

Sept. 17, 1963

E. L. ARNESON
ARTICLE CARRIER

3,104,046

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2 Sheets-Sheet 1

Fig. 1.

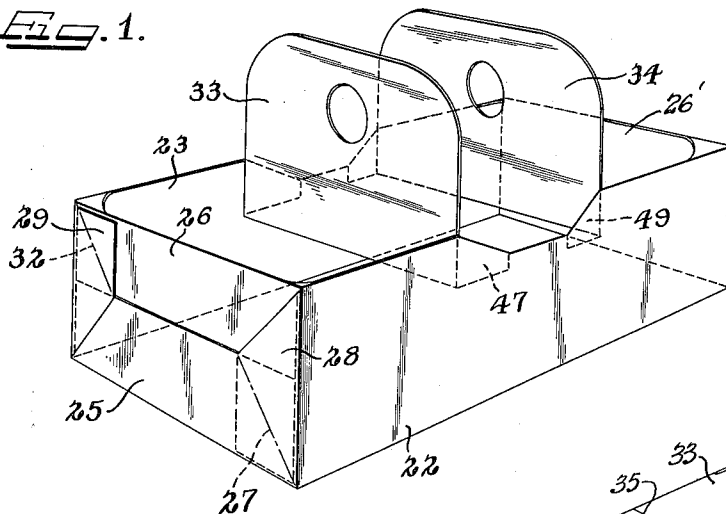


Fig. 4.

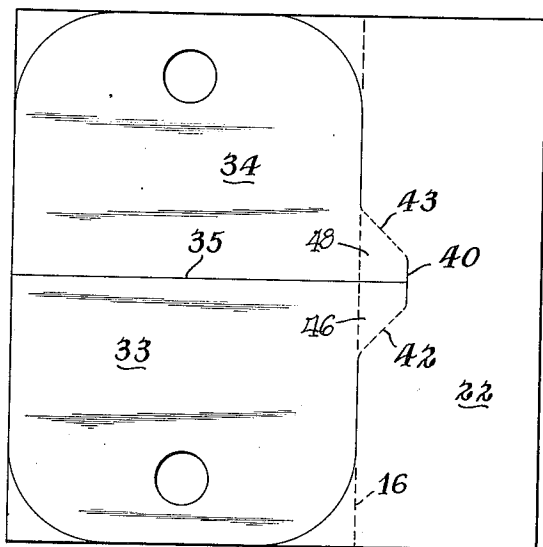
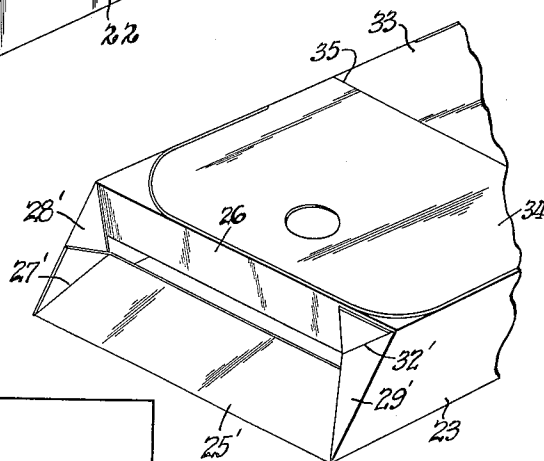


Fig. 5.

