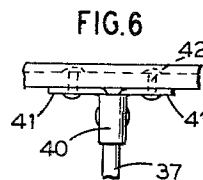
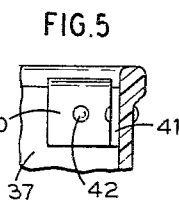
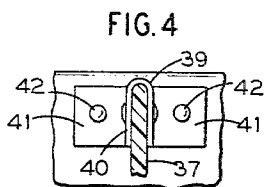
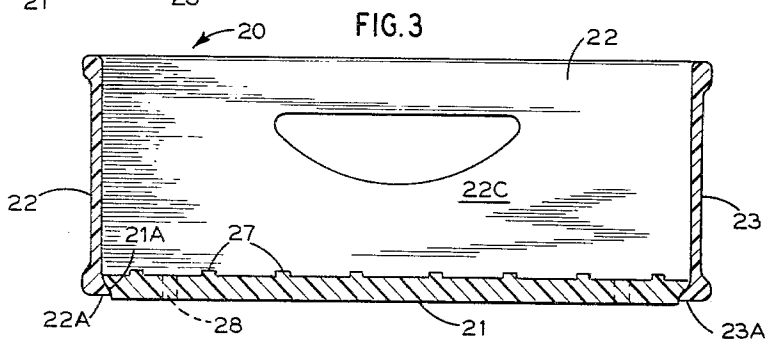
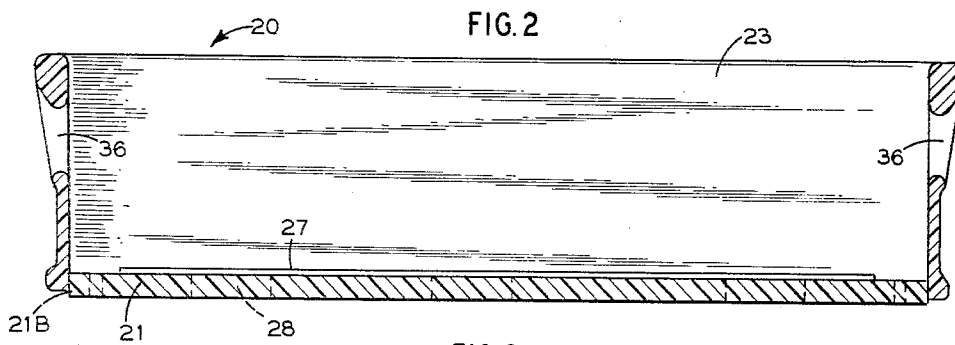
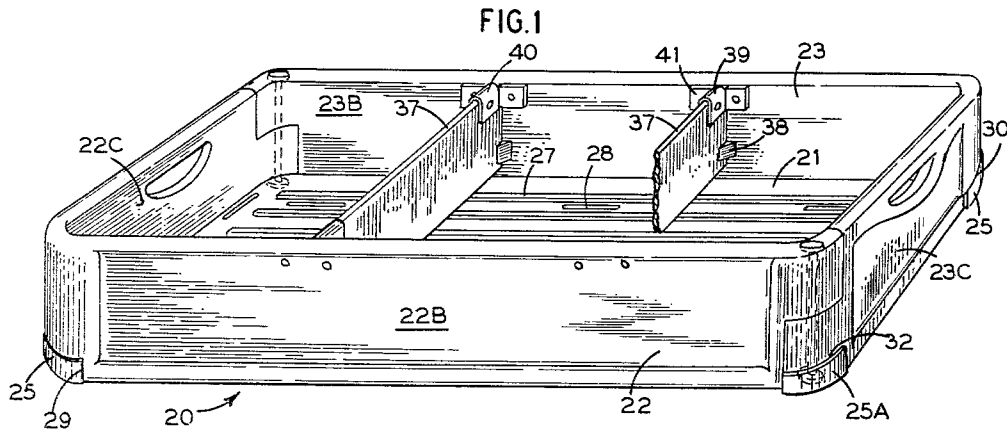


