

- [54] **CUP CARRIER**
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[51] **Int. Cl.:** B65d 75/00
[58] **Field of Search** 206/65 R, 65 C, 65 E, 206/72; 220/111-118; 224/45 AB, 45 BA, 48 C; 229/28 R, 28 BC, 41 R, 41 B

2,950,854 8/1960 Ganz..... 229/28 R X
3,189,247 6/1965 Wischusen..... 229/28 R
3,255,919 6/1966 Koolnis..... 220/114
3,366,305 1/1968 Cohen et al..... 229/28 R

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[57] **ABSTRACT**

This disclosure relates to a carrier having a plurality of openings formed in a top wall thereof for receiving a plurality of drinking cups or the like therein. A tab extends into each of the openings and is adapted to engage a container of a predetermined size positioned therein. Transversely adjacent openings each include a partition which is provided with fold lines for automatically varying the distance between each partition panel and its adjacent side panel to accommodate articles of different sizes at the bottoms thereof.

15 Claims, 8 Drawing Figures

- [56] **References Cited**
UNITED STATES PATENTS
2,828,047 3/1958 Weiselberg 220/116
2,946,436 7/1960 Williamson 229/28 BC X

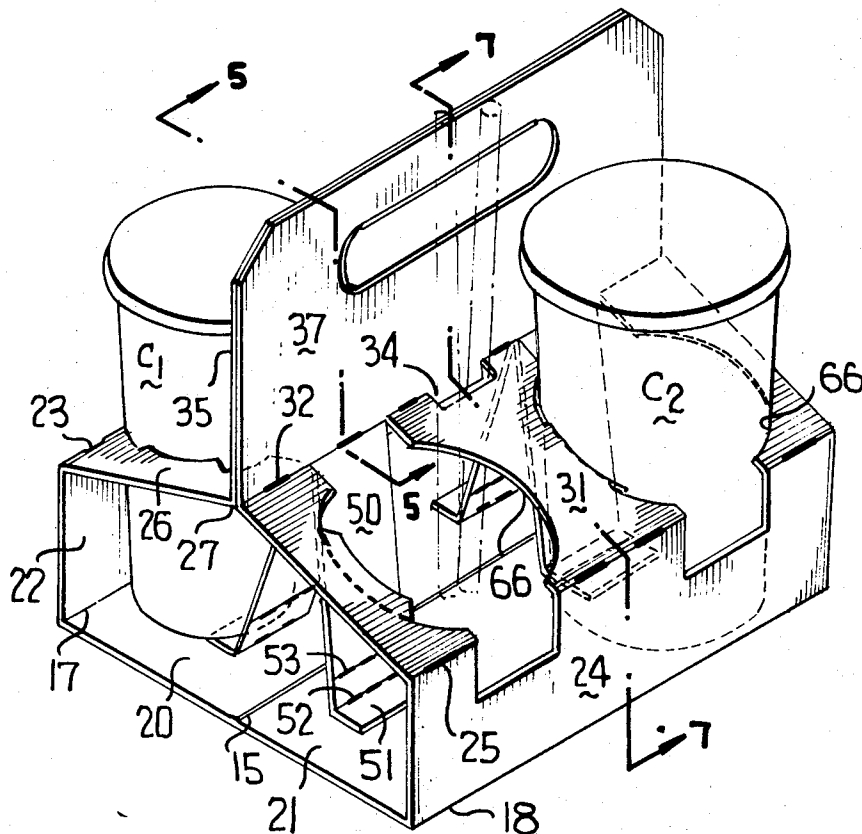


FIG. 1

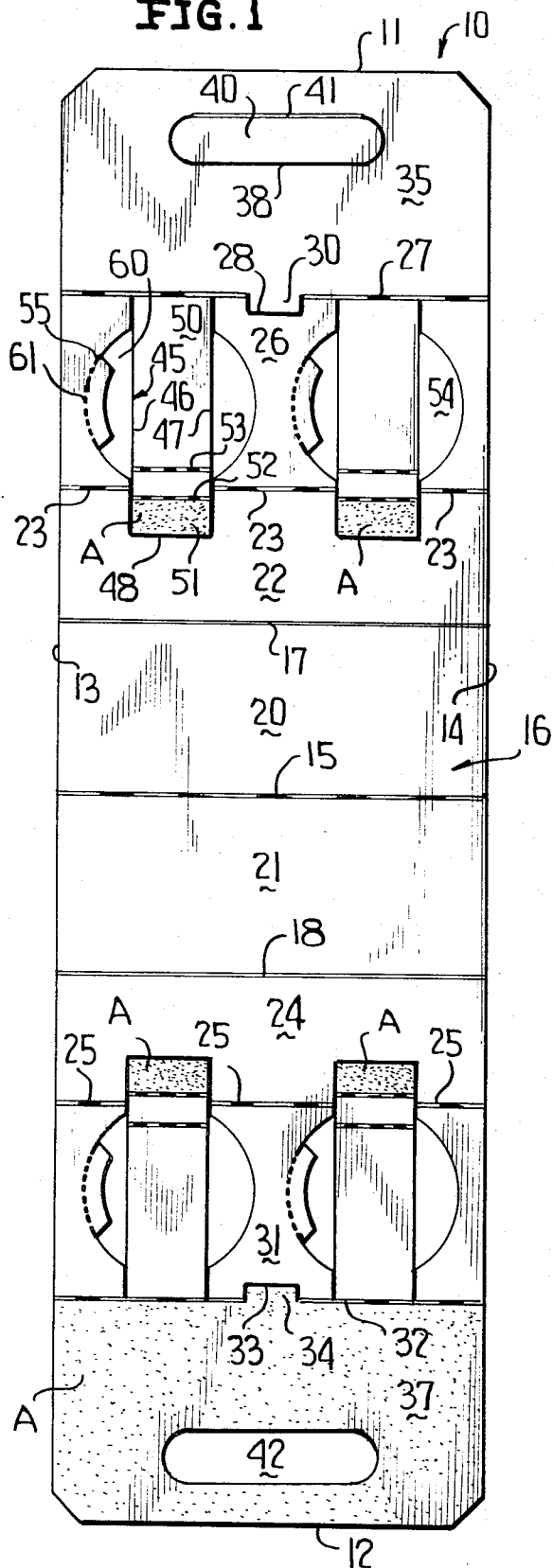


FIG. 2

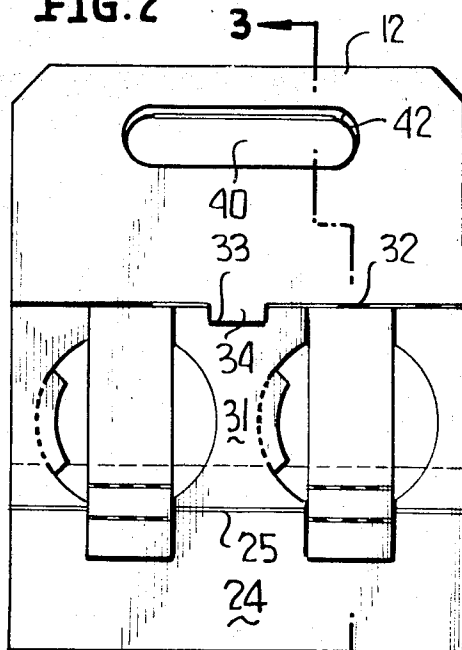
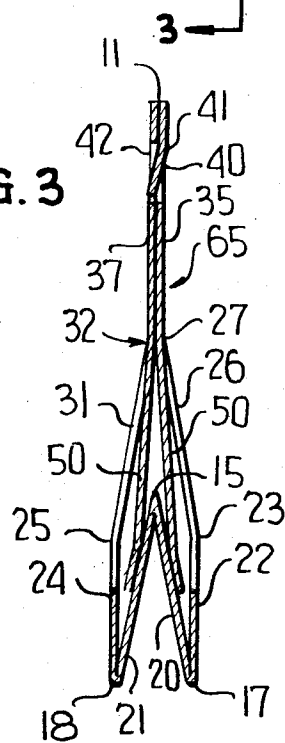


