DIVIDER PARTITIONS FOR BOTTLE CARRIERS

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ABSTRACT

A divider partition for a bottle carrier having bottles arranged in a pair of side by side rows, the divider partition being formed from a cut and scored blank to provide fingers extending laterally therefrom, the distal portions of such fingers extending between the bottles and slightly beyond a plane marked by the line of centers of the bottles of a row.

9 Claims, 16 Drawing Figures
The invention herein is directed to a divider partition such as may be found in a typical wraparound carrier for bottled beer, although it may be employed equally as well in carriers for other beverages. In the several examples of structures according to the present invention, divider partitions both for the packaging of six and eight such bottles are shown. The invention is also intended to include partitions for carriers of other than six or eight bottles as long as they are arranged in a pair of side by side rows.

Those engaged in the packaging of beer or other beverages in glass containers are constantly striving to develop a package furnish and divider protection with the least possible cost. The saving of even a few cents or even a few inches of cardboard in the making of a divider partition at times is the difference between a profitable and a non-profitable business. A given design having as an intrinsic part thereof the concept of the employment of a material that is previously purchased or paperboard has a distinct advantage indeed.

In the packaging of bottled beer in wraparound carriers of the six-pack variety, it is necessary to provide a partition divider between the bottles to protect them. Whatever type is used, it does not merchandise the product any better, and moreover it requires extra equipment to insert the partition divider automatically between the bottles before the application of the wrap.

With the foregoing considerations in mind, it is a principal object of the invention to provide a divider partition for a carrier for bottled beer or other beverage, which partition will greatly reduce the cost of packaging and result in equal satisfactory protection of the contents during transit.

Yet another object is to provide a divider partition formed from a cut and scored blank made of paperboard, the blank having fingers extending laterally therefrom and adapted to enter into adjacent bottles of a row, the laterally extending fingers of the divider partition isolating the bottles from each other and protecting the same against damage in transit.

Another object is to provide a divider partition having fingers extending laterally thereof, the fingers being formed by cutting and scoring a blank along a plurality of axes spaced from each other, and having distal portions foldable with respect to such fingers so as to extend at right angles to the plane of the divider and between adjacent bottles.

**DRAWINGS**

**FIG. 1** is a plan view of a cut and scored paperboard blank for forming a divider partition according to one embodiment of the invention, said divider partition being employed for the separating of the bottles of a conventional six-pack;

**FIG. 2** is a perspective view showing the blank of FIG. 1 in the set up position;

**FIG. 3** is a plan view of a cut and scored paperboard blank for making a divider partition according to a second embodiment;

**FIG. 4** is a perspective view showing the cut and scored blank of FIG. 3 in the set up position;

**FIG. 5** is a plan view of a cut and scored blank for forming a divider partition for a pack of eight bottles arranged in two side by side rows, said blank forming a divider partition according to a third embodiment;

**FIG. 6** is an isometric view showing the blank of FIG. 5 in the set up position;

**FIG. 7** is a plan view of a cut and scored blank for forming a partition divider for a pack comprised of eight bottles arranged in two side by side rows;

**FIG. 8** is an isometric view showing the blank of FIG. 7 in its set up position;

**FIG. 9** is a plan view of a cut and scored blank for forming a divider partition according to another embodiment;

**FIG. 10** is an isometric view showing the blank of FIG. 9 in its set up position;

**FIG. 11** is an elevational view showing a type of glass bottle adapted to be protected by the divider according to the present invention;