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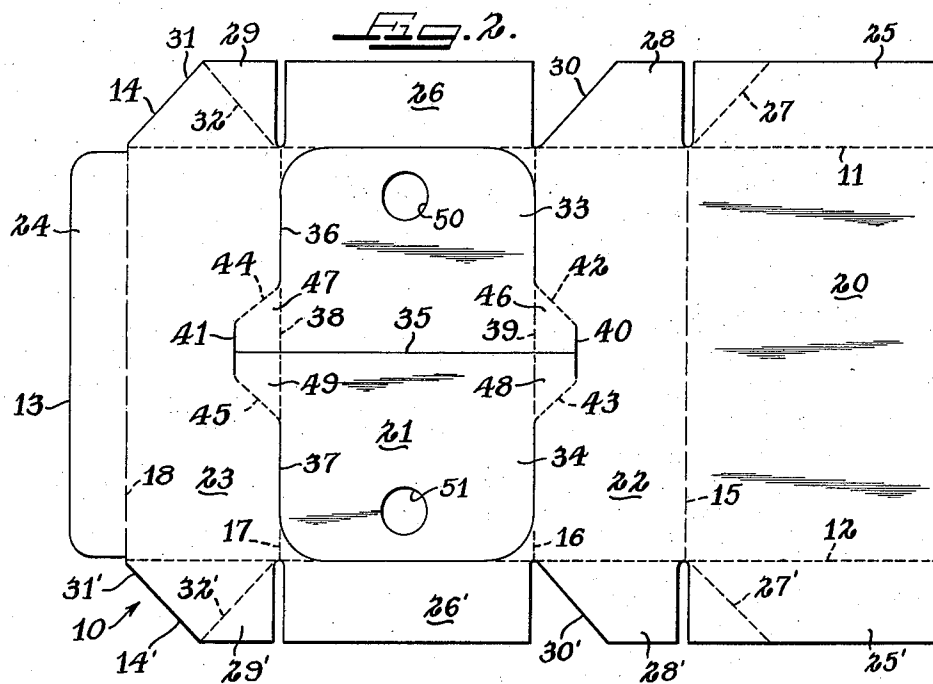
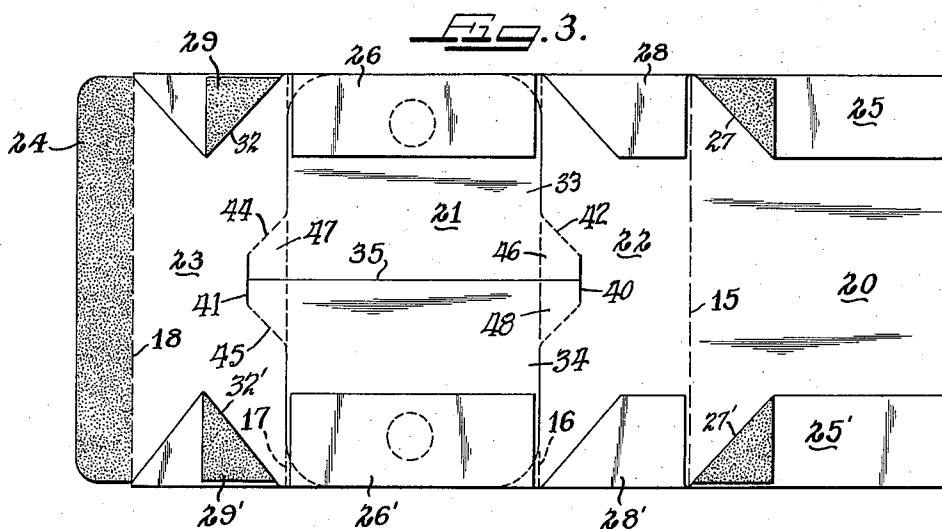
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3,104,046 ARTICLE CARRIER

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This invention relates to article carriers which are fabricated from a single blank of sheet material cut and folded so as to provide, when set up, an open top basket-type container with a combination cross partition and handle structure which divides the basket into a plurality of upwardly opening compartments for receiving therein bottled beverages or like products.

It has been the custom, until very recently, to market beverages such as soft drinks and beer in cans or in bottles with the bottles being returnable to the bottling plant for refilling and reuse. Various types of containers or carriers have been developed for packaging a group, usually six in number, of cans or bottles to facilitate handling of the same, particularly in the retail establishment and to encourage the sale of multiple units of the canned or bottled product. Because of the disposable nature of the cans they have usually been packaged in a wraparound blank which is made of relatively lightweight paperboard stock and designed for single trip use. Generally, the carriers designed for handling bottled beverages have been made of relatively heavy paperboard stock in order to withstand the rough usage and liability to damage attendant upon repeated trips between the bottling plant and the ultimate consumer. The need for heavy stock and rugged construction has, of course, made the cost of such carriers relatively high.

