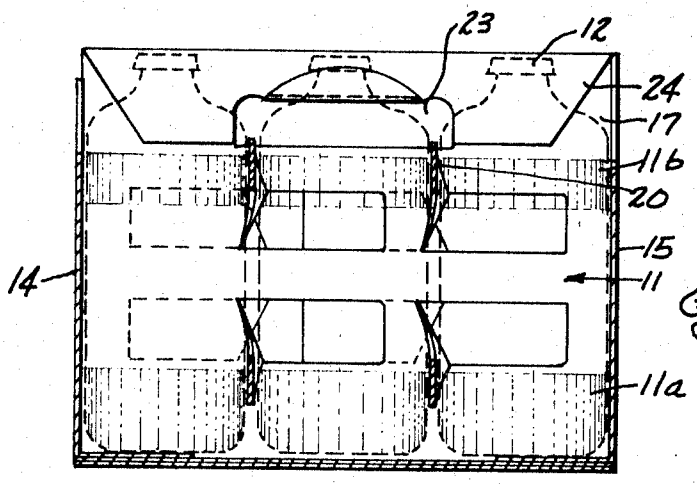
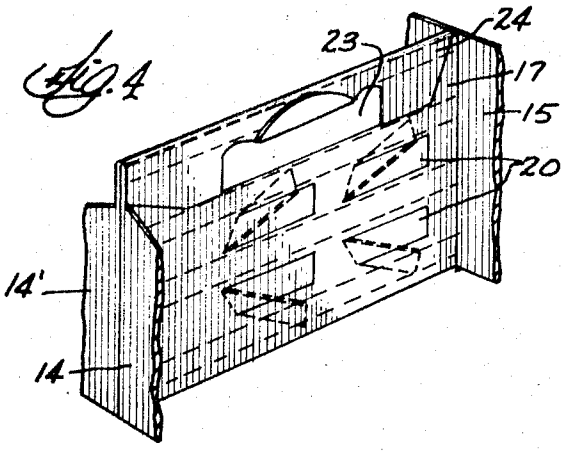


Fig. 3

Fig. 4



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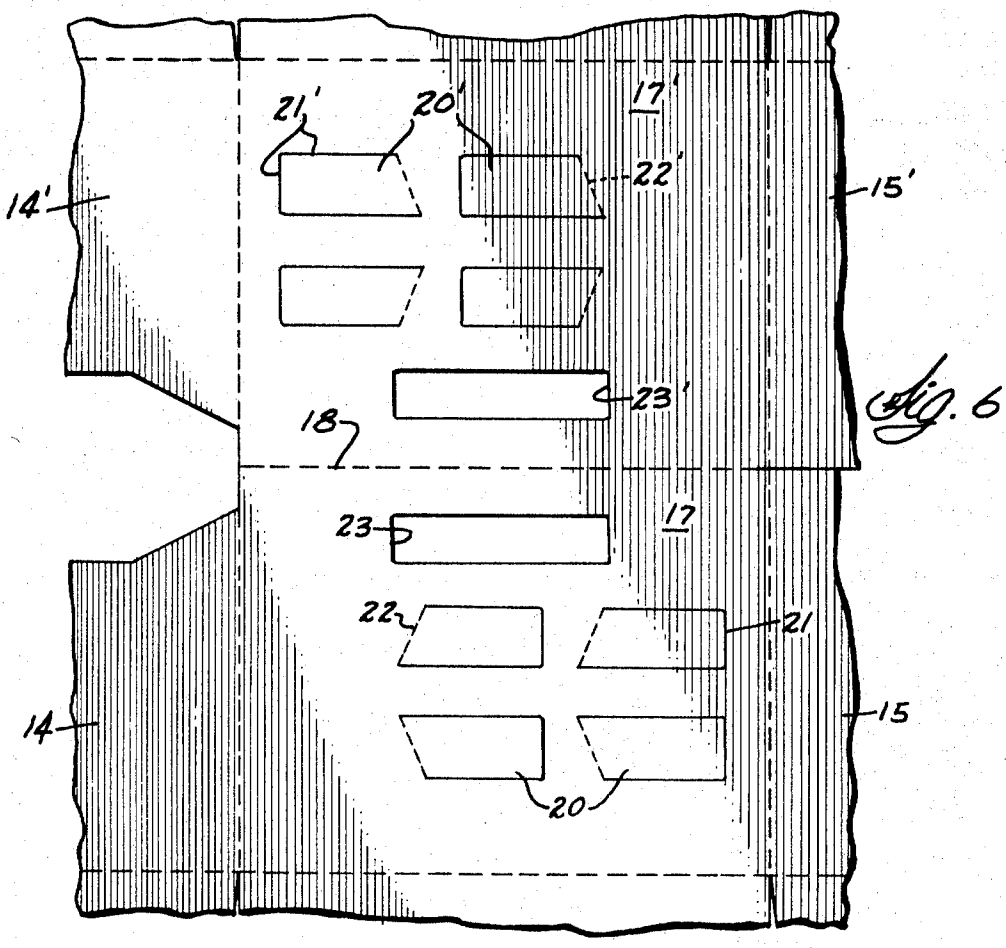