**3,250,421**

CONTAINER FOR TRANSPORTING GOODS IN COMMERCE

Filed May 13, 1963

3 Sheets-Sheet 1



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May 10, 1966

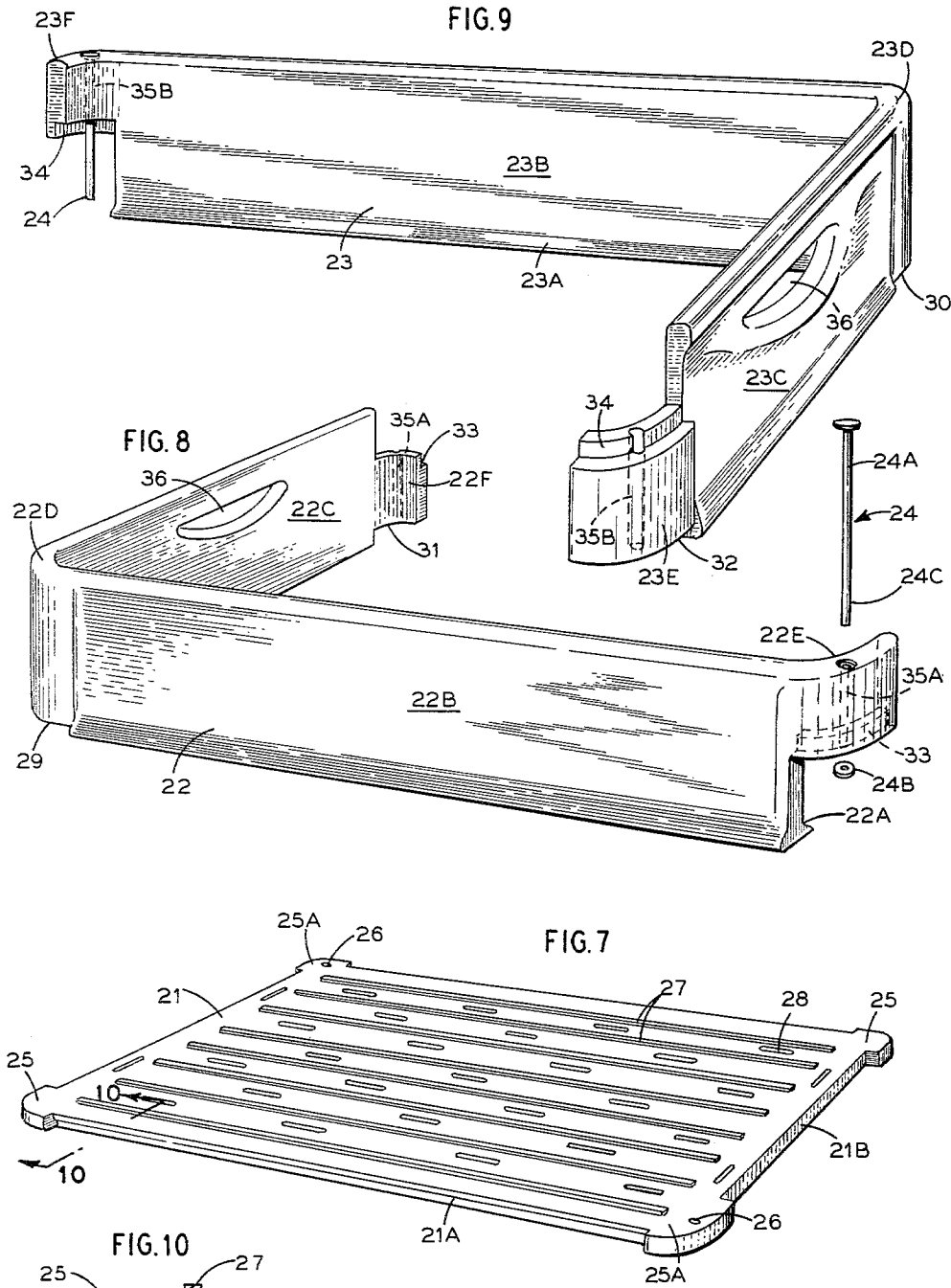
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CONTAINER FOR TRANSPORTING GOODS IN COMMERCE