Recently, disposable glass bottles designed for single use have been introduced in the beverage industry, and there has been an increasing demand for a less costly bottle carrier which will, however, be sufficiently rugged to withstand the normal abuse incident upon a single trip between the bottling plant and the ultimate consumer. However, efforts to design a carrier employing a paperboard blank of smaller dimensions or of lighter weight paperboard stock in order to achieve a substantial reduction in cost and make it practical from an economical standpoint to employ this type carrier with the single trip bottles, have not been entirely successful. Recently, a wraparound type carrier or package unit which has heretofore been employed for cans has been modified to adapt it to the packaging of the disposable or throwaway bottles. Objections have been raised to the use of this type carrier in the marketing of soft drinks because of the fact that many customers prefer to purchase a package having a mixture of flavors of their own choosing. This is not practical with the wraparound type blanks since the blank is generally damaged and its usefulness impaired when the bottles are removed from the same. It is a general object of the invention, therefore, to provide an improved bottle carrier of the open top basket or tray type which is formed from a single sheet of paperboard stock material, which is sufficiently rugged to withstand single trip use and which achieves substantial savings in material so that it may be economically produced for use with no-deposit no-return or disposable type bottled beverages or like products.

It is a more specific object of the invention to provide a multicellular bottle carrier which is fabricated from a single blank of relatively lightweight paperboard material wherein the blank is cut and creased so that there is a minimum amount of material required with minimum waste in the blank and in the sheet or web from which the blank is taken and wherein the carrier, when assembled,

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comprises an open top tray with integral cross partitions which divide the space in the tray into compartments or cells each adapted to hold a pair of the bottles and which are constructed so as to incorporate a handle or carrying feature.

It is another object of the invention to provide a collapsible cellular bottle carrier having, when erected, a bottom wall, side and end walls, and cell forming partition structure which includes transverse partition and handle panels which are spaced in the longitudinal direction of the carrier so as to divide the carrier into three compartments each adapted to receive two bottles and which are connected at their opposite ends to the oppositely disposed side walls by generally triangular web forming portions taken from the side walls and foldable inwardly thereof about diagonal fold lines to bring the cross partition and handle panels into upright, generally parallel relation so as to afford separating partitions for pairs of articles in the three sections of the tray.

These and other objects and advantages of the invention will be apparent from a consideration of the bottle carrier which is shown by way of illustration in the accompanying drawings wherein:

FIGURE 1 is a perspective view of a bottle carrier having embodied therein the principal features of the invention, the carrier being shown in set up, empty condition;

FIGURE 2 is a plan view of the inside face of the prepared blank from which the carrier is formed;

FIGURE 3 is a plan view of the blank shown in FIGURE 2, following the first folding and subsequent adhesive applying operations;

FIGURE 4 is a plan view of the completed carrier in flat, knocked down condition, the top wall and one side wall of the carrier being uppermost in the position shown, the view being to a larger scale; and

FIGURE 5 is a fragmentary perspective view illustrating the setting up of the carrier into its initial tubular form.

Referring to the drawings, the illustrated form of the carrier is fabricated from blank 10 which is cut and creased as shown in FIGURE 2. The blank 10 is a generally rectangular sheet of relatively lightweight paperboard or similar bendable and foldable material which is divided by parallel, longitudinally extending, transversely spaced score or crease lines 11 and 12 into a main wall forming center section 13 and two end wall forming side sections 14 and 14'.

The center section 13 is subdivided by parallel, transversely extending, longitudinally spaced score lines 15, 16, 17 and 18 into a bottom wall forming panel 20 at one end of the blank, a top wall forming panel 21, a pair of side wall forming panels 22 and 23 and a relatively narrow glue flap 24 at the other end of the blank, the glue flap 24 being separated from the adjoining side wall panel 23 by the transverse score line 18.