Fig. 6

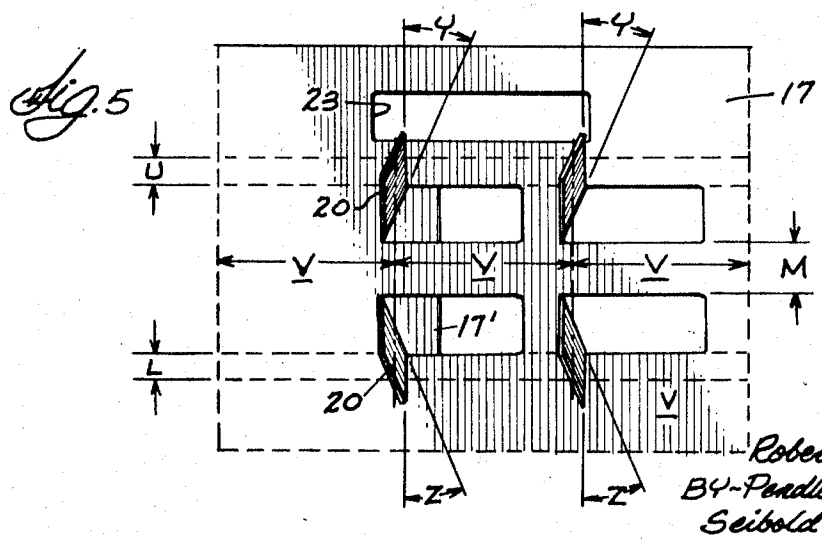


Fig. 5

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ABSTRACT OF THE DISCLOSURE

A separator member for use with an open-top basket-type carrier to separate articles from one another when accommodated within the carrier. The separator member includes a panel which forms a wall of a compartment in the carrier in which the articles are disposed when the latter are arranged in upright side-by-side relation and form a row. The panel includes an elongated struck-out tab which is foldable about a foldline the axis of which is in oblique relation with respect to the longitudinal axis of the tab.

Background of the invention

With the advent of non-returnable glass bottles for use in the merchandising of various beverages in supermarkets and other self-service retail operation, the incidences of bottle breakage has increased substantially. This result has been due in large measure to two factors: (a) the construction of the bottles themselves, and (b) the manner of packaging a plurality of bottles for retail distribution. As to the non-returnable bottle construction, the overall thickness of the glass utilized is substantially less than in the case of returnable or reusable bottles. Because of this reduced overall thickness, however, it is necessary in most instances to provide certain areas of the bottle with increased thickness in order to compensate for structural weaknesses inherent in the bottle design. These areas are normally (a) adjacent the lower end of the cylindrically-shaped body, and (b) adjacent the upper end of the cylindrically-shaped body where the body tapers inwardly to form the neck portion. By reason of the increased thickness in these areas, there is formed annular bands which protrude outwardly a slight amount, so that when the bottles are arranged in upright side-by-side relation these corresponding bands of the adjacent bottles will contact one another unless a separator is interposed therebetween.

With regard to the manner of packaging, the separation of the bottles in prior carriers was ineffective for various reasons, such as (1) the separator means was not disposed in the proper relative positions in order to provide maximum protection for the accommodated bottles; (2) the separator means materially weakened the carrier for hand carrying when loaded with bottles; and (3) the separator means was of complex configuration and thus complicated setting up of the carrier and/or increased substantially the amount of material required to form the desired carrier.

Summary of the invention

Thus it is an object of this invention to provide an improved separator member which overcomes the shortcomings that have heretofore beset prior structures.