**FIG. 12** is an elevational view of another form of glass containers;

**FIG. 13** is an elevational view of still another form;

**FIG. 14** is a plan view showing the partition divider of FIG. 2 in position within a conventional six-pack carrier;

**FIG. 15** is an elevational view taken along the line 15--15 of FIG. 14 looking in the direction of the arrows; and

**FIG. 16** is an elevational view looking in the direction of the arrows 16--16 of FIG. 14.

The divider partition according to a first embodiment of the invention is shown in FIGS. 1 and 2, and is formed from a cut and scored paperboard blank referred to by the reference numeral 10 and adapted when in the folded and set up condition to provide a divider partition referred to by the reference numeral 10A. Cut and scored blank 10 is comprised of a central panel portion 11 having essentially divergent arms 12 extending substantially from the corners thereof. Upper arms 12 have vertical distal portions 13, and the lower pair of the arms 12 have lower distal portions 14. The central panel portion 11 together with the arms 12 and the distal portions 13 and 14 thereof is adapted to extend as a partition between two rows of containers, not shown, which contact the central panel portion 11 and the arms 12. The horizontal distance between the centers of the upper distal portions 13, 13 and lower distal portions 14, 14 is approximately equal to the distance between the spaced lines of centers passing through the endmost bottles or containers of the rows and laterally through panel portion 11. The central panel portion 11 has upper and lower tangent panels 16 which are tangent to the center bottles of each row.

As will be shown, the form of the divider partition seen in FIGS. 1 and 2 is especially adapted to separate a so-called "stubby" type bottle S seen in FIG. 11, this type of bottle having upper and lower lands L which are shown as being exaggerated in size. This same form of divider partition is also adapted for separate bottles of the export type seen in FIG. 12, and referred to by the reference character E. Except for the neck portion thereof, bottles of this general type have plain cylindrical sides.

Central panel portion 11 has upper intermediate fingers 17 extending laterally thereof as shown in FIG. 2, fingers 17 being defined by the upper edge of the cut and scored blank 10, and a cut line 18 essentially parallel to such upper edge. Fingers 17 are longitudinally connected to upper tangent panel 16 along score lines 19 whereby the upper intermediate fingers 17 may be bent out of the plane of the fixed panel 11.

Lower tangent panel 16 is likewise provided with lower intermediate fingers 23 defined by the lower edge of the cut and scored blank 10 and cut lines 24. Lower intermediate fingers 23 are foldable out of the plane of the fixed panel 11 along score lines 26. Upper fingers 17 and lower fingers 23 are adapted to flank the central of the bottles of a row, and to extend between contiguous bottles of such rows.

The upper intermediate fingers 17 are each scored along a score line 22 enabling distal portions 21 of the fingers 17 to bend with respect to fingers 17 and to extend between adjacent bottles and separate the same. Lower intermediate fingers 23 are likewise provided with distal portions 27 foldable with respect thereto along score lines 28.

It should be noted that the fingers 17 and 23 do not necessarily extend at right angles to central panel portion 11, but at some angle other than 90°. The distal portions, however, extend between adjacent containers and are at right angles to the plane of central panel portion 11.

Cut and scored blank 10 is also provided with end fingers 29 defined by cut lines 31 and a score line 30. End fingers 29 are adapted to be bent out of the plane of the central panel portion 11 to a position as seen in FIG. 2. Each of the end fingers 29 has upper and lower distal ends 32 and a score line 35 is coextensive with the cut lines 31 to provide a distal portion 34 adapted to be folded slightly with respect to the end fingers 29 and to extend between adjacent containers extending in a row along the back side of the divider partition 10.
As with the fingers 17 and 23, the end fingers 29 do not necessarily extend at right angles to the central panel portion 11 but may be at some other angle with respect thereto according to the placement of the containers. It is important to note however, that the portions 34 extend between the adjacent bottles along which would be their lines of tangency but for the presence of such portions.

By reason of the distal portions 32 of the two end fingers 29, three bottles extending in a row may be effectively separated. Likewise, the upper intermediate fingers 17 and the lower intermediate fingers 23 are adapted to separate the bottles of the row standing to the other side of the central panel portion 11. In the case where export bottles or throw-away stubbies are to be transported, they are effectively prevented from having contact with each other by reason of the construction shown.

Referring now to FIGS. 3 and 4 of the drawings, there is shown another embodiment especially effective for use with export bottles E seen in FIG. 12 or in what is known as a keg type bottle K seen in FIG. 13. The latter has slightly bulging sides rather than the cylindrical sides common with export bottles E.