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3 Sheets-Sheet 2



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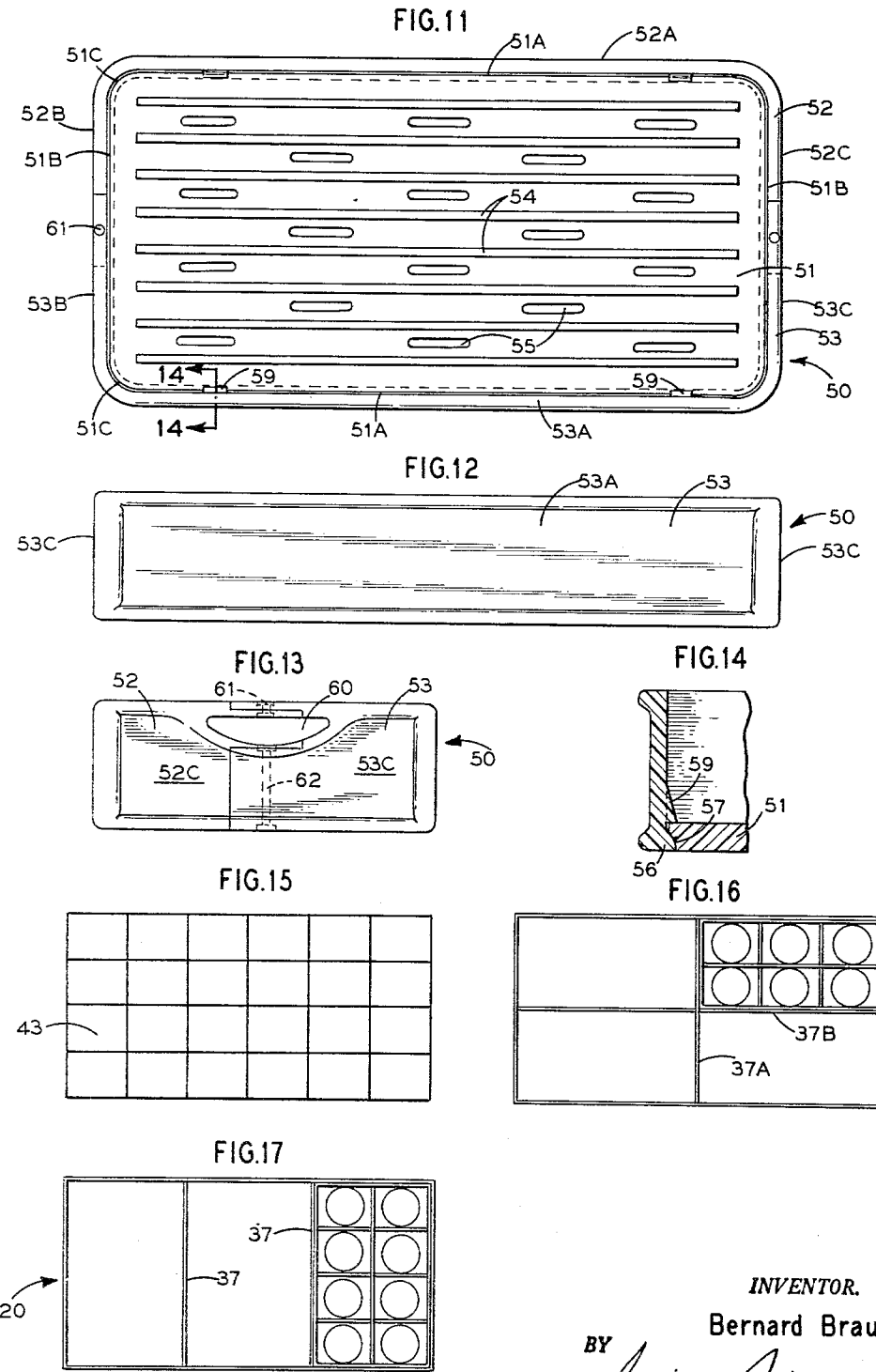
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CONTAINER FOR TRANSPORTING GOODS IN COMMERCE

Filed May 13, 1963

3 Sheets-Sheet 3



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3,250,421

## CONTAINER FOR TRANSPORTING GOODS IN COMMERCE

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11 Claims. (Cl. 220—4)

This invention relates in general to a container and more specifically to an improved knock-down container or carrier adapted for transporting bottles, cans, and the like which are shipped either loosely or prepackaged in cartons of six, eight, twelve and the like for retail distribution.

Heretofore, containers, cases or carriers, which have been widely used for transporting bottles of soda, beer, and other beverages from the bottler or wholesaler to the retailer or consumer, usually in lots of twelve or twenty-four bottles, were formed of integral constructions, generally of wooden members of  $\frac{3}{8}$ ",  $\frac{1}{2}$ " or  $\frac{3}{4}$ " thick which are permanently secured together as by nails and/or metal strapping. Experience has shown that such carriers or cases, as they are generally referred to in the trade are difficult to handle and/or to clean in the event a nail becomes loose or the strapping breaks. Further it has been noted that in the shipment of such cases from a manufacturer to a user thereof, it required considerable freightage cost. This was because, the empty integrally constructed container or carriers occupied a considerable amount of shipping space. Also in the storage of the empty carriers of heretofore known construction, considerable storage area was required.

