Oct. 12, 1943. I. DORFMAN 2,331,312

CARRYING CARTON FOR BOTTLES

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FIG. 1.

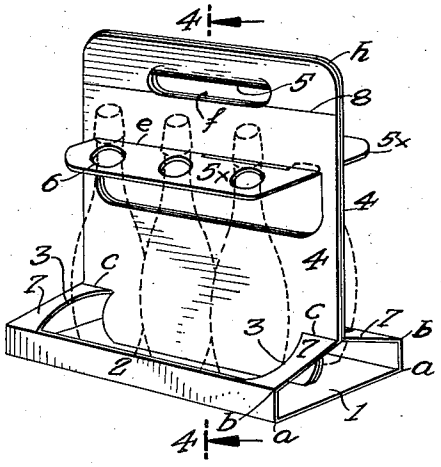


FIG. 2.

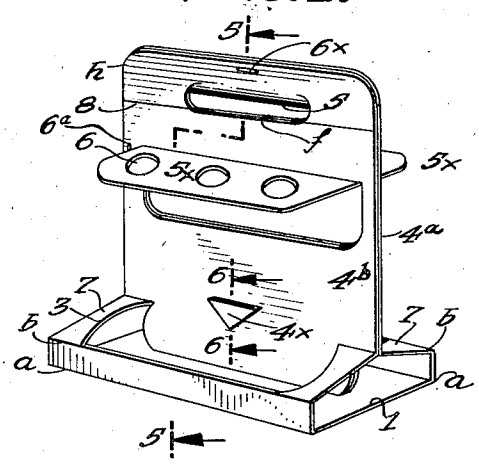


FIG. 3.

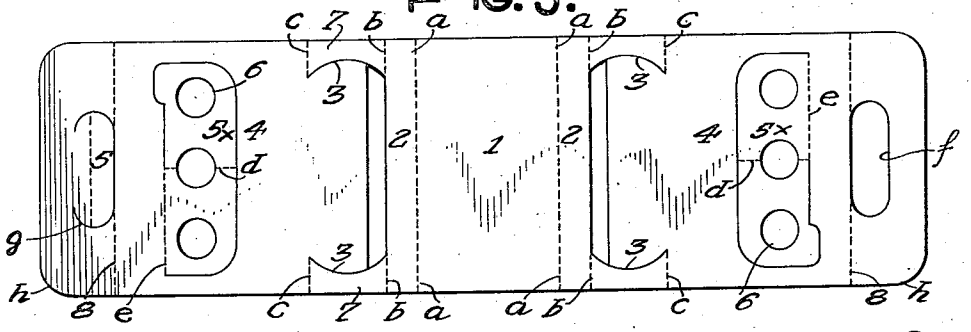


FIG. 4.

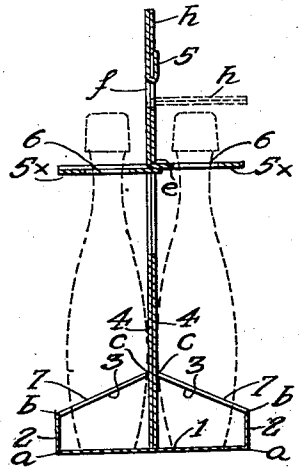


FIG. 5.

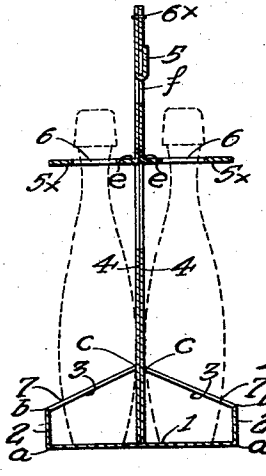
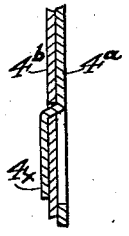


FIG. 6.



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FIG. 7.