The end wall forming sections 14 and 14' of the blank each have a dimension transversely of the blank which corresponds to one-half the dimension of the side wall panels 22 and 23 in the longitudinal direction of the blank. These sections are cut and scored in an identical manner to provide end wall forming panels 25, 25' and 26, 26' at opposite ends of the bottom wall forming panel 20 and the top wall forming panel 21. The inner corners of the end wall forming panels 25, 25' are separated from the remainder of the panels by diagonal fold forming score lines 27, 27'. End wall connecting panels or flaps are provided at opposite ends of the side wall panels 22 and 23. The panels 28, 28' at the ends of the side wall 22 have their corners which adjoin the end wall forming panels 26, 26' cut away on diagonal lines 30, 30' and

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the panels 29, 29' which extend at the opposite ends of the other side wall forming panel 23 have their corners cut away at the end of the blank on diagonal lines 31 and 31'. The panels 29, 29' also have their opposite corners separated from the balance of the panels by fold forming diagonal score lines 32, 32'. Each of the end wall forming panels is freed from the adjoining panels by slots cut therein which extend to the side score lines 11 and 12.

The top wall forming panel 21 and the two adjoining side wall forming panels 22 and 23 are cut to provide a pair of cross partition and handle forming panels 33 and 34 which are freed from each other for hinging movement by cutting on the longitudinally extending line 35 at the longitudinal center of the blank. The panel 21 is cut on the U-shaped lines 36 and 37 on opposite sides of the longitudinal cutting line 35 with the ends of the legs of the U-shaped cuts terminating in spaced relation to the cutting line 35. These U-shaped cuts coincide in part with the crease lines 11, 12 and 16, 17 and portions 38 and 39 of the latter extend between the inner ends of the respective cutting lines 36 and 37. The longitudinal cutting line 35 extends across the top wall forming panel 21 and equal distances into the side wall forming panels 22 and 23 with its ends terminating at a pair of relatively short transverse cutting lines 40 and 41 which are parallel with the score lines 16 and 17, respectively, and equally spaced therefrom in the direction of the ends of the blank. Hinge forming score lines 42, 43 and 44, 45 extend in diverging relation from the ends of transverse cutting lines 40 and 41 to the ends of the score line sections 38 and 39, the latter coinciding with the ends of the cutting lines 36 and 37. This arrangement leaves the partition forming panels 33 and 34 connected to the side walls 22 and 23 by web members 46, 47 and 48, 49 which are adapted to hinge on the diagonal score lines 42, 44 and 43, 45 and also on the transverse score line portions 38, 39, when the panels 33 and 34 are swung out of the plane of the top wall 21. The panels 33 and 34 are provided with finger receiving apertures 50 and 51 adjacent their outermost edges.

The blank 10, when cut and creased, is glued and folded to provide the carrier which is illustrated in knocked down condition in FIGURE 4 and in set up position in FIGURE 1. The end wall forming panels 25, 25', 26, 26', 28, 28' and 29, 29' are initially folded inwardly about the score lines 11 and 12 as indicated in FIGURE 3. The triangular corner members of the end wall panels 25, 25' and 29, 29' are then folded back about their score lines 27, 27' and 32, 32' onto the respective end wall panels and an adhesive is applied to these folded back members and also to the glue flap 24. Thereafter, the bottom wall panel 20 is folded inwardly about the score line 15 to bring the end wall panels 28 and 28' into face engagement with the adhesive coated and folded back corner members on the end wall panels 25 and 25'. The side wall panel 23 and the glue flap 24 are folded about the score line 17 to bring the adhesive coated glue flap 24 into overlying relation with the free marginal portion of the bottom wall forming panel 20 and the end wall panels 26 and 26' into engagement with the adhesively coated and folded back corner members of the end wall panels 29 and 29'. This completes the folding of the blank so as to produce the completed carrier in knocked down condition which is shown on its opposite side in FIGURE 4.

