

May 19, 1959

D. LEVKOFF
CARTON

2,887,245

Filed July 18, 1957

3 Sheets-Sheet 1

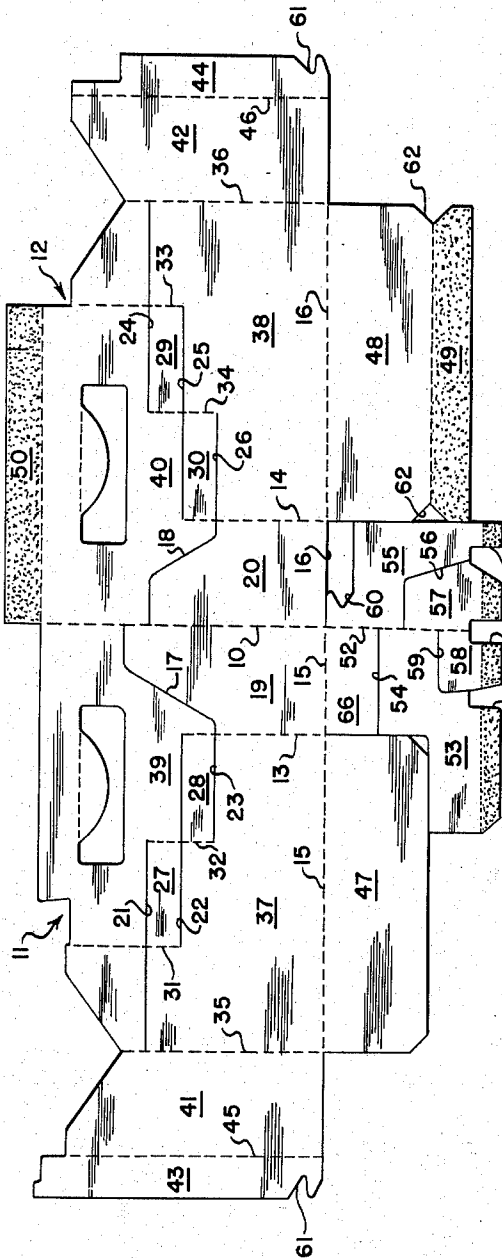
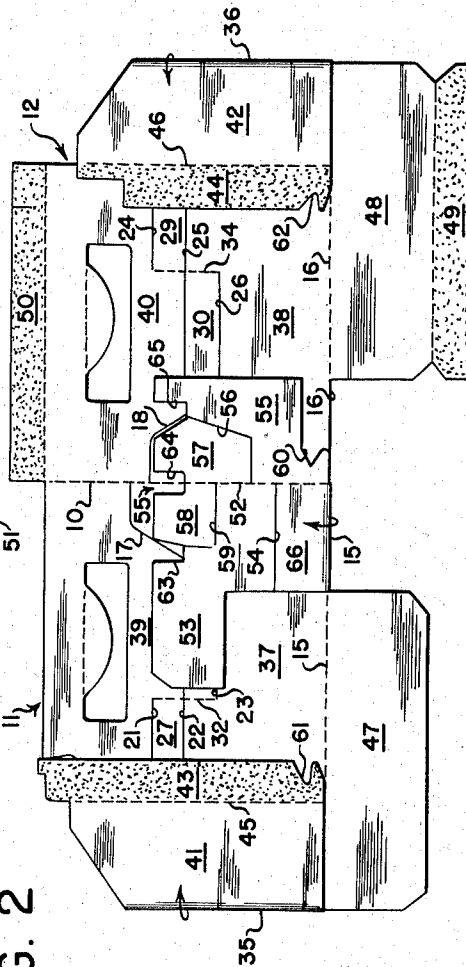