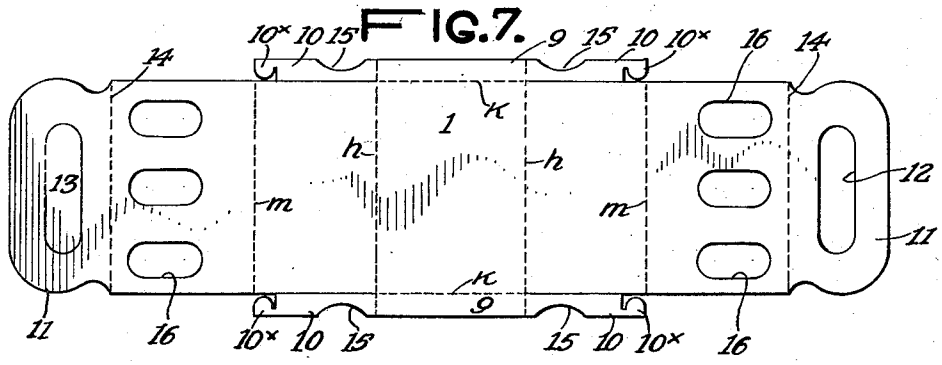


FIG. 8.

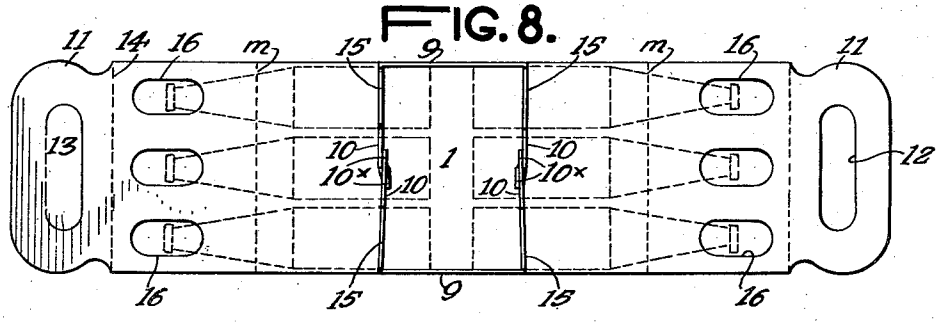


FIG. 9.

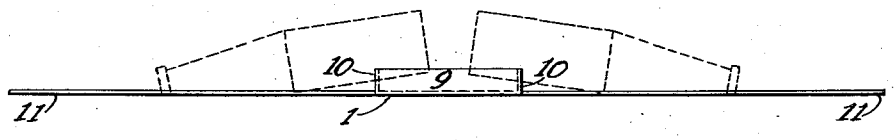


FIG. 10.

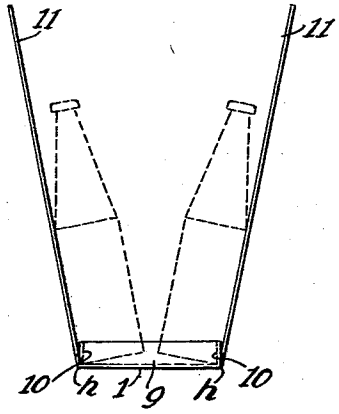
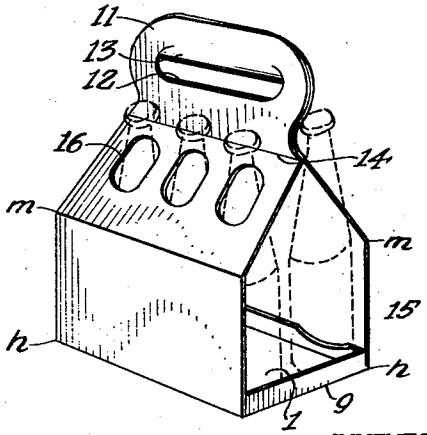


FIG. 11.



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UNITED STATES PATENT OFFICE

2,331,312

CARRYING CARTON FOR BOTTLES

Irving Dorfman, New York, N. Y., assignor to Federal Carton Corporation, New York, N. Y., a corporation of New York

Application June 18, 1938, Serial No. 214,404

7 Claims. (Cl. 224—45)

The object of the present invention is to provide a strong cardboard or fibre carrying carton for bottles which may be formed of a single sheet of cardboard, fibre, or similar material, which may be shaped in the flat and very quickly folded into operative carrying position.

The characteristic of the carton when in use is that two rows of bottles are held in position by both base and lateral support, the rows being separated by a vertical multi-ply division wall upon which the carrying strains are thrown, the base members being so formed that when the carton is in use the angle of certain base elements changes through the weight of the bottles to effect a gripping of the bottles at their base.

The invention will be described with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of an embodiment of the invention shown in dotted lines with the bottles held thereby.