It is a further object of this invention to provide an improved separator member which may be readily incorporated in basket carriers of various designs and sizes.

It is a still further object of this invention to provide an improved separator member which is possessed of great versatility and provides effective protection for bottles varying in size and shape over a wide range.

Further and additional objects will appear from the description, accompanying drawings and appended claims.

In accordance with one embodiment of the invention a separator member is provided for use in an open-top basket carrier. The carrier includes compartments which are adapted to accommodate a plurality of bottles arranged in upright side-by-side relation so as to form parallel rows. The separator member is provided with a panel which forms a wall of the compartment in which is disposed a row of the bottles. The panel contacts a corresponding side of each bottle of the row. Formed in the panel are a plurality of elongated struck-out tabs which are adapted to be folded relative to the panel so as to project into the adjacent compartment intermediate adjacent bottles in the row. Each tab has the foldline axis thereof obliquely disposed relative to the longitudinal axis of the tab whereby the distal end of the tab is vertically offset with respect to the foldably connected end of the tab, when the tab is disposed intermediate adjacent bottles in the row.

For a more complete understanding of the invention reference should be made to the drawings wherein:

FIG. 1 is a perspective end view of an empty open-top basket carrier embodying the improved separator member and showing the struck-out tabs in outwardly projecting positions;

FIG. 2 is a fragmentary side elevational sectional view of the carrier of FIG. 1 in a fully loaded condition and with one side panel of the carrier removed to expose the accommodated bottles;

FIG. 3 is a fragmentary end elevational sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is an enlarged fragmentary end perspective view of the improved separator member and showing the struck-out tab in unfolded relation. The tabs in folded or outwardly projecting condition are shown in dotted lines;

FIG. 5 is a fragmentary side elevational view of FIG. 4 and showing the tabs in outwardly projecting condition; and

FIG. 6 is a fragmentary plan view of a carrier blank embodying the subject separator member.

Description

Referring now to the drawings and more particularly to FIG. 1, an open-top basket carrier **10** is shown for use in accommodating six bottles arranged in two rows, A and B of three bottles each, see FIGS. 2 and 3. The bottles **11** in the illustrated carrier are of a thin-walled non-returnable glass variety suitable for holding beverages of either the carbonated or non-carbonated type. Each of the bottles **11** have thickened areas **11***a* and **11***b* which are bandlike in configuration and are located where the bottle would otherwise have an inherent weakness. In the illustrated bottle design these locations are **11***a* adjacent the bottom thereof and **11***b* where the inward taper begins to form the neck **11***c* of the bottle. The upper neck end of each bottle is closed by a suitable crimped cap **12** or the like. By reason of the increased thickness of glass at areas **11***a* and **11***b* there is produced a slight annular projection. Unless some means is provided for separating the adjacent bottles in a row, when the bottles are accommodated in the carrier **10**, the protruding portions or areas **11***a* and **11***b* of said bottles would otherwise contact one another and thus cause the bottles to be highly susceptible to breakage during normal handling of the loaded carrier.

The carrier **10** as illustrated in FIG. 1 is formed from a single blank of paperboard material and includes elon-

gated upright side wall panels **13** and **13'** and upright end panels **14–14'** and **15–15'**. End panels **14–14'** or **15–15'** are relatively positioned so as to form opposite planar end walls. Disposed at midposition between side panels **13** and **13'** and spanning the distance between the end walls of the carrier is separator member **16**.

The separator member **16** in the illustrated embodiment includes a pair of like panels **17** and **17'** which are foldably connected to one another along their upper edges by a common foldline **18**, see FIG. 6. The panels each cooperate with the respective end panels **14–14'** and **15–15'** and the side panel **13** or **13'** so as to form a closed bottom compartment X or X' into which a row of bottles A or B is disposed. The panels **17** and **17'** serve several functions: (a) they provide a partition between compartments X and X'; (b) they provide a handle for conveniently hand carrying the carrier when loaded; and (c) they provide a source from which tabs **20–20'** can be struck out so that the distal ends of the tabs project into the adjacent compartment and are lodged between adjacent bottles in the row accommodated in the said compartment.

