Oct. 2, 1962 T. E. SHIELS, JR 3,056,528

BEVERAGE CONTAINER CARRIER

Filed July 3, 1961 3 Sheets-Sheet 1

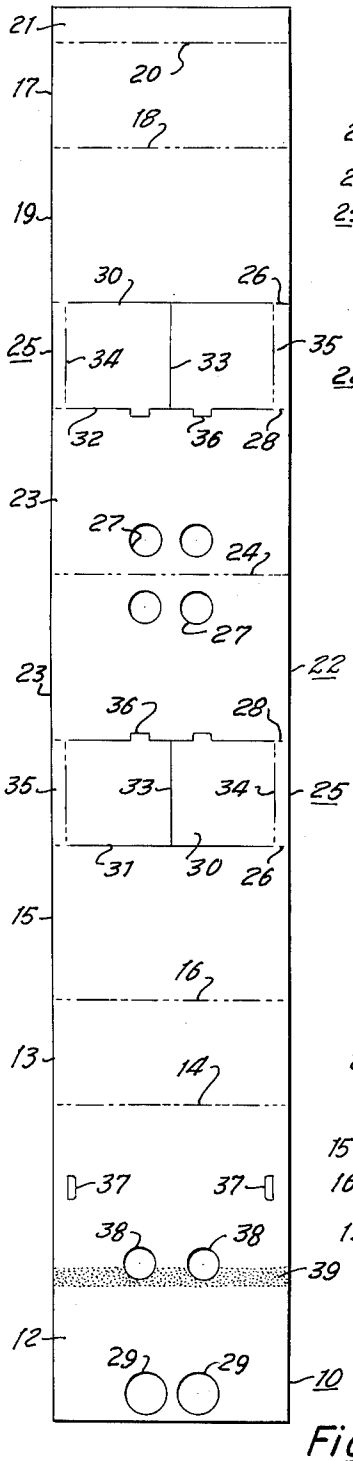


Fig. 1

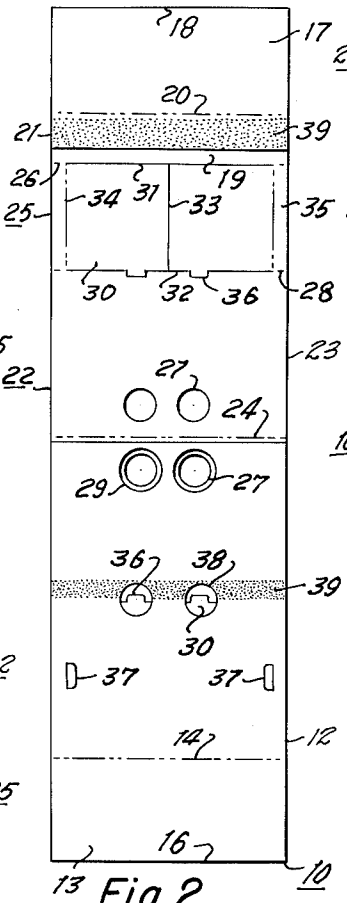


Fig. 2

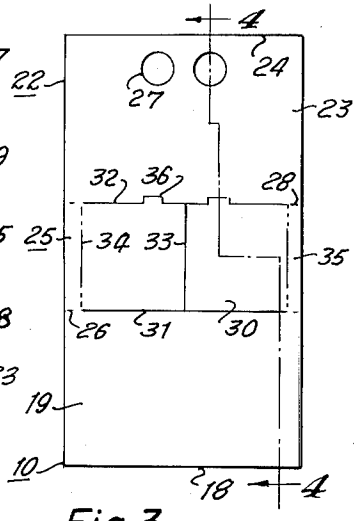


Fig. 3

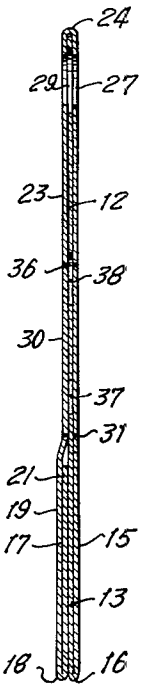


Fig. 4

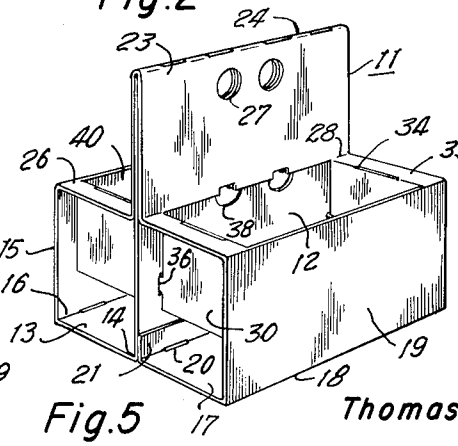


Fig. 5

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BEVERAGE CONTAINER CARRIER

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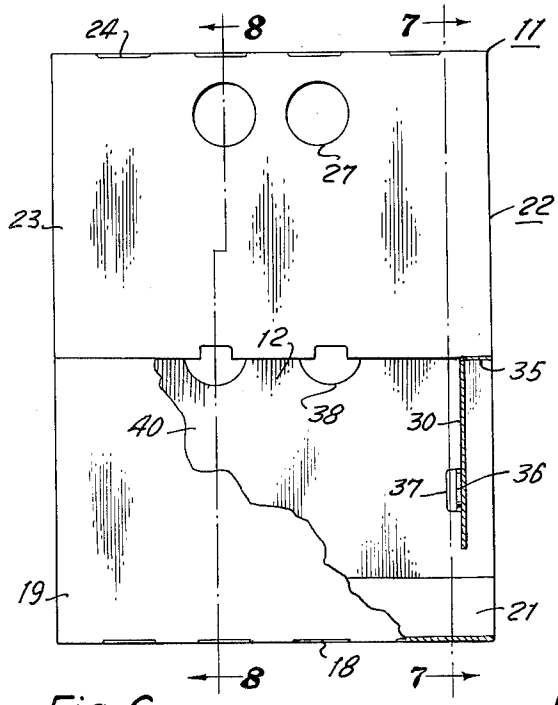