FIG. 1

FIG. 2



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FIG. 3

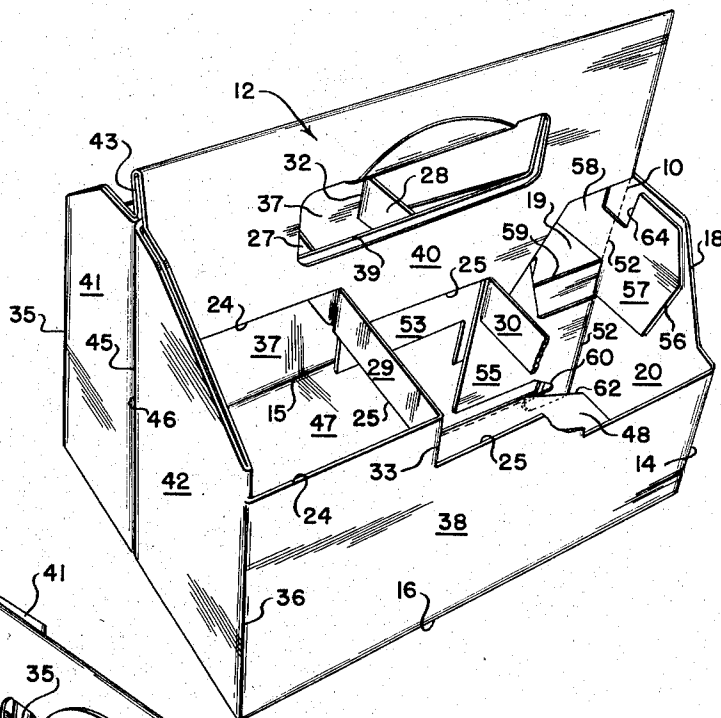
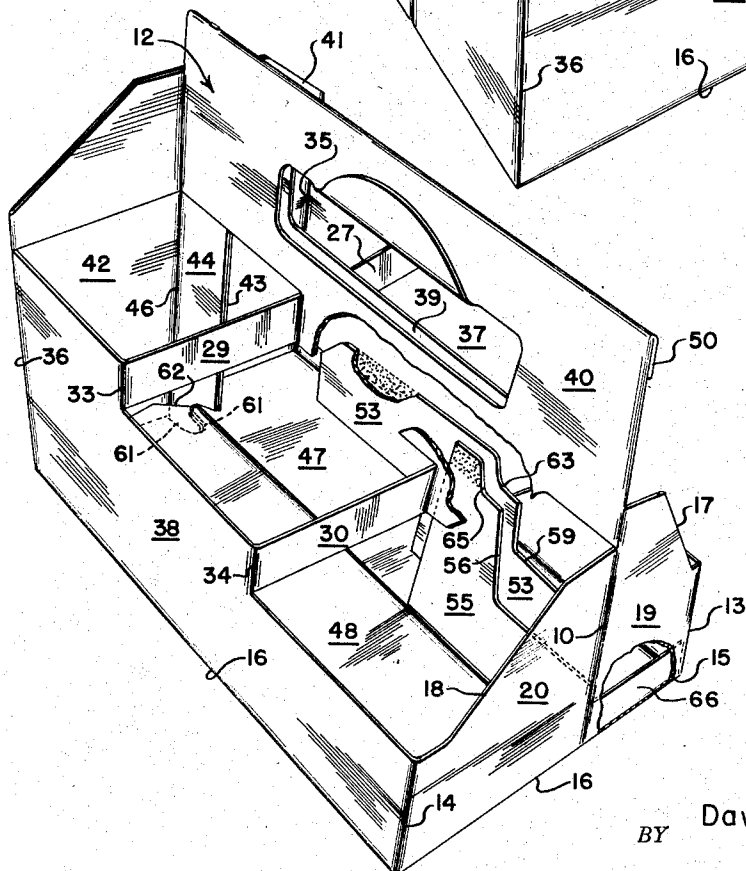