In FIG. 6 it will be noted that each panel **17** or **17'** has formed therein a group of four struck-out tabs **20** or **20'**. Each tab of a group is defined by cuts **21–21'** and a foldline **22–22'** so that each tab is of elongated configuration. The foldline **22–22'** for each tab is obliquely disposed with respect to the elongated or longitudinal axis thereof for reasons to be described more fully hereinafter. In addition to the group of struck-out tabs, each panel **17** or **17'** is provided with a handle-forming opening **23–23'** which is disposed adjacent to, but spaced an equal distance from, the foldline **18** connecting the two panels. Thus, when the panels **17–17'** are folded about foldline **18** into face-to-face relation so as to form the partition between the carrier compartments X and X', the openings **23–23'** will register with one another, see FIG. 5. In FIG. 1, it will be noted that a reenforcing member **24** is provided which overlies the foldline connection between the panels **17** and **17'** and depends a short distance on the exposed surface of each panel. The reenforcing member **24** is preferably bonded by suitable adhesive to panels **17** and **17'** when the carrier is set up.

The panels **17** and **17'** are retained in face-to-face relation by a suitable adhesive so that the resulting partition is of at least two-ply thickness, except along the top edge which is of four-ply thickness by reason of reenforcing member **24**.

In view of the oblique disposition of the foldline **22–22'** of each tab **20–20'**, it will be noted in FIGS. 2 and 5 that when the tab is struck out, or folded outwardly from the respective panel, the distal, or free, end of the tab is vertically offset with respect to the foldline **22–22'**. Depending upon the angular disposition of the tab foldlines **22–22'**, the distal ends of the folded tabs will be vertically offset either upwardly or downwardly.

In FIG. 5, the two upper tabs forming the group of tabs in each panel are horizontally spaced and aligned with respect to one another and each upper tab has the foldline **22–22'** thereof inclined in the same direction y with respect to a vertical axis. The lower tabs of the group are also horizontally spaced and aligned with respect to one another and in addition each lower tab is vertically aligned with respect to an upper tab. The foldline **22–22'** of each lower tab is inclined in the same direction z with respect to a vertical axis. The inclination angle y of the foldlines causes the distal ends of the upper tabs **20–20'** to be offset upwardly, when the tabs are folded outwardly and the inclination angle z of the foldlines causes the distal ends of the lower tabs **20–20'** to be offset downwardly when the tabs are folded outwardly. Thus, as seen in FIG. 3, the upper and lower tabs of each panel project divergently outwardly from the panel when the tabs are disposed between adjacent bottles of a row.

In FIG. 5, there is shown pairs of spaced parallel horizontally extending broken lines which delimit bands U and L. Band U is a projection of the bottle upper annular exposed portions **11***b* and band L is a projection of the bottle lower annular exposed portions **11***a*. It will be recalled that it is these portions of the exposed surfaces of adjacent bottles in a row which must be separated in order to avoid high incidences of bottle breakage.

It is to be noted that the inclination angle for the tabs and the number and arrangement of the tabs formed in each separator member panel may vary from that shown without departing from the scope of this invention and will depend upon the exterior configuration of the bottles or articles being accommodated in the carrier compartments.

It will also be noted in FIG. 5 that in addition to bands U and L, there is also a horizontally extending middle band M which has the upper and lower limits thereof defined by the upper and lower tabs of the group. By reason of the uninterrupted bands U, M and L extending horizontally across the full width of panel **17** or **17'** and these bands being interconnected by vertically extending uninterrupted bands V, the panel is capable of supporting greater weight when the loaded carrier is being manually transported by passing one's hand through the openings **23–23'**.

While the distal ends of the outwardly projecting tabs **20–20'** provide the necessary protection between adjacent bottles in critical exposed surface areas, it will be noted that the tabs are struck out from areas of the panels **17–17'** which are not disposed opposite these critical areas of the bottles and thus, there is provided two-ply protection in these areas between the corresponding bottles of the two rows of bottles A and B.

Thus, it will be seen that a separator member of simple yet effective construction has been provided which may be readily incorporated in an open-top basket type carrier. The improved separator member provides the necessary protection in the critical exposed areas not only between adjacent bottles in a row but also between corresponding bottles in the rows. Furthermore, the separator member is provided with a plurality of uninterrupted bandlike portions which extend both horizontally and vertically and thereby increase the load-carrying capacity of the separator member.