Fig. 6

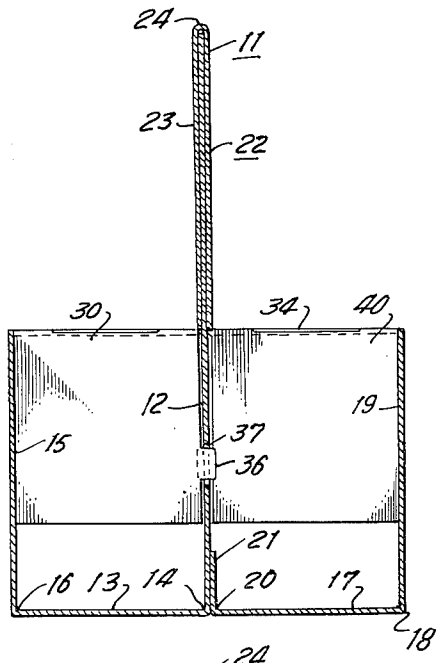


Fig. 7

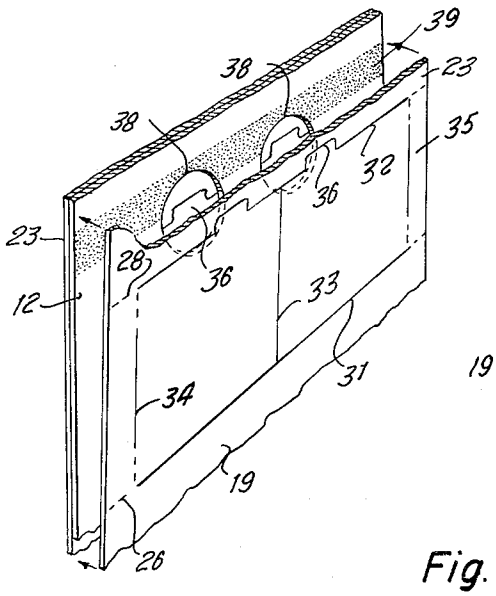


Fig. 9

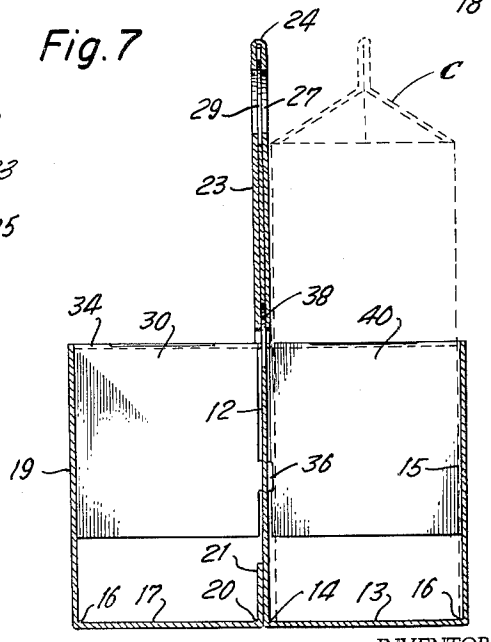


Fig. 8

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BEVERAGE CONTAINER CARRIER

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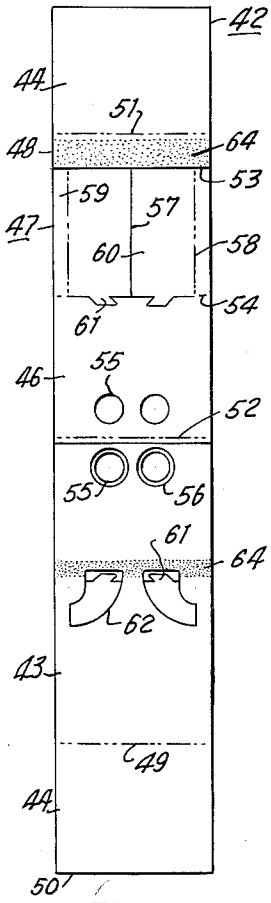