Figure 2 is a view similar to Figure 1, showing a modified form of the invention.

Figure 3 is a plan view of the blank from which the structure of Figure 1 is made.

Figure 4 is a sectional elevation on the line 4—4, of Figure 1.

Figure 5 is a sectional elevation on the line 5—5, Figure 2.

Figure 6 is an enlarged fragmentary section on the line 6—6, of Figure 2.

Figure 7 is a plan view of the blank showing a modified form of carrying carton.

Figure 8 is a view similar to Figure 7, showing the aligning box-flaps folded and locked in position and showing in dotted lines the placement of six bottles, held by channels in the box-flaps, preparatory to bringing the handle members toward each other.

Figure 9 is a schematic view in side elevation, showing the structure of Figure 8 and the bottles in dotted lines.

Figure 10 is a view similar to Figure 9, showing the handle members after movement of the same to raise the bottles toward vertical position.

Figure 11 is a perspective view, showing the carton in position for use with the bottles shown in dotted lines.

Referring to the drawings, it will be seen that my carton is constructed of a rectangular sheet of cardboard, fibre, or the like. Between the fold lines *a* is the base member 1 and between each of the fold lines *a* and the fold line *b* is an area which will extend as the vertical side flange 2, as shown in Figures 1 and 2.

At the side of each base flange area 2 the blank is formed with two curved cuts, as indicated at 3, the fold line *b* being disposed at one end of each cut and a shoft fold line *c* being disposed at the opposite end of each cut.

The blank is first folded on the scored lines *a* and the primary vertical panels 4 are moved into contact with each other, thus causing fold movements on the lines *b* and *c* until the panels 4 assume the position shown in Figures 1 and 2.

When the carton is constructed in accordance with Figure 1, the bottle-neck-holding-elements may be formed in accordance with the blank, Figure 3. Each bottle-neck-holding-element comprises an integral wing 5*x* formed with apertures 6 for the bottle necks. The wing is cut away from the said vertical panel 4 except on the fold lines *d* and *e*. The fold line *e* is reversed in position in one of the panels, so that one-half of each panel may be folded over upon the other half on the fold line *d*, exposing an opening, and into this opening the folded neck-holding panel of the opposite primary vertical panel may be projected and bent upwardly until its lies horizontal. The folded section in each case may then be swung out into original unfolded position. This will provide locking means to hold the two primary vertical panels 4 in mutually contacting position, as will be understood without further explanation.

At the end of one primary panel 4 a hand-hole aperture at *f* is formed and at the end of the opposite primary panel 4 there is formed a large C-shaped cut at *g*. Thus when the primary vertical panels lie in abutment, the section 5 bounded by the C-shaped cut *g* may be folded into the hand-hole aperture *f*, as shown in Figures 4 and 5, to provide a hand cushion, and as additional locking means.

In the structure shown in Figure 2, the bottle-neck-holding-sections 5 are not formed with the transverse scored line *d* and also, the fold line extends the entire length of the said member, so that it is not so formed as to be folded back upon itself. Thus, the bottle-neck-holding-members of Figure 2 will not be adapted to serve as locking means for the two primary vertical members. In lieu thereof, one of the vertical members 4*a* may be formed with a type of spearhead 4*x* to enter a slot in the second of said members 4*b* for the purpose of locking the members in abutted position.

It will be also understood that, if desired, the members 4*a* and 4*b* may be secured together by one or more staples as indicated at 6*a*, Figure 2.

It will be noted that the lower ends of members 4 are so related to the base member 1 that the transversely extending arms 7 are held in a slight upwardly extending angle relatively to the base areas of the bottles, the latter being shown in dotted lines. Therefore, when the device is in use and the carton held by the hand, the tendency of the base member to move down due to the weight of the bottles and the relative upward movement of the panels 4, will increase the angle of the arms 7 which arms will immediately contact with the outside bottles of each row, causing the latter to be gripped and augmenting the secure holding thereof.

It will be understood that various modifications may be made in the form and arrangement of the structure illustrated in the drawings without departing from the spirit of the invention. For example, each of the vertical members 4 may be horizontally scored below the hand-hole as at 8 so that when the cartons with bottles carried thereby, are shipped the top area of the devices may be folded down to the dotted line position *h*, Figure 4.