Therefore, an object of this invention is to overcome the above noted objections by providing an improved container or case construction which permits the same to be readily knocked down so as to occupy a minimum of storage and/or shipping space when empty.

Another object is to provide for a readily knock down container or case for transporting containers of beverages and the like which can be readily assembled and disassembled with a minimum of tools and with a minimum of effort.

Still another object is to provide an improved container construction that is strong, durable, easy to handle and easy to clean, and one which will remain a more distinctive marketing package than the heretofore known container constructions.

Still another object is to provide an improved carrier which is relatively simple in structure, which can be inexpensively mass produced, and which is positive in operation.

It is another object to provide an improved knock down carrier which is readily adaptable for transporting containers which are either loosely shipped and/or which are shipped in prepackaged cardboard cartons for retail distribution.

The foregoing objects and other features and advantages are attained by a knock down carrier comprising essentially of a bottom panel and a pair of complementary upright wall forming pieces for defining the circumscribing side and end portions of the carrier. Each of the respective upright wall forming pieces are provided with complementary interfitting end portions which are adapted to be detachably connected by a fastening means. Each of the respective wall forming pieces and the bottom panel have integrally formed thereon co-operating interfitting edge portions for supporting the bottom panel in position between the wall pieces. Means are formed in the bottom wall to drain off therefrom any accumulation of moisture. Means are also provided in the form of partitions and partition securing means therefor for dividing the carrier into a plurality of compartment for adapt-

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ing the same to the various manners in which bottled or can beverages are distributed or retailed. In accordance with this invention, the primary component parts of the carrier are preferably constructed and arranged so that they can be readily rested in the disassembled position of the carrier. In this manner the carrier can be transported or stored when empty in its knock down position so as to utilize a minimum of space.

To facilitate portage of the carrier in the assembled position thereof, hand holders or grips are formed integral with the wall forming pieces.

A feature of this invention resides in the provision in which the container or carrier can be readily repaired by the user simply by substituting a new component part for any damaged part thereof.

A feature of this invention resides in the provision wherein the wall forming pieces in one form of the invention define an integrally formed longitudinally extending side wall portion and an adjacent end wall portion of the carrier which can be readily nested in the knock down position thereof.

Another feature of the invention resides in the respective wall forming pieces being provided with complementary interfitting end portions constructed and arranged so as to be detachably secured by a fastening pin or the like extended therethrough and thereby eliminate the hazard of loose nails or broken straps of the prior construction.

Still another feature of the invention is to provide a bottom wall panel and each of said side wall forming pieces with a co-operating and complementary shaped portion for maintaining the relative position thereof with respect to one another and for supporting the weight of the articles carried thereby.

It is still another feature of this invention to provide a carrier for bottled beverages which can be readily knocked down with a minimum number of component parts which can be readily nested or stored so as to occupy a minimum of space.

It is still another feature to provide a readily knock down carrier which can be partitioned to accommodate either of plurality of beverage containers, and/or a plurality of prepackaged cartons of such containers.

Other features and advantages will become more readily apparent when considered in view of the drawings and specification in which:

FIGURE 1 is a perspective view of the carrier of this invention illustrated in its assembled position.

FIGURE 2 is a longitudinal cross-sectional view of the carrier of FIG. 1, with the partitions removed.

FIGURE 3 is a transverse cross-sectional view of the carrier of FIG. 1.

FIGURES 4, 5, and 6 illustrate front, side and top views respectively of the partition clip holding means of this invention.

FIGURE 7 is a perspective detail view of the bottom wall panel of the carrier of FIG. 1.

FIGURES 8 and 9 illustrate the perspective detail views of the respective complementary wall forming pieces of the carrier of FIG. 1, with the fastening means therefor detailed in FIG. 8.

FIGURE 10 is a detailed sectional view taken along line 10—10 of FIG. 7.

FIGURE 11 illustrates a plan view of a slightly modified carrier.

FIGURE 12 is a side view of the carrier of FIG. 11.

FIGURE 13 is an end view of the carrier of FIG. 11.

FIGURE 14 is a sectional view taken along line 14—14 of FIG. 11, and

FIGURES 15, 16 and 17 are diagrammatical plan views of the carrier illustrating various ways into which the carrier can be compartmentized for handling or trans-

porting individual containers, or prepackaged cartons of containers.