Fig. 10

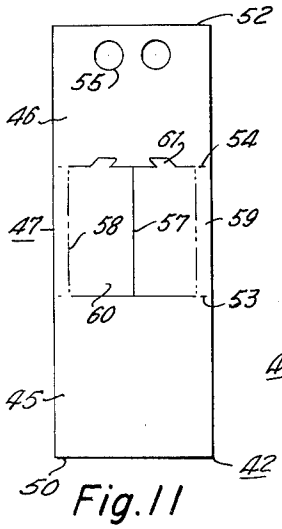


Fig. 11

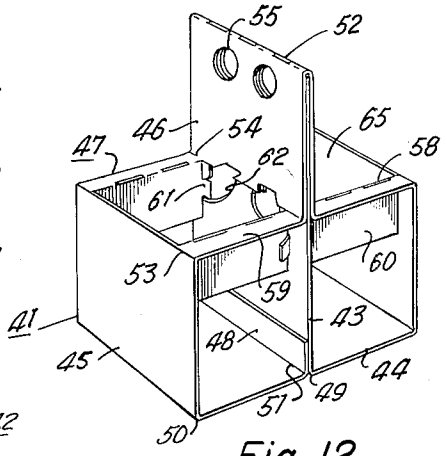


Fig. 12

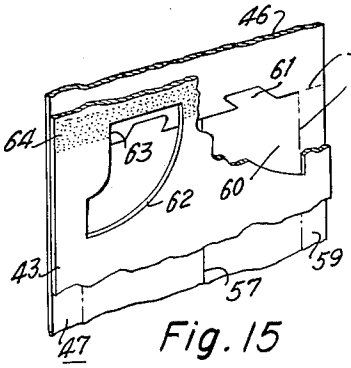


Fig. 15

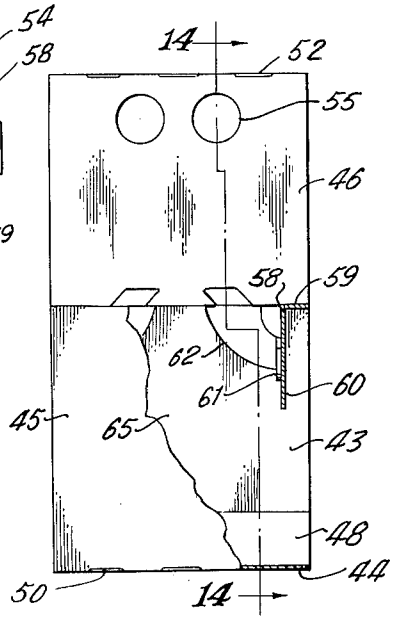


Fig. 13

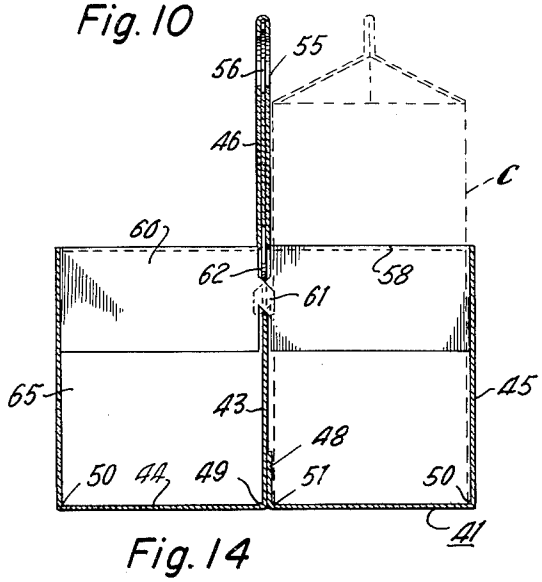


Fig. 14

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United States Patent Office

3,056,528
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3,056,528

BEVERAGE CONTAINER CARRIER

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Filed July 3, 1961, Ser. No. 121,766
4 Claims. (Cl. 220—116)

This invention relates to new and useful improvements in beverage container carriers.

One object of the invention is to provide an improved collapsible carrier for beverage containers which is of such inexpensive construction that it may be discarded after one use.

Another object of the invention is to provide an improved beverage container carrier which is adapted to be formed by conventional folding and gluing operations from a one-piece blank of light-weight paperboard or other suitable bendable material of minimum area and without any waste.

A further object of the invention is to provide an improved beverage container carrier formed from a one-piece rectangular blank having no wasteful offsets and substantially no cutouts whereby substantially all of the material of the blank is utilized.

A particular object of the invention is to provide an improved carrier, of the character described, having end walls formed of material cut from the blank to form the compartments for the beverage containers whereby this material is not wasted and said blank is of minimum area.

Another object of the invention is to provide an improved carrier, of the character described, having an upright, longitudinal center partition extending its full depth and length for engagement with the end walls and for connection with a bottom wall throughout its length so as to rigidify the carrier and prevent twisting thereof, said end walls having projections engaging openings in the center partition to maintain said walls in upright position.