FIG. 3



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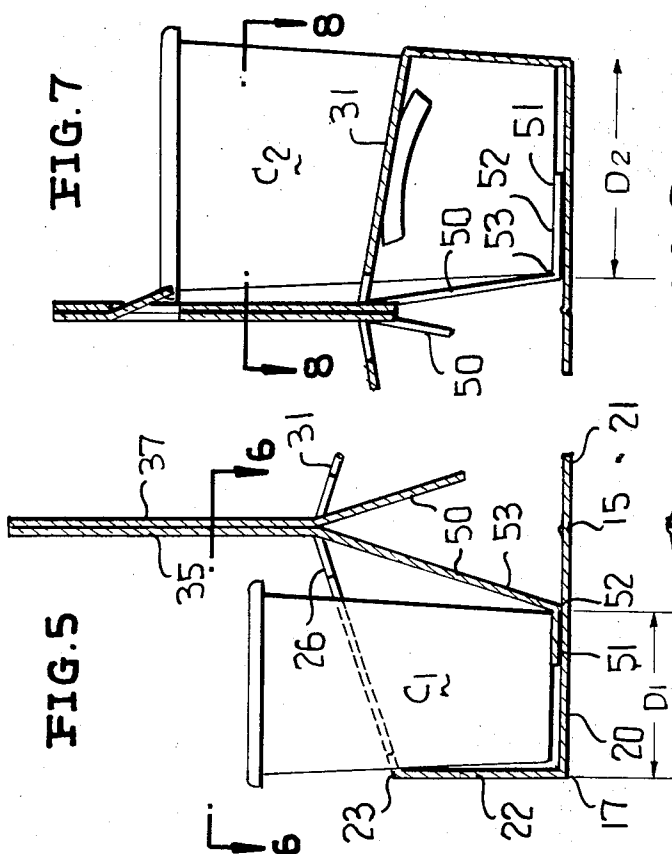


FIG. 7

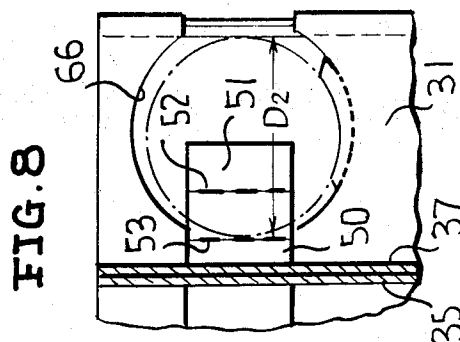


FIG. 8

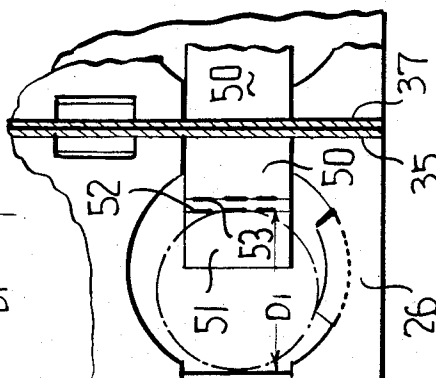


FIG. 6

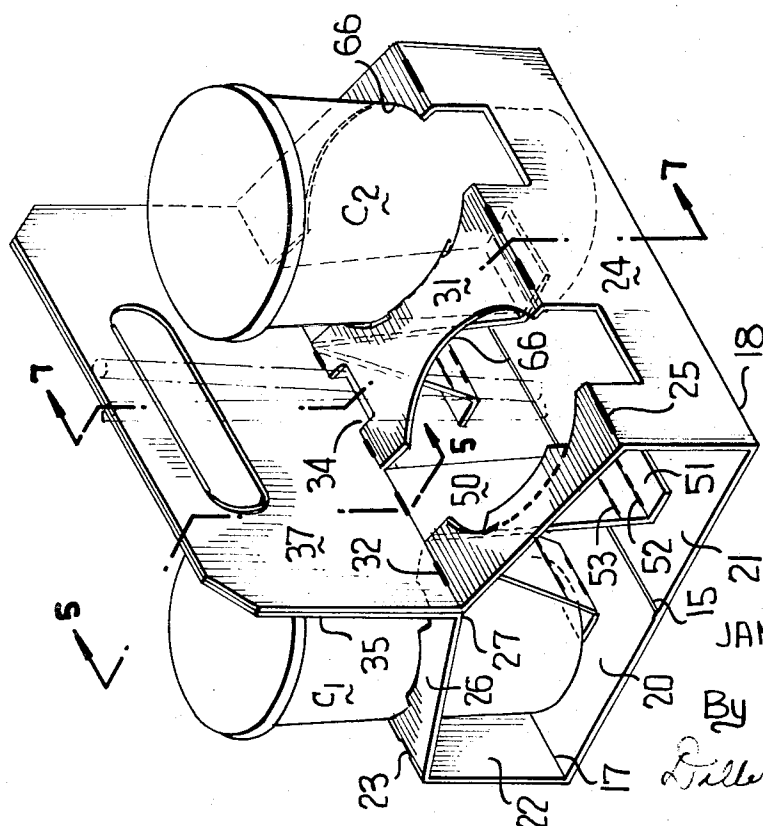


FIG. 4

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CUP CARRIER

This invention relates to carriers and, more particularly, to paperboard carriers for containers such as drinking cups.