Referring to FIGS. 1 to 10, there is shown therein a knock-down carrier 20 adapted for transporting bottles or cans of beverages, e.g. soda, beer and the like from the bottler or wholesaler to retailer or consumer. As shown, the carrier 20 comprises essentially of a bottom wall panel 21 and a pair of complementary wall forming pieces 22, 23 which are constructed and arranged so as to be readily detachably secured together by a fastening means 24. In accordance with this invention the respective component parts are preferably formed of molded plastic material or the like.

Referring to FIG. 7, the bottom wall panel 21 comprises an integral molded piece having substantially rectangularly disposed opposed longitudinal and transverse side portions 21A, 21B. Each corner of the bottom wall 21 has integrally formed thereat a laterally projecting corner ear 25 and 25A. As shown two of the diagonally disposed corner ears 25A have an aperture 26 extending therethrough, and the opposed longitudinally extending edge portions are formed with an undercut which is adapted to mate with a complementary bead 22A, 23A formed on each of the wall forming pieces 22, 23 as will be described hereinafter. Integrally formed on the upper surface of the bottom wall 21 are a series of spaced raised longitudinally extending ribs 27 on which the bottles or beverage containers are adapted to set on. Drain openings 28 are interspaced between the ribs 27 and about the marginal ends of the panel 21 to prohibit the accumulating of water, moisture or precipitation therein. The drain openings 28 further facilitate the draining of water when the carrier 20 is subjected to a washing and cleaning operation. As shown the openings 28 in the panel 21 are staggered.

Each of the wall forming pieces 22, 23 are likewise preferably molded of a suitable durable, strong plastic material. In the form of the invention shown in FIGS. 1 to 10, the respective pieces 22, 23 each define full a longitudinal side wall panel 22B, 23B and a connected adjacent full end wall panel 22C, 23C jointed at the juncture thereat by a rounded corner 22D, 23D. According to this invention the lower end of the rounded corner 22D, 23D thus defined is provided with a cut out or open end slot 29, 30 respectively to accommodate the corner ears 25 of the bottom panel 21 in the assembled position thereon. Also as shown, in FIGS. 3, 8, 9 the longitudinally extending side wall portion 22B, 23B of the respective pieces 22, 23 has formed along the lower edge there beaded portions 22A, 23A adapted to be received in a mating relationship with the undercut portion of the bottom panel 21 in the assembled position thereof. This is best viewed in FIG. 3.

The respective free ends of the pieces 22 and 23 are each provided with complementary interfitting end portions. For example, each piece 22 and 23 terminate in a rounded end corner portion in which either the upper or lower half portion of the end terminal corner portions are cut away. In the illustrated embodiment, the right end corner 22E of piece 22 has its lower corner portion cut away whereas the left end 22F of piece 22 has its upper half corner portion cut away. The other piece 23 has its respectively end portion cut away to complement the respective half corner portions of piece 22 so that in the assembled portion of the carrier, the respective half corner portion of the respective pieces 22, 23 define a full corner as shown in FIG. 1. It will be noted that the respective lower edge of the respective lower half corner portions 22F and 23E of pieces 22 and 23 are cut away to define an open end slot 31, 32 for accommodating the diagonally disposed corner lugs 25A which contain the apertures 26. As best seen in FIGS. 8 and 9 the respective half corner portions of pieces 22 and 23 at their line of juncture are formed with complementary shoulder or step portions 33, 34. In this manner the respective ends of the pieces 22, 23, when fitted, are firmly positioned with respect to one another.

In accordance with this invention a bore 35A, 35B is vertically extended through the respective half corner end portions of the pieces 22 and 23. The arrangement is such the bore 35A, 35B in the respective end portions are disposed in vertical alignment with one another and with the apertures 26 formed in corner lugs 25A of the bottom panel 21.

With the respective components 21, 22 and 23 which define the full open top carrier 20, assembly is readily accomplished by positioning the bottom panel 21 between the respective wall forming pieces 22, 23 so that the longitudinal edges 21A, of the panel 21 mate with or is supported between the beaded portion 22A, 23A of the pieces 22, 23. Each piece 22, 23 is thus oriented so that the open notch or cut out portion 29, 30, 31, 32 accommodate one of corner ears 25, 25A. With the parts so positioned, a fastening means 24 in the form of a pin, bolt or rivet 24A is inserted through the aligned bores 35A, B of the interfitting portions and the apertures 26 formed in the corner ear 25A disposed in alignment therewith. In the illustrated embodiment a pin or rivet 24 is shown, and it is secured by its end 24C being peened over a washer 24B. In the assembled form it will be apparent that the pins 24A and the complementary undercut 21A and bead 22A, 23A support the bottom 21 and the weight carried thereon, whereas the open notches 29 to 30 receiving the corner ears 25, 25A serve to maintain the bottom panel 21 fixed when an empty carrier 20 is turned upsidedown. If desired the head of the pin and the washer 24B may be counter sunk with the respective piece 22, 23. To facilitate portage and handling of the carrier 20, each of the wall forming pieces 22, 23 has a hand grip 36 integrally formed in the end wall forming portion thereof.