I claim:

1. In an article carrier provided with a compartment for accommodating a plurality of articles arranged in upright side-by-side relation to form a row, an article separator member comprising a panel for forming a wall of the compartment and being in contact with a corresponding segment of the periphery of each article in the row, each peripheral segment being disposed at a common elevation; and an elongated tab struck out from said panel about a foldine for extending angularly therefrom into the compartment and for disposition intermediate adjacent articles in the row, the folding axis of the tab being obliquely disposed relative to the longitudinal axis of the tab whereby the distal end of the tab is vertically offset with respect to the foldably connected end of the tab only when the latter is extending into the compartment, said tab distal end being adapted to contact other peripheral segments of the adjacent articles, said other peripheral segments being disposed at said common elevation.

2. The separator member of claim **1** wherein said panel is adapted to be in contact with a pair of corresponding vertically spaced segments of the periphery of each article in the row, the upper panel-contacted peripheral segment of each article of the row being disposed at a first common elevation, and the lower panel-contacted peripheral segment of each article of the row being disposed at a second common elevation; said separator member including a pair of vertically spaced tabs struck out from said panel about foldlines for extending

into the compartment and for disposition intermediate a pair of adjacent articles in the row, the folding axis for each tab being obliquely disposed relative to the longitudinal axis of the tab whereby the distal end of each tab is vertically offset relative to the respective foldably connected end only when the tab is extending into the compartment; the distal end of the upper tab being adapted to contact other peripheral segments of the pair of adjacent articles, said other peripheral segments being disposed at said first common elevation, and the distal end of the lower tab being adapted to contact other peripheral segments of the adjacent articles, the latter peripheral segments being disposed at said second common elevation.

3. In an article carrier provided with a pair of compartments, each compartment being adapted to accommodate a plurality of articles arranged in upright side-by-side relation to form a row, an article separator member comprising a pair of panels in face-to-face relation for disposition intermediate the compartments; each panel forming a wall of an adjacent compartment and being in contact with a corresponding segment of the periphery of each article forming the row disposed in said adjacent compartment, each peripheral segment being disposed at a common elevation; and an elongated tab struck out from each panel about a foldline for extending angularly therefrom into the adjacent compartment and for disposition intermediate adjacent articles in the row, the folding axis for each tab being obliquely disposed relative to the longitudinal axis of said tab whereby the distal end of each tab is vertically offset relative to the respective foldably connected end only when said tab is extending into the adjacent compartment, each tab distal end being adapted to contact other peripheral segments of the adjacent articles, said other peripheral segments being disposed at said common elevation.

4. The separator member of claim 1 wherein the longitudinal axis of the tab when the latter is not extending into said compartment, is disposed substantially perpendicular to a vertical axis.

5. The separator member of claim 2 wherein said panel is provided with a plurality of wide, horizontally extending, uninterrupted bandlike areas, said areas extending substantially the full width of said panel, included within said areas are said first and second common elevations.

6. A blank of foldable sheet material for use in forming a separator member in an article carrier provided with

a compartment for accommodating a plurality of articles arranged in upright side-by-side relation to form a row; said blank including a panel for forming a wall of the compartment disposed adjacent a corresponding side of each article in the row, when said blank is set up to form said separator member; said panel being provided with a plurality of cuts and foldline combinations forming a plurality of elongated struck-out tabs arranged in spaced first and second rows, the foldline axis of each tab being obliquely disposed relative to the longitudinal axis thereof.

7. The separator member of claim 1 wherein said panel includes a plurality of horizontally spaced tabs whereby said tabs, when folded relative to said panel so as to extend into the compartment, being positionable intermediate different pairs of adjacent articles in the row.

8. The separator member of claim 1 wherein said panel is provided with a handle-forming opening disposed vertically above the tab foldline.

9. The separator member of claim 3 wherein each panel includes a handle-forming opening positioned above said tabs, said openings being disposed in registered relation.

10. The separator member of claim 2 wherein the uppermost tab has the distal end thereof vertically offset upwardly and the lowermost tab has the distal end thereof vertically offset downwardly, when said tabs are extending into the compartment.

11. The separator member of claim 5 wherein said horizontally extending bandlike areas are interconnected by a plurality of uninterrupted vertically extending bandlike areas.

12. The blank of claim 6 wherein the foldlines of the tabs forming the first row are disposed in substantially parallel relation to each other.

References Cited

UNITED STATES PATENTS

2,276,129	3/1942	Wesselman.	
3,140,797	7/1964	Arneson	220—113
3,355,012	11/1967	Weiss	220—115

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U.S. Cl. X.R.

206—65; 220—113; 229—52