An important object of the invention is to provide an improved carrier, of the character described, wherein the center partition includes a medial panel and a pair of handle panels overlying the upper portion of the medial panel and coating therewith to form a multiply handle for the carrier, the projections of the end walls being cut from the lower portions of the handle panels and the medial panel having openings underlying said projections when the carrier is collapsed so that said projections are not contacted by glue applied between said medial panel and said lower portions of said handle panels.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, wherein examples of the invention are shown, and wherein:

FIG. 1 is a plan view of a blank cut and scored in accordance with the invention,

FIG. 2 is a plan view showing the first folding of the blank,

FIG. 3 is a plan view showing the final folding of the blank,

FIG. 4 is a transverse, vertical, sectional view, taken on the line 4—4 of FIG. 3,

FIG. 5 is a perspective view of an erected beverage container carrier constructed in accordance with the invention,

FIG. 6 is a side elevational view, partly in section, of the carrier,

FIG. 7 is a transverse, vertical, sectional view, taken on the line 7—7 of FIG. 6,

FIG. 8 is a transverse, vertical, sectional view, taken on the line 8—8 of FIG. 6, showing a beverage container in broken lines,

FIG. 9 is a perspective view of a portion of the collapsed carrier showing the relation of its lock tabs to one of the glue lines between the center partition and handle panels,

FIG. 10 is a plan view of a partly-folded blank for a modified carrier,

FIG. 11 is a plan view of the modified blank, completely folded,

FIG. 12 is a perspective view of the erected modified carrier,

FIG. 13 is a side elevational view, partly in section, of the modified carrier,

FIG. 14 is a transverse, vertical, sectional view, taken on the line 14—14 of FIG. 13, showing a beverage container in broken lines, and

FIG. 15 is a perspective view of a portion of the collapsed modified carrier, showing the relation of its lock tabs to the glue lines between the center partition and handle panels.