Means are provided for partitioning the carrier 20 into compartments for accommodating beverage container or bottles that are either individually placed in the carrier or prepackaged into cardboard cartons of six, eight, twelve or the like. FIGS. 1 and 17 illustrate the carrier 20 partitioned to receive 3 cartons of eight containers each. As shown the means comprises a partition 37 which extends transversely between the side wall portions of the carrier. To locate the partition 37 for a given setting, means in the form of channel forming guides 38 are integrally formed in the wall portion of the carrier. Thus the partition 37 can be readily slipped in position between such channel forming guides 38. Also the guides 38 prohibit lateral displacement of the partition 37.

Clip means 39 are provided to secure the partition in place. As seen best in FIGS. 4 to 6, the clip 39 comprises a bent portion 40 which is adapted to embrace the upper end portion of the partition 37. Laterally extended bent tabs or flanges 41 extend to either side of portion 40. The tabs 41 are secured by fasteners 42 to the adjacent wall portion of the carrier. The fasteners may comprise any suitable type, e.g. screws, rivets, bolts or the like.

FIG. 16 illustrates schematically the arrangement of partitions 37A and 37B for accommodating four cartons of six containers each. In this form, it will be understood that the respective partition 37A, 37B have a partial slot formed intermediate the ends thereof to effect the crossing thereof in a manner well known to those skilled in the art.

FIG. 15 illustrates the carrier partitioned with a plurality of cells 43 for individually receiving a single container or bottle of beverage.

With the construction of the carrier 20 described, it will be noted that the carrier can be readily shipped from the manufacturer thereof to the respective users thereof in a knock down position. Thus a maximum number of units can be shipped in a minimum amount of space. Because of the relatively few major parts 21, 22 and 23 and the simplicity by which the carrier is assembled, it can be readily assembled by the user as needed. Thus, the user can more economically utilize his warehouse space since the unused or empty cases or carriers 20 can be stored in their knocked down position until readied for use.

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Also the carrier 20 being formed substantially of a molded plastic material are rendered durable, light in weight, and easily cleaned.

FIGS. 11 to 14 illustrate a modified embodiment of the invention. In this form the carrier 50 comprises a bottom panel 51 and a pair of wall forming pieces 52, 53 for defining the sides and ends of the carrier. In this form of the invention, the bottom panel 51 is formed with rectangularly disposed side and end edge portions 51A, 51B having a rounded corner portion 51C defined therebetween. The bottom panel 51 is further provided with an undercut portion extending along the longitudinal edge 51A portions thereof and ribs 54 similar to the bottom panel described with reference to the carrier of FIG. 1. Drain holes 55 are also provided, as previously described.

In accordance with this form of the invention the respective wall forming pieces 52, 53 are formed as U shaped members which define one full wall portion of the carrier and one half of each adjacent wall portion. As best seen in FIG. 13, each wall forming piece 52, 53 is provided with complementary interfitting end portions. In the illustrated embodiment the respective piece 52, 53 define a full side wall 52A, 53A and one half of each adjacent end wall 52B, 52C, 53B, 53C; however, it will be understood that pieces 52, 53 may be otherwise formed to define a full end wall of the carrier with the connected half portions of each adjacent side wall.

In the form of the invention shown in FIGS. 11 to 15, the lower portion of the wall portions 52A, 53A defining the opposed side walls of the carrier have a laterally projecting bead 56 for mating with the undercut 57 of the bottom panel 51 as hereinbefore described. As seen in FIG. 14, the complementary undercut 57 and bead 56 support the bottom panel 51 within the connected wall pieces 52, 53. To prohibit the bottom 51 from falling inwardly of the carrier 50 when inverted or turned upsidedown, a plurality of buttress means 59 are provided. As seen in FIGS. 11 and 14, the buttress means 59 are spaced along the side wall portions of the carrier and extend over the upper surface of the bottom panel 51. Thus the bottom panel 51 is wedged in place between the beaded portion 56 of the side wall portions and the buttress means 59 formed integral therewith.