In setting up the carrier for use, the side wall panels 22, 23 and the top and bottom forming wall panels 20, 21 are squared up to form a tube which automatically carries the end wall panels 25, 25' and 26, 26' into upright end wall forming relation due to the connection of these panels with the panels 28, 28' and 29, 29', as illustrated in FIGURE 5. The end wall panels 25, 26 and 25', 26' fold about the hinge lines 27, 32 and 27', 32' when opened up by movement of the other walls into tube forming relation. Thereafter, the partition and handle panels 33 and 34 are folded into upright position by forcing the web forming members 46, 47 and 48, 49 downwardly about

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the diagonal hinge lines 42, 44 and 43, 45 into vertically disposed planes and in engagement with the inside faces of the side walls 22 and 23. When opened up, the tray-like bottom or carrier body is divided by the cross partition and handle forming panels 33 and 34 into three open topped sections or compartments of equal size, each of which is adapted to receive two of the bottles for which the carrier is designed.

While particular materials and specific details of construction are referred to in describing the form of the carrier illustrated, it will be understood that other materials and different details of construction may be resorted to within the spirit of the invention.

I claim:

1. A collapsible basket-type bottle carrier formed from a paperboard blank which is cut and folded to provide, in erected condition, a basket-like tray having a bottom wall, a top wall, upright side walls connecting corresponding side edges of the bottom and top walls, end walls having panel portions hinged to corresponding ends of the bottom, top and side walls and to each other so as to fold inwardly when the carrier is collapsed, and a pair of combination cross partition and handle forming panels which are spaced an equal distance on opposite sides of the transverse center of the tray and connected to the side walls by web portions which are integrally hinged to the side walls and folded into face-to-face relation with the inside face portions of said side walls between said cross partition and handle forming panels so as to divide the tray into three upwardly opening compartments for accommodating bottles with the center compartment lying between said cross partition and handle forming panels.
2. A collapsible bottle carrier formed from a paperboard blank which is cut and folded to provide, in erected condition, a basket-like tray having a bottom wall, a top wall, upright side walls connecting corresponding side edges of the bottom and top walls, collapsible end walls formed by hingedly connected panels, and a pair of cross partition and handle forming panels which are cut from the top wall and hinged into upstanding, generally parallel relation, said cross partition and handle panels being equally spaced from the transverse center of the top wall of the tray and being connected to the side walls by web portions of generally triangular shape hinged to the side walls and to said cross partition and handle forming panels along diagonal and vertical hinge lines, respectively, whereby to divide the tray into end and center compartments which are open at the top to receive bottles therein, with the center compartment extending between said cross partition and handle panels.
3. A bottle carrier formed from a paperboard blank which is cut and folded to provide, in erected condition, a tube-like carrier body having a bottom wall, a top wall, upright side walls connecting corresponding side edges of the bottom and top walls, and end walls connecting corresponding edges of the bottom, top and side walls, and a pair of combination cross partition and handle forming panels which are cut from the top wall and freed from each other on a central transverse cutting line, said cross partition and handle forming panels being equally spaced in the longitudinal direction from the transverse center of the carrier body and connected to the side walls by web portions cut from the side walls immediately adjacent the transverse center thereof and hinged thereto on diagonal lines, and said web portions being hinged to said cross partition panels on vertical lines whereby to divide the carrier body into upwardly opening, bottle receiving end compartments and an upwardly opening, bottle receiving center compartment which extends between said cross partition and handle forming panels.
4. A collapsible bottle carrier formed from a paperboard blank which is cut and folded to provide, in erected condition, a tube-like container having a bottom wall, a top wall, upright side walls connecting corresponding

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side edges of the bottom and top walls, collapsible end walls and a pair of combination cross partition and handle forming panels which are taken from the top wall and folded out of the plane thereof into upright position so as to extend transversely of the container, said panels being equally spaced in the longitudinal direction from the transverse vertical plane in the center of the container and connected at opposite edges thereof to the upper portions of the side walls by generally triangular hinge forming web portions which web portions are

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connected along diagonal and vertical hinge lines to the side walls and to said cross partition panels, respectively, whereby to provide the container with three upwardly opening bottle receiving compartments.

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