The partition according to this embodiment is formed from a cut and scored blank 35B which can be erected to a position as shown in FIG. 4 where it is denoted by the reference character 35A. The partition has a central fixed panel portion 36 having upper fingers 37 defined by cut lines 38 and 39. Fingers 37 are foldable with respect to the central fixed panel portion 36 along score lines 41, and each finger 37 is provided with a distal portion 42 foldable with respect to finger 37 along a score line 43. In the same fashion lower fingers 44 are defined in the cut and scored blank 35B by cut lines 46 and 39; each of such lower fingers 44 being foldable with respect to the central fixed panel portion 36 along score lines 47. Each of such lower fingers 44 includes a distal portion 48 foldable with respect to lower fingers 44 along score lines 49.

The upper and lower fingers 37 and 44 are foldable with respect to the central fixed panel portion 36 seen in FIG. 4. In so doing, opposite ends of the central fixed panel portion 36 are provided with remanent wing elements 51, the distance between remote ends of the wing elements 51 being slightly more than the distance between the lines of centers extending laterally of said blank and connecting the centers of the endmost bottles.

The partial structure thusfar described is adapted to separate a group of six containers arranged in two rows of three each. The distal portions 48 of the lower fingers 44 may be bent slightly with respect thereto so that they can extend between adjacent bottles of a row to the front of the fixed panel portion 36. In the same fashion three bottles of the other row may be arranged to the other side of the central fixed panel portion 36, distal portions 42 of the upper fingers 37 extending between adjacent containers of such row.

It should be noted that the vertical length of the distal portions 42 and 48 is such that containers of the kind seen in FIGS. 12 and 13 may be effectively separated from each other.

It should be noted that the fingers 37 and 44 do not extend at right angles with respect to the plane of the partition divider. The angle is other than a right angle as seen in FIG. 4, and only the distal portions of such fingers are at such right angle.

It should be noted also that the fingers may fold from the plane of the blank along the same axis. They are not foldable as a unit, and may fold to one side or the other of the blank.

In FIGS. 5 and 6 there is shown another embodiment particularly adapted for the transport of bottles arranged in two side by side rows of four each. In this embodiment the partition divider is formed from a cut and scored blank 55 which can be formed to a position as shown in FIG. 6 where it is erected and referred to by the reference character 55A. Cut and scored blank 55 includes a central fixed panel portion 56 having upper and lower divergent arms 57 extending therefrom. Each of the arms 57 terminates in upper and lower distal portions 58 and 59. The horizontal distance between remote edges of the distal portions 58 is but little greater than the distance between the lines of centers of the most of the containers, which lines of centers extend laterally of the cut and scored blank 55 when it is erected to the position seen in FIG. 6.

Upper and lower tangent panels 61 flank the center fixed panel portion 56, and upper and lower central fingers 62 lie between the upper and lower tangent panels 61 and the central fixed panel portion 56, the upper and lower central fingers 62 being defined by cut lines 63 and 64 and by score lines 56, whereby the upper and lower central fingers 62 may be bent out of the plane of the cut and scored blank 55. Each of the upper and lower central fingers 62 has distal ends 67 foldable with respect thereto along score lines 68.

The cut and scored blank 55 is also provided with upper and lower intermediate fingers 69 defined by cut lines 71 and score lines 72, the intermediate fingers 69 being foldable out of the plane of the cut and scored blank as seen in FIG. 6. Each of the fingers 69 has a distal end 73 foldable with respect thereto along a score line 74.

End fingers 76 are defined by cut lines 77 and a score line 78. End fingers 76 are adapted to be bent out of the plane of the central panel portion 56 to a position as seen in FIG. 6. Each of the end fingers 76 has upper and lower distal ends 79, and a score line coextensive with the cut lines 77 provide distal portions adapted to be folded slightly with respect to the end fingers 76 and to extend between adjacent containers extending in a row along the back side of the divider partition 55A at one end thereof and between adjacent containers along the front side at the other end thereof. The end fingers 76 do not necessarily extend at right angles to the central panel portion 56 but may be at some other angle with respect thereto according to the placement of the containers. It is important to note, however, that the portions 79 extend between the adjacent bottles along what would be their lines of tangency but for the presence of such portions.