In the drawings, the numeral 10 designates a blank of relatively light-weight paperboard or other suitable bendable sheet material for forming a carrier 11 (FIG. 5) for beverage containers. The carrier 11 may be utilized to support bottles, cans, cups, glasses and other containers, but is primarily designed for containers which are rectangular or square in cross-section, such as the paperboard carton C shown in broken lines in FIGS. 8 and 14. The blank 10 is rectangular, being of greater length than width, and has a center partition panel 12 extending transversely of one of its ends and adapted to extend uprightly and longitudinally of the erected carrier 11. A coextensive bottom wall panel 13 is hinged to the inner longitudinal margin of the center partition panel 12 by a transverse score line 14 and has a side wall panel 15 hinged to its opposite longitudinal margin by a transverse score line 16. At its opposite end, the blank has similar bottom and side wall panels 17 and 19 hinged to each other by a transverse score line 18. A similar score line 20 hinges a coextensive glue flap 21 to the outer longitudinal margin of the bottom wall panel 17.

Between the inner longitudinal margins of the side wall panels 15 and 19, an upper or top section 22 is disposed and includes a pair of identical handle panels 23 hingedly connected by a medial score line 24 extending transversely of the blank 10. The handle panels 23 are joined to the longitudinal margins of the side wall panels by a pair of identical top wall panels 25 and score lines 26 and 28 which extend transversely of the blank. Complementary finger openings 27 are formed in the medial portions of the handle panels adjacent the score line 24 for registration with similar openings 29, of slightly greater diameter, in the outer or upper portion of the center partition panel 12 upon folding of the blank as shown most clearly in FIGS. 4, 5 and 8.

Each top wall panel 25 has a pair of rectangular end wall panels 30 struck therefrom by cuts or slits 31 and 32 which are alined with and form continuations of the score lines 26 and 28. A cut or slit 33 extends medially and transversely of each top wall panel and longitudinally of the blank 10 to separate each pair of end wall panels 30. Score lines 34, parallel to the cut or slit 33, hingedly connect the end wall panels to the end portions of the panels 25 and provide narrow straps or webs 35 at the ends of said panels that extend longitudinally of the blank and transversely between the side wall and handle panels 15, 19 and 23. Due to the alinement of the slits 31 and 32 with the score lines 26 and 28, the end wall panels 30 engage the center partition

panel 12 and the side wall panels 15 and 19 to rigidify the carrier 11 when it is erected (FIGS. 7 and 8).

A rectangular lock tab or projection 36 extends inwardly from each end wall panel 30 beyond the slit 32 into the adjacent handle panel 23. For receiving the tabs 36, a pair of openings 37 are formed adjacent the ends of the center partition panel to maintain the end wall panels in upright position upon erection of the carrier 11 and downward swinging of said end wall panels. Preferably, the lock tabs are disposed adjacent the slit 33 so as to be near the lower ends of the upright end wall panels. A pair of openings 38 are provided in the medial portion of the center partition panel for underlying the tabs 36 when the blank is folded or the carrier is collapsed as shown most clearly in FIG. 9. The openings 38 permit the application of glue or other adhesive 39 to both sides of the center partition panel for securing the lower portions of the handle panels 23, adjacent the score line 28 and slit 32, to said center partition panel without the glue contacting the tabs whereby said tabs are prevented from adhering to said center partition panel. The location of the glue in close proximity to the score line 28 is essential in order to prevent outward bulging or spreading of the side wall panels 15 and 19 when the carrier 11 is erected and loaded since the narrow straps 35 provide the only connection between said side wall panels and the handle panels. Simultaneously with the application of the glue 39 to both sides of the center partition panel, the glue is applied to the flap 21 so that only one gluing operation is required.

After the application of the glue to the center partition panel 12 and glue flap 21, said center partition panel and the bottom wall panel 13 are folded inwardly upon the transverse score line 16 into overlying relation to the side wall panel 15 and the adjacent handle panel and top wall panels 23 and 25 to secure said panel 12 to said panel 23 (FIG. 2). At the same time, the bottom wall panel 17 and its glue flap are folded inwardly upon the transverse score line 18 so as to overlie the side wall panel 19. Upon folding the blank 10 on the score line 24, the other handle panel 23 and the flap 21 are fastened to the center partition panel so as to dispose the bottom wall panels 13 and 17 in face-to-face relationship as shown in FIGS. 3 and 4.

The carrier is adapted to be transported, stored and otherwise handled in this folded condition until erected for use. Erection of the carrier is readily accomplished by pushing the center partition and handle panels 12 and 23 downwardly relative to the side wall panels 15 and 19 so as to swing the bottom wall panels 13 and 17 upwardly and the top wall panels 25 downwardly into substantial alinement. Upon swinging the end wall panels 30 downwardly, a single rectangular compartment 40 (FIGS. 5–8) is provided on each side of the center partition and the carrier is maintained in substantially erect position by the engagement of the tabs 36 in the openings 37 which locks said end wall panels in upright position.