Ready-to-eat food and beverages are often purchased by a consumer at one place and then carried a short distance to the place where they are consumed. This may take place in athletic stadiums where the food is purchased at a vending stand and then carried by the customer to his seat, in drive-ins, at picnic grounds, and in many such other environments.

The food and beverages are usually placed in a box or other carrier in order to facilitate the transport thereof back to the place of consumption. However, when cups of beverages are placed in a box, they may readily tip over and spill, particularly if the cups are of a size smaller than the openings in the carrier which receive the same. For example, it is known that soda and similar drinks are dispensed in different size cups while the carriers therefor are generally provided with cup openings of a size to accommodate the largest cup. Thus, when a small cup is placed in such carriers, the smaller cups tend to move about, and will readily tip unless carried with extreme caution. This is particularly true of narrow based cups having appreciably larger tops which tend to tip simply because of the geometry thereof.

It is, therefore, a primary object of this invention to provide an improved container carrier that is effective in carrying containers of varying sizes, and particularly a carrier in which each cup compartment is provided at its bottommost end with means for automatically varying the distance between associated longitudinal partition panels and adjacent side panels to accommodate cups of different base peripheral dimensions.

A further object of this invention is to provide a novel carrier of the type heretofore described wherein each transversely adjacent article-receiving opening includes an adjacent partition panel, the partition panel having a terminal end adhesively bonded to the bottom panel of the carrier, and each terminal end being provided with longitudinal fold lines for automatically varying the size of the carrier in dependence upon the particular article packaged therein.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claimed subject matter, and the several views illustrated in the accompanying drawings.

IN THE DRAWINGS:

FIG. 1 is a top plan view of a carrier blank constructed in accordance with this invention, and illustrates a plurality of fold lines dividing the blank into bottom, side, top, carrying handle and partition panels.

FIG. 2 is a side view of the blank of FIG. 1 after the latter has been folded and assembled, and illustrates two generally deep U-shaped cut lines forming two of the partition panels and an article-receiving opening associated with each panel.

FIG. 3 is a sectional view taken generally along line 3—3 of FIG. 2, and more clearly illustrates the manner in which the partition panels are easily bonded to the bottom panel of the carrier.

FIG. 4 is a top perspective view of the carrier after being unfolded, and illustrates two different sized cups or similar containers in two of the article-receiving openings formed in the top panel thereof.

FIG. 5 is a sectional view taken generally along line 5—5 of FIG. 4, and illustrates the manner in which the smaller container contacts a fold line of its partition which is spaced a distance from the adjacent side panel corresponding generally to the diameter of the container.

FIG. 6 is a sectional view taken generally along line 6—6 of FIG. 5, and more clearly illustrates the relationship between the bottom of the container, the adjacent side wall, and the first fold line of the partition panel.

FIG. 7 is a sectional view taken generally along line 7—7 of FIG. 4, and illustrates the manner in which the distance from the second fold line of the partition panel and the adjacent side panel corresponds generally to the diameter of the container.

FIG. 8 is a fragmentary sectional view taken generally along line 8—8 of FIG. 7, and more clearly illustrates the relationship between the second fold line of the partition, the adjacent side panel, and the bottom of the larger container disposed in the article-receiving opening.

Reference is now made to a carrier or container blank of FIG. 1 which is preferably though not necessarily constructed from paperstock or similar plastic material. The carrier blank is generally designated by the reference numeral 10 and is of a rectangular configuration defined by a pair of transverse edges 11, 12 and a pair of longitudinal edges 13, 14. A center transverse fold line 15 separates the blank 10 into two generally identical halves. A bottom panel 16 is set-off between a transverse fold line 17, a parallel transverse fold line 18, and portions of the edges 13, 14. The bottom panel 16 is formed of two bottom halves 20, 21 to either side of the center fold line 15.

A side panel 22 is defined by the fold line 17, portions of the longitudinal edges 13, 14, and a discontinuous fold line 23.

At the opposite side of the blank 10 another side panel 24 is likewise set off by the fold line 18, portions of the longitudinal edges 13, 14, and another discontinuous fold line 25.

Adjacent the side panel 22 is a top panel 26 which is set off by the fold line 23, portions of the longitudinal edges 13, 14, and a fold line 27 interrupted by a shallow generally U-shaped cut line 28 which defines a tab 30.