In assembling the carrier of FIGS. 11 to 14, the respective pieces 52 and 53 are disposed about the bottom panel 51 with their respective end portions interfitted together as shown in FIG. 13. Because of the hand hold 60 or grips, the respective pieces 52 and 53 have complementary end portions disposed above and below the hand opening 60. If desired, the line of junction between the interfitting end portions may be provided with complementary shoulder or step portions as described herein with reference to the carrier of FIG. 1. To secure the fitted ends of pieces 52 and 53 together, a pair of peened pin or rivet type fasteners 61, 62 or the like are used at each end. As shown one pin fastener 61 secures the fitted ends defining the upper edge of the hand hold 60, and another pin fastener 61 secures the fitted end portions below the hand hold 60. Thus in this form, the pin 61 fastener is not required to engage the bottom panel 51, since the bottom panel is held in place by the beaded portion 56 and the buttress 59.

It will be understood that the carrier 50 of FIGS. 11 to 14 can be partitioned in the manner described with reference to the carrier of FIG. 1, and therefore, the description thereof need not be repeated.

From the foregoing, it will be noted that economy in the use of the instant described construction can be further enhanced in that the ultimate user can readily repair any damaged portion of the container by simply substituting a usable portion for any damaged unusable component thereof.

While the instant invention has been described in detail with reference to particular embodiments thereof, it will be understood that variations and modifications

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thereof may be made without departing from the spirit or scope thereof.

What is claimed is:

1. A readily knock down full open top case for transporting articles packed either individually or in cartons comprising,

- (a) a unitary bottom panel,
- (b) said bottom panel having opposed longitudinal side edges, and opposed transversely extending end edges,
- (c) and said panel having integrally formed corner ears projecting laterally outwardly at the corner junctions of said adjacent side and end edges thereof,
- (d) a pair of said ears, which are diagonally disposed with respect to one another, have an aperture formed therein,
- (e) a pair of similarly constructed complementary upright wall portions for defining the circumscribing opposed sides and ends of said case, each of said upright wall portions defining a side and integrally connected end portion of said case,
- (f) each of said upright wall portions having complementary interfitting rounded end portions, said rounded end portion of each said upright wall portion being partially cut away to define an upper half rounded end portion at one end of said wall portion and a lower half rounded end portion at the other end of said wall portion so that in the assembled position, the upper half round end portion of one wall forming portion complements the lower half round end portion of the other upright wall forming portion,
- (g) each of the respective interfitting end portions of said complementary wall portion having an aligned bore extending vertically therethrough,
- (h) said bore being disposed in vertical alignment with the aperture form in said pair of diagonally disposed corner ears in the assembled position of said case,
- (i) and a fastening means extended through said aligned bores and aperture aligned therewith for securing said pair of complementary wall portions to said bottom panel in the assembled position of said carrier wherein only two such fastening means are required to maintain said unitary bottom wall and complementary upright wall portions in their respective assembled positions.

2. The invention as defined in claim 1 and including a plurality of raised ribs formed on said bottom panel.

3. The invention as defined in claim 1 wherein each of said complementary wall forming portions and said bottom panel have complementary shaped adjacent adjoining interfitting edge portions for permitting said unitary bottom panel to supporting the weight carried thereby.

4. The invention as defined in claim 3 wherein said complementary shaped edge portion include an undercut formed on the longitudinal edge portions of said bottom panel and a laterally extending beaded portion formed on said wall forming means adapted to be received by the undercut portions of said bottom panel.

5. A readily knock down full open top case adapted for transporting a plurality of bottles shipped either individually and/or prepackaged in cartons for retail distribution comprising,

- (a) a substantially rectangularly shaped unitary bottom panel having opposed longitudinally extending side edges and opposed transversely extending end edges,
- (b) each of said longitudinally extending side edges being undercut,
- (c) said unitary bottom panel having integrally formed corner ears projecting laterally outwardly at the corner junctions of said adjacent side and end edges thereof,