FIG. 4

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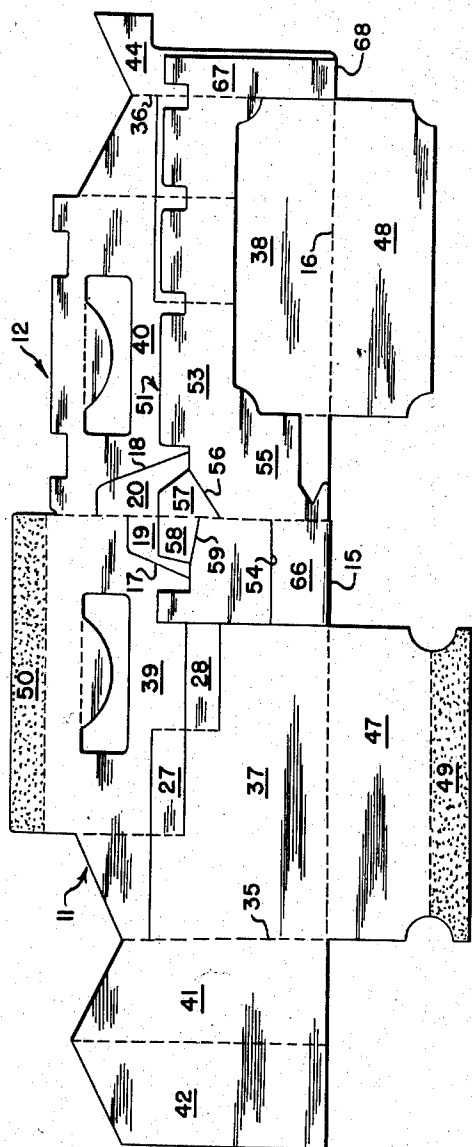


FIG. 5

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4 Claims. (Cl. 220—113)

This invention relates to cartons, and, more particularly, to a carton for carrying beverage bottles and the like.

The beverage bottling industry has generally standardized on the use of a six-bottle carrier for merchandising purposes. These carriers are also generally constructed of paperboard which by itself would not have the strength to carry six filled bottles safely but which, by virtue of various folding and gluing features, is made sufficiently rigid to support its burden. However, the necessity for strengthening the bottle carrier structure by double folds and extensive gluing has contributed largely to the expense of the carton structure.

I have now devised a bottle carrier structure which is characterized by such efficient use of paperboard and gluing as to offer considerable savings in raw material costs. The paperboard carton blank of my invention comprises two substantially mirror-image main panels integrally connected along their adjacent edges by a transverse fold line positioned approximately centrally of the blank. A pair of transverse fold lines is positioned astride the central transverse fold line extending upwardly from the lower edge of each main panel across a portion of the panel. A cut line extends from the upper end of each pair of transverse fold lines diagonally upwardly to vertically spaced points along the central transverse fold lines so that the two cut lines, the pair of transverse fold lines, the lower edge of the two main panels and the central transverse fold line define two substantially symmetrical end wall sections. Each of the main panels is provided with three longitudinal cut lines vertically spaced from one another in laterally staggered relationship so as to define in the main panel two hinged divider strips between the cut lines as well as a handle portion above the uppermost cut line. The lowermost of the three longitudinal cut lines joins the lower end of the proximate diagonal cut line. A bottom panel is integrally connected along the lower longitudinal edge of each main panel outboard of the pair of transverse fold lines, and an end wall panel is advantageously integrally connected to the lateral edge of at least one of the two main panels.

An important feature of the novel carton structure of my invention is the provision of a center anchor panel integrally connected to the lower edge of at least one of the symmetrical end wall sections along a fold line extending longitudinally of the blank. The anchor panel is provided with a transverse fold line substantially aligned with the central transverse fold line, and the portion of the anchor panel on either side of this transverse fold line is provided with a laterally extending outermost portion. The anchor panel is provided with a longitudinal cut line positioned between the longitudinal edge of the anchor panel and the fold line by which the anchor panel is joined to the end wall section. The resulting center anchor panel serves to hold the symmetrical end wall sections of the erected carton in their proper planar position.