Preferably, the length of each compartment 40 is twice its width for snugly receiving two containers C which are square in cross-section; however, this dimension is subject to variation since each compartment may be square for receiving a single square container. It is pointed out that the end wall panels 30 may be swung downwardly by engagement with the containers inserted in the compartments of the carrier 11 whereby said carrier may be readily erected by hand and no special equipment or machinery is required, the openings 37 being so positioned that the tabs 36 engage therein upon downward swinging of the end wall panels to upright position. The center partition panel 12 extends the full depth and length of the carrier so as to provide a continuous divider or separator between the containers on opposite sides thereof. The handle panels 23 overlie the upper portion of the center partition panel and coact therewith to provide a handle for the carrier as well as a longitudinal partition

for separating the upper portions of the containers in different compartments. As shown in FIG. 8, the handle may be of the same height as the containers so that loaded carriers may be readily stacked. The carrier is of economical construction since it utilizes all of the material of the blank, except for the openings 27, 29 and 38, and is inexpensive to manufacture since the glue lines are straight, parallel to one another and applied in one operation.

The modified carrier 41 shown in FIG. 12 is formed from a one-piece blank 42 which is similar to the blank 10 and has similar panels. The modified blank 42 is shown partly folded in FIG. 10 and completely folded in FIG. 11 and includes a center partition panel 43, a pair of bottom wall panels 44, a pair of side wall panels 45, a pair of handle panels 46, a pair of top panels 47 and a glue flap 48 similar to the panels 12, 13, 15, 17, 19, 23 and 25 and the glue flap 21 of the blank 10. Score lines 49, 50, 51, 52, 53 and 54, similar to the score lines 14, 16, 18, 20, 24, 26 and 28, hingedly connect the panels 43, 44, 45, 46, 47 and the glue flap 48 to one another. Also, the handle panels 46 and center partition panel 43 have similar finger openings 55 and 56, respectively. Each top panel 47 has a medial, transverse cut or slit 57 and parallel score lines 58, similar to the slit 33 and score lines 34, so as to provide a narrow strap or web 59 at each end of the panel and a pair of end wall panels 60.

Instead of the rectangular lock tabs 36, the inner lateral margins of the end wall panels 60 have rhomboidal tabs 61 which are inclined or slanted inwardly toward the center of the blank. The lock tabs 61 are adapted to engage and coact with substantially arcuate openings or slots 62 cut in the center partition panel 43 so as to register with said tabs upon erection of the bottle carrier. The slots 62 are curved downwardly and outwardly from the medial portion toward the ends of the center partition panel and extend above the tabs when the blank is folded. Due to the frictional engagement of the tabs with the slots, the end wall panels 60 are held in upright position and displacement thereof is resisted so as to increase the rigidity of the erected carrier when said panels are swung downwardly. As shown by the numeral 63 in FIG. 15, the upper, inner end portions of the slots 62 are of much greater width than the tabs 61 so as to space said tabs from the center partition panel 43. The enlarged end portions 63 perform the same function as the openings 38 of the center partition panel 12 and permit the application of glue 64 to both sides of the center partition panel 43 for securing the lower portions of the handle panels 46, adjacent the score lines 54, to said center partition panel without the glue contacting the tabs and causing said tabs to adhere to said center partition panel when the blank is folded. The glue 64 is applied to the flap 48 at the same time that it is applied to both sides of the center partition panel whereby only one gluing operation is required.