A similar top panel 31 is set off by the discontinuous fold line 25, portions of the longitudinal edges 13, 16, and a fold line 32 interrupted by a generally inverted U-shaped cut line 33 defining a tab 34.

A handle-carrying panel 35 is joined to the side panel 26 along the discontinuous fold line 27, and is set off by the discontinuous fold line 27, the cut line 28, portions of the longitudinal edges 13, 14, and the transverse edge 11.

Likewise, at the opposite side of the blank 10 another carrying handle panel 37 is set off by the cut line 33, the discontinuous fold line 32, portions of the longitudinal edges 13, 14 and the transverse edge 12.

The handle-carrying panel 35 is provided with a cut line 38 defining a tab 40 which is joined to the panel 35 along a fold line 41 which is parallel to the transverse edge 11.

The opposite handle-carrying panel 37 includes an opening 42.

Reference is now made to a plurality of identical relatively deep generally U-shaped cut lines which are each identified by the reference numeral 45, and which each include a pair of cut line portions 46, 47 parallel to the edges 13, 14 and another cut line portion 48 transverse to the edges 13, 14. Each cut line 45 spans its associated top panel 26 or 31, and projects partially into its adjacent side panel 22 or 24. Each cut line 45 thereby defines a longitudinal partition panel, generally designated by the reference numeral 50, with each partition panel 50 being joined to its adjacent handle-carrying panel 35 or 37 by the respective discontinuous fold lines 27 or 32.

Each longitudinal partition panel 50 includes a terminal end 51 set-off between the associated edge 48, portions of the edges 46, 47, and a transverse fold line 52. Each partition panel 50 further includes another fold line 53 transverse to and further inboard of the fold line 52. The purposes of the fold lines 52, 53 will be described more fully hereinafter with respect to FIGS. 4 through 8 of the drawings.

To the right of each of the partitions 50 as viewed in FIG. 1 is a somewhat half-moon shaped opening 54 while to the left of each partition 50 a tab 55 projects into an opening 60 which would likewise be of a generally half-moon shape in the absence of the tab 55. The tab 55 is joined and forms a part of the top panel 26 along an arcuate line of weakening 61.

The carrier blank 10 is set-up to form a folded carrier 65 (FIG. 3) by first applying adhesive A which is indicated by the stippled areas in FIG. 1 to the terminal ends 51 of the partitions 50 and to either or both of the handle-carrying panels 35, 37.

Thereafter the bottom panels are folded into downwardly diverging relationship relative to the fold line 15, as best viewed in FIG. 3, which brings the adhesively coated terminal end 51 of the partitions into adhesive contact with adjacent ones of the bottom panels 20, 21. In this manner the ends 51 of the partition panels 50 are bonded to the panels 20, 21. Furthermore, due to the folding of the side panels upwardly along the fold lines 17, 18, the handle-carrying panels 35, 37 are also adhesively united to complete the formation of the carton 65 in its folded condition (FIG. 3) which is unfolded by merely bringing the bottom panels 20, 21 into a common plane, as shown in FIGS. 4 through 8 to which attention is now more specifically and fully directed.

As shown in FIG. 4, the carton 65 when open includes transversely adjacent pairs of article-receiving openings 66 formed upon the displacement of the partition panels 50 from the planes of the top panels 26, 31, and the material removed upon the formation of the openings 54, 60. A pair of cups C1, C2 having lids (unnumbered) are shown seated in two of the article-receiving openings 66 with the bottoms (unnumbered) thereof resting upon the respective panels 20, 21. Since the cup C1 is smaller than the cup C2, the cup C1 is closely embraced at its midportion and the tab 55 is not deflected downwardly, as is the case of the tab 55 associated with the container C2 to accommodate for the larger size of the latter at approximately its midportion. More importantly, the diameter of the cup C1 is approximately equal to the distance D1 from the first fold line 52 of any of the partition panels 50 to the adjacent

fold lines 17 or 18, as best shown in FIG. 5. Thus, when the cup C1 is positioned as shown in FIG. 5, the edge adjacent the partition 50 is snugly engaged at the fold line 52 and the tendency of the cup C1 to tip is appreciably reduced. The fold line 52 and a portion of the partition 50 thereabove function as a shoulder to limit movement of the cup C1 in conjunction with the side wall 22.