The bottle carrier formed from the one-piece blank of

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my invention comprises two juxtaposed handle panels, a side wall panel spaced from the proximate handle panel and integrally connected thereto by divider strips, and a bottom panel joining the lower edges of the two side wall panels. One end wall panel of the carrier extends substantially the full height thereof and is joined along the lower portion of its side edges to the ends of the two side wall panels and is joined along the upper portion of its side edges to a connecting panel integrally connected to the proximate ends of the juxtaposed handle panels. A second end wall panel is joined along the lower portion of its side edges to the other ends of the two side wall panels and is joined at its top to the lower extremity of the other ends of the juxtaposed handle panels. An anchor panel is integrally joined to at least a portion of the lower edge of the second end wall panel, the portion of the anchor panel joined to the second end wall panel being folded upwardly into juxtaposition with the interior surface of the second end wall panel and being provided with an adjacent fold portion connected to the first-mentioned portion along a vertically positioned fold line. The latter portion of the anchor panel is adhesively secured to the inner surface of the proximate handle panel to anchor the second end wall in place and thus maintain the rigidity of the carrier in use.

These and other novel features of the carton structure of my invention will be more readily understood by reference to the accompanying drawings in which:

Fig. 1 is a plan view of a carton blank embodying the invention;

Fig. 2 is a plan view of the carton blank of Fig. 1 in its partially folded and glued state;

Fig. 3 is a perspective view of the assembled carrier erected from the blank of Fig. 1;

Fig. 4 is another perspective view, partially broken away, of the erected carton of Fig. 3; and

Fig. 5 is a plan view of another modification of the carton blank of the invention in its partially folded and glued state.

The carton blank shown in Fig. 1 comprises an approximately rectangular carton blank provided with a substantially central transverse fold line 10 which divides the main body of the blank into two substantially mirror-image main panels 11 and 12. A pair of transverse fold lines 13 and 14 is positioned astride the central transverse fold line 10, each of the fold lines 13 and 14 extending upwardly from the lower edges 15 and 16 of each main panel and across a portion of the panel. Cut lines 17 and 18 extend from the upper end of each of the transverse fold lines 13 and 14, respectively, in a diagonally upward direction to vertically spaced points along the central transverse fold line 10. Thus, the two cut lines 17 and 18, the pair of transverse fold lines 13 and 14, the lower edges 15 and 16 of the two main panels and the central transverse fold line 10 define two substantially symmetrical end wall sections 19 and 20.

Each of the main panels 11 and 12 is provided with three longitudinal cut lines 21, 22, 23 and 24, 25, 26, respectively. The three longitudinal cut lines in each main panel are spaced from one another in a laterally staggered relationship so as to define in each of the main panels two hinged divider strips 27, 28 and 29, 30, respectively. The divider strips are appropriately hinged by transverse fold lines 31, 32 and 33, 34, respectively, symmetrically placed between the inner pair of transverse fold lines 13 and 14 and an outer pair of transverse fold lines 35 and 36. These outer transverse fold lines 35 and 36 are equally spaced from the central transverse fold line 10 and define the outermost boundaries of side wall sections 37 and 38 in the main panels 11 and 12, the inner boundaries of the side wall sections being defined by the inner transverse fold lines 13 and 14.

The portions of the main panels above the cut lines 21, 22 and 17 and 18, 25, 24 comprise handle sections 39 and 40, respectively.

The outboard ends of the main panels 11 and 12 are provided with end wall panels 41 and 42 advantageously integrally connected to the two main panels along the outer pair of fold lines 35 and 36, respectively. The end wall panels are also advantageously provided with folding outboard glue panels 43 and 44 integrally connected to the end wall panels along a pair of transverse fold lines 45 and 46. The lower longitudinal edges 15 and 16 of the side wall sections 37 and 38 are defined by fold lines by which the said wall sections are integrally connected to bottom walls 47 and 48. One of the bottom walls is provided with a glue flap 49, and one of the handle panels 39 and 40 is provided with a glue flap 50.