By reason of the distal portions 79 of the two end fingers 76, two of the bottles extending in a row may be effectively separated. Likewise, the upper and lower intermediate fingers 69 are adapted to separate the bottles of the row standing to the sides of the central panel portion 56.

In similar fashion fingers 62 and the distal ends thereof separate other bottles of a row.

As seen in FIG. 6 the laterally extending fingers described are adapted to maintain the bottles of a row separate from each other. As seen in said figure a row of containers can be arranged in front of the center fixed panel portion 56, forwardly extending fingers 69 and 62 lying to each side of the second container of such front row, and fingers 62 and 76 lying to each side of the third container of such row, the endmost containers lying against respective fingers 69 and 76. Obviously, the other row of containers is arranged to be separated in a similar manner. It should be noted that the arrangement shown is primarily adapted to those types of containers having two points of tangency on the face such as throw-away stubbies seen in FIG. 11 or the cylindrical export type bottle E seen in FIG. 12.

In FIGS. 7 and 8 there is shown another form of partition divider. It is formed from a cut and scored blank 80 adapted to be erected to a form denoted generally by reference numeral 80A. The blank 80 is particularly designed for use in the transport of eight containers arranged in two rows of four containers each.

Blank 80 is cut and scored to provide upper and lower fixed panel portions 81 extending horizontally and connected together by essentially vertical webs 82. The distance between the ends 83 of blank 80 is slightly greater than the distance between the lines of centers extending laterally of blank 80, and connecting the centers of the endmost containers.
Blank 80 is provided with central fingers 84 extending between the webs 82 and defined by cut lines 86 and 87. Fingers 84 are foldable with respect to the blank 80 along score lines 88, and when folded to the position seen in FIG. 8, each of the fingers 84 has upper and lower distal portions 89 contacting the sides of a bottle therebetween. Blank 80 is provided with intermediate upper and lower fingers 91 defined by cut lines 92 and 93. A score line 94 for each finger 91 enables the same to be folded out of the plane of blank 80 to a position seen in FIG. 8. Distal ends 96 of each finger 91 are foldable with respect thereto along score lines 97, the distal ends contacting the sides of a container and separating the container from an adjacent one. End fingers 98 are defined by cut lines 99, and are foldable with respect to blank 80 along score lines 101. Each end finger 15 has upper and lower distal portions 102 extending between the end container of the row and the one removed from the end.

It may be noted that the form of partition divider seen in FIGS. 7 and 8 lends itself particularly to the transport of containers of the type seen in FIG. 12.

In FIGS. 9 and 10 there is shown another form of partition divider particularly adaptable for use with containers of the types seen in FIGS. 12 and 13. This form is particularly designed for transport of six containers arranged in two rows of three containers each. It is formed from a cut and scored blank 105 adapted to be erected to a form indicated generally by reference numeral 105A seen in FIG. 10.

Blank 105 is cut and scored to provide upper and lower partition or panel portions 106 connected by a central web 107. Each panel portion 106 is defined by cut lines 109, and are foldable with respect to blank 105 along score lines 111 to a position as seen in FIG. 10. Each finger 108 has a distal portion 112 extending vertically and foldable with respect to finger 108 along a score line 113.

The bottles of a row of containers to the front of blank 105 are thus separated by the distal portion 112, the latter extending at right angles to the blank 105, while fingers 108 extend from blank 105 at angles other than 90°. Intermediate fingers 114 are defined by cut lines 116 and are foldable with respect to blank 105 along score lines 115 to the position seen in FIG. 10, extending from blank 105 in the opposite direction. Each of such fingers 114 has a distal portion 117 foldable with respect thereto along score lines 118. Such distal portions 117 extend between adjacent containers of a row disposed along the opposite side of blank 105.

The provision of the fingers 108 and 114 leaves remnant vertical partition elements 119, the distance between the center lines of such elements 119 being the same as the distance between the lines of centers extending laterally of blank 105 and connecting the centers of the endmost containers.