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- (d) a pair of said ears which are diagonally disposed having an aperture extending therethrough,
  - (e) a plurality of raised spaced longitudinally extending ribs formed integral on the upper surface of said panel, and said panel having formed therein a series of drain openings in the spacing between said ribs,
  - (f) a pair of similarly constructed complementary upright wall forming pieces to define the circumscribed opposed sides and ends panels of said case,
  - (g) each of said piece being substantially L shaped to define a side forming wall portion and an integrally connected adjacent end forming wall portion of said case,
  - (h) each of said pieces having complementary interfitting rounded end portions, said rounded end portion of each said upright wall portion being partially cut away to define an upper half rounded end portion at one end of said wall portion and a lower half rounded end portion at the other end of said wall portion so that in the assembled position, the upper half round end portion of one wall forming portion complements the lower half round end portion of the other upright wall forming portion,
  - (i) each of said pieces having cut-out portions for accommodating the corner ears of said unitary bottom panel in the assembled position thereof,
  - (j) and the said forming wall portions of the respective pieces having integrally formed thereon an inwardly projecting bead to complement the undercut portions along the longitudinal edges of said bottom panel,
  - (k) said interfitting end portions of said complementary pieces having an aligned bore extending therethrough,
  - (l) said bore being disposed in vertical alignment with the apertures in said diagonally disposed ears in the assembled position of said case,
  - (m) and fastening means for securing said pieces and bottom panel together, said fastening means including an elongated bolt extending through said aperture and aligned bore wherein only two such pins are required to maintain the bottom and said complementary wall forming pieces in the assembled position thereof.
6. The invention as defined in claim 5 wherein each of said end forming wall portions of the respective pieces has a hand hold formed integral therein.

7. The invention as defined in claim 5 wherein the interfitting rounded half end portions of the respective complementary pieces are formed with stepped shoulder portions.

8. The invention as defined in claim 5 and including,

- (a) a partition extending between opposed wall portions of said case to divide the same into a plurality of article holding compartments,
- (b) guide means integrally formed on said opposed wall portions for positioning said partition,
- (c) and clip means for securing said partition in place within said case.

9. The invention as defined in claim 8 wherein,

- (a) said clip means includes an inverted U shaped member adapted to embrace the upper end of said partition,
- (b) and said U shaped member having opposed laterally bent flange portions to engage the adjacent wall portion of the carrier,
- (c) and means for securing said flanges to said adjacent wall portion.

10. A readily knock down full open top container adapted for transporting a plurality of bottles shipped either individually and/or packaged in cartons for retail distribution comprising,

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- (a) a substantially rectangularly shaped unitary bottom panel having opposed longitudinally extending side edges and opposed transversely extending end edges,
- (b) each of said longitudinally extending side edges being undercut, said bottom panel having integrally formed corner ears projecting outwardly at the corner junctions thereof, said ears having an aperture formed therein,
- (c) a plurality of raised longitudinally extending ribs formed integral on the upper surface of said panel, and said panel having formed therein a series of drain openings in the spacing between said ribs,
- (d) a pair of similarly constructed complementary upright wall forming pieces each defining one half of the circumscribing walled portions of said carrier,
- (e) each of said pieces having complementary interfitting rounded end portions, said rounded end portion of each said upright wall portion being partially cut away to define an upper half rounded end portion at one end of said wall portion and a lower half rounded end portion at the other end of said wall portion so that in the assembled position, the upper half round end portion of one wall forming portion complements the lower half round end portion of the other upright wall forming portion,
- (f) and the said forming wall portions of the respective pieces having integrally formed thereon an inwardly projecting bead to complement the undercut portions along the longitudinal edges of said bottom panel whereby said bottom panel is supported therebetween,
- (g) means for securing said bottom panel between said wall forming pieces,
- (h) said interfitting end portions of said complementary pieces having an aligned bore extending therethrough disposed in alignment with the apertures of said ears,
- (i) and fastening means including a pin inserted through said aligned aperture and bores for securing said interfitted end portions wherein only two such pins are required to assemble said bottom panel and the respective complementary wall forming pieces.

11. A readily knock-down full open top case comprising a unitary bottom panel, a pair of separable upright extending complementary wall forming means having interlocking end portions for defining opposed side and end portions of said case, each of said complementary wall forming means being similarly constructed to define a side and integrally connected adjacent end portions of said case, each of said wall forming means terminating in rounded end terminals, the rounded end terminals of each wall forming means being partially cut away to define an upper half rounded end terminal at one end of said wall forming means and the lower half rounded end terminal formed at the other end thereof so that in the assembled position, the upper half rounded terminal of one wall forming means complements the lower half rounded terminal of the other wall forming means, said unitary bottom panel and each of said similarly constructed separable complementary wall forming means having integrally formed along their adjoining edge portions complementary shaped positioning means for interfitting one another and for maintaining the same in a predetermined relationship to one another and to support the weight of the articles carried in said case in the assembled position thereof, means for positively securing said complementary wall forming means to said bottom panel forming means in the assembled position of said case, said latter means including only a pair of pin-type fasteners for securing the separable complementary wall forming means to each other and to said unitary bottom panel.

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