The center anchor panel 51 in Fig. 1 is integrally connected to one of the symmetrical end wall sections 19 along the lower longitudinal edge 15 thereof. The anchor panel is provided with a transverse fold line 52 substantially aligned with the central transverse fold line 10. The portion of the anchor panel on that side of its transverse fold line which is integrally connected to the end wall section 19 is provided with a laterally extending outermost portion 53. The other important feature of the center anchor panel is the provision of a longitudinal cut line 54 positioned between the laterally extending portion 53 and the fold line 15 by which the anchor panel is joined to the end wall section 19. The other portion 55 of the center anchor panel disposed on the side of its transverse fold line opposite the longitudinal cut line 54 is advantageously provided with an arcuate cut line 56 extending from the lowermost edge of this anchor panel portion 55 to the transverse fold line 52 so as to carve out of this portion a glue flap 57. A similar glue flap 58 is advantageously carved out of the other portion of the center anchor panel by a similar but oppositely positioned arcuate cut line 59. The inboard end of the portion 55 of the anchor panel is provided with a locking notch 60, and similar notches 61 are provided at the lower extremities of the outermost glue flaps 43 and 44. These notches are adapted to engage a cooperating notch 62 in the lateral edges of the bottom panel 48 when the carton is assembled and erected.

The bottle carrier of my invention is assembled as follows:

Glue or other adhesive is applied along the lowermost edge of the center anchor panel 51 in the areas shown by stippling in Fig. 1. The anchor panel is then folded upwardly and inwardly as a unit about the fold line 15 so that its glued areas make contact with the handle panels 39 and 40 as well as with the symmetrical end wall sections 19 and 20. Channel-shaped cutouts 63, 64 and 65 in the anchor panel prevent overlapping of the anchor panel about the diagonal cut lines 17 and 18 and about the central transverse fold line 10 as shown in Fig. 2. The two end wall panels 41 and 42 are then folded upwardly and inwardly about the outer transverse fold lines 35 and 36 as shown in Fig. 2, whereupon glue is applied to the then upper surfaces of the glue flaps 43 and 44. One side of the thus-folded blank is thereafter folded upwardly and over about the transverse fold lines 10 and 52 until the glue panels 43 and 44 come into juxtaposition. In the final operation, glue is applied to the glue flaps 49 and 50, and these flaps are then folded over into contact with their cooperating bottom panel and handle panel, respectively.

The thus-assembled carton is then erected simply by applying compressive pressure to the two lateral ends of the folded structure. As the pressure is exerted, the divider strips 27, 28, 29 and 30 swing outwardly and permit the side wall sections 37 and 38 to swing outwardly to the final erected position shown in Figs. 3 and 4. In this position it can be seen that the portions 53 and 55 of the anchor panel are juxtaposed to form a partial

central partition for the carrier. The resulting vertical fold between these anchor panel portions 53, 55 and 56 along the transverse fold line 52 insures the rigidity of this fold line in a vertical position, and the vertical position of this fold line of the anchor panel is maintained by the gluing of the lateral extension 53 of the anchor panel to the handle panel 39. Thus, inasmuch as the position of the fold about the line 52 is maintained in a fixed vertical position, the lowermost end of the fold line 52 maintains the lower end of the central transverse fold line 10 in a fixed horizontal position by virtue of the integral fold along the longitudinal fold line 15 between the end wall section 19 and the adjacent portion 66 of the anchor panel. By thus fixing the horizontal position of the lowermost central portion of the end wall composed of the symmetrical end wall sections 19 and 20, and by anchoring this assembly by the gluing of the laterally extending outer portion 53 of this panel to one of the handle panels 39, the resulting end wall structure remains rigidly upright and securely holds the bottles in the end wall sections. The entire carrier assembly is held locked in this position by engagement of the juxtaposed locking notches 61 with the proximate locking notch 62. Inasmuch as this locking action resists the normal resilience of the folded and erected carton, the lock holds firmly and securely. The locking notch 60 engages the other bottom panel notch 60 and thus aids in supporting the bottom panel.