The blank 42 is folded in the same manner as the blank 10 and the carrier 41 is erected in the same manner as the carrier 11. Upon swinging the end wall panel 60 downwardly, a single rectangular compartment (FIGS. 12–14) is provided on each side of the center partition and the carrier is maintained in substantially erect position by the engagement of the tabs 61 with the lower, outer end portions of the slots 62. Since each bottom wall panel 44 is square, each compartment 65 is square for receiving a single square container. Of course, the carrier 41 could be provided with the lock tabs 36 and openings 37 and 38 and the carrier 11 could be provided with the lock tabs 61 and slots 62.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A beverage container carrier formed from bendable sheet material including an upright longitudinal center partition, a top panel extending laterally from each side of the center partition, a side wall hinged to and depending from the outer margin of each top panel, a bottom panel hinged to and extending laterally inward from the lower margin of each side wall, each bottom panel having its inner margin connected to the lower margin of said center partition, a pair of end panels struck from each top panel so as to provide a single compartment on each side of said center partition for receiving beverage containers, each end panel being of slightly less than one-half the length of the top panel, the end panels being hinged to the ends of the top panels for downward swinging to upright position, the center partition including a medial panel having its upper portion extending above said top panels, a pair of handle panels overlying and secured to the medial panel and coacting therewith to provide a handle for the carrier, and a tab on the inner lateral margin of each end panel struck from the lower portions of the handle panels, said medial panel having openings adjacent its ends for receiving the tabs to lock said end panels in upright position, said medial panel having an opening underlying each tab when the carrier is collapsed so that said tabs do not interfere with gluing of the lower portions of said handle panels to said medial panel.

2. A beverage container carrier formed from bendable sheet material including an upright longitudinal center partition, a top panel extending laterally from each side of the center partition, a side wall hinged to and depending from the outer margin of each top panel, a bottom panel hinged to and extending laterally inward from the lower margin of each side wall, each bottom panel having its inner margin connected to the lower margin of said center partition, a pair of end panels struck from each top panel so as to provide a single compartment on each side of said center partition for receiving beverage containers, each pair of end panels having a combined length slightly less than one-half the length of the top panel, the end panels being hinged to the ends of the top panels for downward swinging to upright position, the center partition including a medial panel having its upper portion extending above said top panels, a pair of handle panels overlying and secured to the medial panel and coacting therewith to provide a handle for the carrier, and a tab on the inner lateral margin of each end panel struck from the lower portions of said handle panels, said medial panel having substantially arcuate slots extending downwardly and outwardly from its center portion for receiving the tabs to guide the downward swinging of said end panels and maintain said end panels in upright position, the slots having their inner end portions underlying said tabs when the carrier is collapsed so that glue applied between said medial panel and the lower portions of said handle panels does not contact said tabs.

3. A beverage container carrier formed from bendable sheet material including an upright longitudinal center partition, a top panel extending laterally from each side of the center partition, a side wall hinged to and depending from the outer margin of each top panel, a bottom panel hinged to and extending laterally inward from the lower margin of each side wall, each bottom panel having its inner margin connected to the lower margin of said center partition, a pair of end panels struck from each top panel so as to provide a single compartment on each side of said center partition for receiving beverage containers, the end panels being hinged to the ends of the top panels for downward swinging to upright position, said center partition including a medial panel having its upper portion extending above said top panels, a pair of handle panels overlying and secured to the upper portion of the medial panel and coacting therewith to provide a handle for the carrier, said top panels having their inner margins hinged to the lower margins of the handle panels, and a projection on the inner lateral margin of each end panel struck from the lower portions of said handle panels, said medial panel having openings adjacent its ends for receiving the projections to maintain said end panels in upright position, said medial panel having an opening underlying each projection when the carrier is collapsed so that glue applied to both sides of said medial panel for securing the lower portions of said handle panels thereto does not contact said projections.

4. A beverage container carrier formed from bendable sheet material including an upright longitudinal center partition, a top panel extending laterally from each side of the center partition, a side wall hinged to and depending from the outer margin of each top panel, a bottom panel hinged to and extending laterally inward from the lower margin of each side wall, each bottom panel having its inner margin connected to the lower margin of said center partition, a pair of end panels struck from each top panel so as to provide a single compartment on each side of said center partition for receiving beverage containers, the end panels being hinged to the ends of the top panels for downward swinging to upright position, said center partition including a medial panel having its upper portion extending above said top panels, a pair of handle panels overlying and secured to the upper portion of the medial panel and coacting therewith to provide a handle for the carrier, said top panels having their inner margins hinged to the lower margins of the handle panels, and a projection on the inner lateral margin of each end panel struck from the lower portions of said handle panels, said medial panel having openings adjacent its ends for receiving the projections to maintain said end panels in upright position, the openings being substantially arcuate and extending downwardly and outwardly from its center portion for guiding the downward swinging of said end panels, said openings having their inner end portions underlying said projections when the carrier is collapsed so that the lower portions of said handle panels may be glued to said medial panel without gluing said projections.

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