In the case of the cup C2 which has a larger bottom diameter or peripheral dimension, the partition 50 associated therewith automatically folds along the fold line 53 under the influence of the weight of the cup and its product in the manner shown best in FIGS. 7 and 8. Thus, the fold line 53 is spaced a distance D2 which corresponds to the diameter of the cup C2 when positioned as shown in FIG. 7, and the cup C2 is likewise thereby confined between the fold line 53, the immediately upper adjacent portion of the partition 50 and the side wall 24. It is to be noted that since the partition 50 is foreshortened the top panel 31 is drawn downwardly, as evidenced by comparison of the top panel 31 in FIG. 7 and the panel 26 of FIG. 5.

From the foregoing, it will be seen that irrespective of what particular size containers are to be packaged in a carrier of the type heretofore described, it is merely necessary to provide fold lines, such as the fold lines 52 and 53, to provide automatic means for varying the distance between each partition panel and its adjacent side panel to accommodate articles of different bottom peripheral dimensions. For example, if a larger cup than the cup C2 were to be placed in the carton 65, then a fold line would be provided parallel to and inboard of the fold line 53 of each partition panel. Likewise, if a smaller cup than the cup C1 were to be carried by the carrier 65, a fold line would be positioned between the fold line 52 and the adjacent edge 48 of each partition 50. In the latter case the adhesive would likewise be applied between the last-mentioned fold line added and the edge 48 of each partition panel. Thus, the particular number of fold lines 52, 53 is immaterial so long as at least two such fold lines are provided but in accordance with this invention, any number beyond two dependent on the number and size of containers may be provided.

While preferred forms and arrangement of parts have been shown in illustrating the invention, it is to be clearly understood that various changes in details and arrangement of parts may be made without departing from the spirit and scope of this disclosure.

I claim:

1. A blank for a container carrier comprising a generally rectangular sheet material member set-off into halves by a central transverse fold line, a plurality of additional fold lines setting-off in each half a bottom panel, a side panel, a top panel and a handle panel respectively, a plurality of cut lines struck in the material of said top and side panels to form a plurality of longitudinally directed partition panels, each partition panel having a free unattached terminal end adapted to be adhesively secured to the bottom panel, and each terminal end includes at least a pair of transverse fold lines for automatically varying the distance between each partition panel and its adjacent side panel to accommodate articles of different peripheral dimensions.

2. The blank as defined in claim 1 wherein each partition panel is joined to an associated one of said handle panels by a fold line.

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3. The blank as defined in claim 1 wherein said cut lines are generally of a deep U-shaped configuration.

4. The blank as defined in claim 1 wherein each of said terminal ends has a terminal edge, and adhesive between each terminal edge and its adjacent fold line.

5. The blank as defined in claim 2 wherein said cut lines are generally of a deep U-shaped configuration.

6. The blank as defined in claim 2 wherein each of said terminal ends has a terminal edge, and adhesive between each terminal edge and its adjacent fold line.

7. The blank as defined in claim 3 wherein each of said terminal ends has a terminal edge, and adhesive between each terminal edge and its adjacent fold line.

8. A carrier comprising a generally tubular body defined by bottom, side and top panels, a plurality of article-receiving openings in said top panel, said openings being disposed in transverse pairs with openings of each pair being on opposite sides of the longitudinal center line of the body, a longitudinal partition panel associated with each opening and having one of its opposite ends joined to said bottom panel, and at least a pair of longitudinal fold lines in each of said one ends for automatically varying the distance between each partition panel and its adjacent side panel to accommodate articles of different peripheral dimensions adapted for insertion in said openings while at the same time

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varying the distance between said top and bottom panels along said longitudinal center line.

9. The carrier as defined in claim 8 wherein said top panel is formed by a pair of halves, and each half has joined thereto along a fold line a handle-carrying panel.

10. The carrier as defined in claim 9 wherein each partition panel is formed from material struck from said top and side panels.

11. The carrier as defined in claim 8 wherein said top panel is formed by a pair of halves, each half has joined thereto along a fold line a handle-carrying panel, and each partition is joined to an associated handle-carrying panel by the last-mentioned fold line thereof.

12. The carrier as defined in claim 11 wherein each partition panel is formed from material struck from said top and side panels.

13. The carrier as defined in claim 8 wherein each partition panel is formed from material struck from said top and side panels.

14. The carrier as defined in claim 13 wherein each of said one end of said partition panels is joined to said bottom panel by adhesive.

15. The carrier as defined in claim 14 wherein an opposite end of each of said partition panels is joined to said top panel along a fold line thereof.

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