Referring now to FIGS. 14 to 16, the form of partition divider 10A seen in FIG. 2 is shown in position within a载体 carton C of any usual commercial form. It is designed to carry what is known in the trade as a six-pack, and the partition divider 10A therein has its central panel portion 11 separating articles A into two side by side rows. Articles A may be of the style shown in FIG. 11.

Partition divider 10A has distal portions 13 and 14 extending between the endmost articles of the two rows; upper and lower distal portions 21 and 27 of fingers 17 and 23 extending between the articles in one row; and distal portions 34 of fingers 29 extending between the articles of the opposite row.

I claim:

1. In a package for a packed group of articles, such as containers, arranged in a pair of adjacent rows and separated by a divider partition for isolating the articles from each other, said divider partition being formed from a blank having cut and fold lines to provide:
   a. a longitudinal partition member separating the articles into two side by side rows;
   b. at least a pair of separate transverse partition members for four articles of said packed group;

   i. said transverse partition members extending between two articles of one row and the directly opposite articles of the other row;
   ii. said transverse partition members being hinged to the longitudinal partition member and extending outwardly from opposite sides thereof;
   iii. said transverse partition members being hinged to the longitudinal partition member along parallel vertical fold lines which are spaced laterally of each other and spaced longitudinally of the longitudinal partition member;
   c. each of the transverse partition members having a distal portion extending in a plane generally normal to the plane of the longitudinal partition member;
   d. at least one of the transverse partition members including:
      i. first and second elements;
      ii. said elements being hinged to each other along a vertical fold line which is parallel to but spaced transversely of the longitudinal partition member from the fold line connecting the first element to the longitudinal partition member;
      e. the first element of said one transverse partition member being disposed in a plane other than one extending normal to the plane of the longitudinal partition member, so that the distal portion of each transverse partition member lies generally in a common transverse vertical plane which is tangent to the adjacent packed articles.

2. A package according to claim 1 wherein the second element of at least one of said transverse partition members has the second element thereof provided with a greater vertical dimension than the first element thereof.

3. A package according to claim 2 wherein one of said transverse partition members includes vertically spaced, aligned pairs of said first and second elements.

4. A package according to claim 1 wherein one of said transverse partition members includes vertically spaced, aligned pairs of said first and second elements.

5. A package according to claim 1 wherein said second element extends above and below said first element.

6. In a package for a packed group of articles, such as containers, arranged in a pair of adjacent rows and separated by a partition divider isolating the articles from each other, said partition divider being formed from a blank having cut and fold lines to provide:
   a. a longitudinal partition member separating the articles into two side by side rows including a fixed central body portion;
   b. at least a pair of separate transverse partition members for four articles of said packed group;
   i. said transverse partition members extending between two articles of one row and the directly opposite articles of the other row;
   ii. said transverse partition members being hinged to said central body portion and extending outwardly from opposite sides thereof;
   iii. said transverse partition members being hinged to said central body portion along parallel vertical fold lines which are spaced laterally of each other and spaced longitudinally of said central body portion;
   c. each of the transverse partition members having a distal portion extending in a plane generally normal to the plane of said longitudinal partition member;
   d. at least one of said transverse partition members including:
      i. first and second elements;
      ii. said elements being hinged to each other along a vertical fold line which is parallel to but spaced transversely of the central body portion from the fold line connecting the first element thereof to said central body portion;
      e. the first element of said one transverse partition member being disposed in a plane other than one extending normal to the plane of said central body portion, so that the distal portions of each transverse partition member lie...
generally in a common transverse vertical plane which is tangent to the adjacent packed articles.

7. A package according to claim 6 wherein the remaining portion of said central body portion is slightly longer than the distance between centers of the endmost articles of a row.

8. A package according to claim 6 wherein the remaining portion of said central body portion is slightly higher than the highest tangent points between articles in the side by side rows.

9. A package according to claim 6 wherein the distal portions of one of said transverse partition members is formed from end portions of said longitudinal partition member.