It must be understood that the laterally extending outermost portion 53 of the center anchor panel 51 may extend either in the direction shown in Fig. 1 or in the opposite direction as in Fig. 5. Moreover, as shown in Fig. 5, this portion 53 of the anchor panel may extend to the outermost end of the blank where it is advantageously integrally joined to an additional glue flap 67 which in turn is formed integrally with the glue flap 44 along a longitudinal fold line 68 aligned with the fold line 16. An advantage of this latter construction is that the laterally extending portion 53 of the anchor panel is hingedly connected to the blank along the fold line 15 as well as along the fold line 68 with the result that the laterally projecting portion 53 is thus guided at both ends while it is being folded into position for contact with the handle portion 40. It will also be observed that the end glue flap 44 in this modification is integrally connected to the main panel 12 along the outer transverse fold line 36, and that the two end wall panels 41 and 42 are integrally and serially connected to the outermost side of the other main panel 11.

I claim:

1. A blank for a bottle carrier comprising two substantially mirror-image main panels integrally connected along their adjacent edges by a substantially central transverse fold line, a pair of transverse fold lines positioned astride the central transverse fold line extending upwardly from the lower edge of each main panel and across a portion of the panel, a cut line extending from the upper end of each of the pair of transverse fold lines diagonally upwardly to vertically spaced points along the central transverse fold line so that the two cut lines, the pair of transverse fold lines, the lower edge of the two main panels and the central transverse fold line define two substantially symmetrical end wall sections, a handle panel integrally formed along the upper portion of each main panel, a bottom panel integrally connected to the lower longitudinal edge of each main panel outboard of the pair of transverse fold lines, an end wall panel integrally connected to the lateral edge of at least one of the two main panels, and a center anchor panel integrally connected to the lower edge of at least one of the symmetrical end wall sections along a longitudinal fold line, the anchor panel having a transverse fold line substantially aligned with the central transverse fold line, a portion of the anchor panel on one side of its transverse fold line being provided with a laterally extending outermost portion and being provided with a longitudinal cut line positioned between

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the longitudinal edge of the anchor panel and the fold line by which the anchor panel is joined to the end wall section so as to permit the portion of the anchor panel above the longitudinal cut line to be adhesively secured to at least one of the handle panels.

2. In a bottle carrier formed from a one-piece blank and comprising two side wall panels, two end wall panels, a bottom panel connecting the lower edges of the side wall panels and at least one handle panel interconnecting the upper portions of the end wall panels, the improvement which comprises an anchor panel folded upwardly from at least a portion of the lower edge of one end wall panel and having its upper portion adhesively secured to a surface of a handle panel, the upper portion of the anchor panel above the junction of the anchor panel with the lower edge of the end wall panel being partially separated from the remainder of the anchor panel by a cut line substantially parallel to said junction.

3. In a bottle carrier formed from a one-piece blank and comprising two side wall panels, two end wall panels, a bottom panel connecting the lower edges of the side wall panels and handle panels interconnecting the upper portions of the end wall panels, the improvement which comprises an anchor panel folded upwardly from at least a portion of the lower edge of one end wall panel and having its upper portions adhesively secured to surfaces of the two handle panels, the upper portion of the anchor panel above the junction of the anchor panel with the lower

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edge of the end wall panel being partially separated from the remainder of the anchor panel by a cut line substantially parallel to said junction, the anchor panel further providing at least a substantial portion of a central partition panel aligned with the handle panels.

4. In a bottle carrier formed from a one-piece blank and comprising two side wall panels, two end wall panels, a bottom panel connecting the lower ends of the side wall panels and handle panels interconnecting the upper portions of the end wall panels, the improvement which comprises an anchor panel integrally joined to at least a portion of the lower edge of one of said end wall panels, the portion of the anchor panel joined to the said one end wall panel being folded upwardly into juxtaposition with the interior surface of the said one end wall panel and being provided with an adjacent fold portion connected to the first-mentioned portion along a vertically positioned fold line, the latter portion of the anchor panel being adhesively secured to the inner surface of the proximate handle panel.

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