The object of the modified form of the invention illustrated in Figures 7 to 11 inclusive, is to enable placement of the bottles in the carton structure whilst the latter is in horizontal position and the enclosure of the bottles within the carton by moving the handle ends toward each other and into contacting position so that the device assumes the position of Figure 11.

In the modified form of the structure, the base panel 1 is bounded by transversely extending fold lines *h* and at each end panel 1 carries a box-lip 9 foldable on the fold line *k*. At each end lip 9 carries a wing 10, the fold lines *h* continuing across lip 9 so that the wings are foldable on said lines *h*. Each wing at its free end is provided with a hook 10*x* and it will be understood that the wings are free from the structure except at the fold lines *h* which join them, each to its appropriate lip 9. Further transversely extending scored lines are provided at *m*; and each end of the blank is provided with a handle member 11, an aperture at 12 being formed in one handle member and a partially cut-away hand shield being formed at 13 in the passage of the member so that when the handle members are brought together, the shield may be pushed through opening 12 in the manner illustrated in Figure 11 at 13.

At the base of each handle member the blank is transversely scored at 14.

In the operation of the device, and while the blank lies flat, each lip 9 is bent upwardly on scored line *k* and the thus vertically positioned wings 10 are folded inwardly so that at each side of scored line *h* the two wings may be interlocked by mutually engaging the hooks 10*x* so that the structure will assume the position of Figure 8. At this point the bottles may be laid down upon the box formed by the lips 9 and wings 10 and the outermost bottles laid in channels at 15 formed in the wings 10. Ordinarily, the inner bottles will abut the sides of the outer bottles so that it is unnecessary to channel the wings at the point where they interlock.

The structure with the bottles therein lying in the position of Figure 8 will be formed with a plurality of neck-receiving apertures, one for each bottle and indicated at 16. The handle members may then be moved toward each other to cause the base of each bottle to be moved toward horizontal position, first the position of Figure 10, and finally, to the position of Figure 11, the bottles being held in proper position by the walls of channels 15. In thus moving the handle members toward each other, the area above scored lines *m* will be bent in inclined formation, as shown in Figure 11 and the area above the scored lines 14 will be bent vertically, as will be understood without further explanation.

Having described my invention, what I claim and desire to secure by Letters Patent is as follows:

1. A bottle-holding carton comprising a sheet of material cut and scored to provide a horizontal base member having oppositely disposed upwardly extending longitudinal flanges, primary vertical panels, each of said panels having a hinged apertured bottle-neck-holding-section, and each of said primary panels being integrally connected to a flange of said base member by a pair of arms extending transversely of the base member and disposed wholly at the ends of the base member, the vertical panels having depending extensions terminating below said arms.

2. A bottle-holding carton comprising a sheet of material cut and scored to provide a horizontal base member having oppositely disposed upwardly extending longitudinal flanges, a pair of primary vertical panels, each of said panels having a hinged section adapted to engage bottle necks, and a pair of arms integrally carried by one of said flanges and by one of said primary vertical panels at the ends of the base member and extending above the base of the latter to hold the base member to its appropriate primary vertical panel, the base of each primary vertical panel abutting the base member.

3. A bottle-holding carton constructed in accordance with claim 1, in which each bottle-neck-holding-section is hinged to its appropriate vertical panel and also part of it is hinged upon the other part.

4. A bottle-holding carton constructed in accordance with claim 1, in which the bottle-neck-holding-sections are so hinged to the vertical panels that the hinge of one section is longitudinally offset from the hinge of the second section, each of said sections being transversely hinged, the one section being adapted for folding upon itself in one direction, and the other section being adapted for folding upon itself in the opposite direction.

5. A bottle-holding carton comprising a sheet of material cut and scored to provide a horizontal base member having oppositely disposed upwardly extending longitudinal flanges, a pair of primary vertical panels at the longitudinal center of the base member and abutting the same, each primary vertical panel having extending above its base a pair of spaced arms integral with said longitudinal flanges and with an appropriate one of said vertical panels, the arms being disposed wholly at the ends of the box member and at their inner edges being curved to conform with the curvature of bottles held upon the base member, and each primary vertical panel being formed with an outwardly extending hinged section apertured to receive bottle necks.

6. A bottle holding carton formed of a blank having a base panel and two like sections extending laterally therefrom and each section joining the base panel by a line of fold, each sec-

tion being formed with a transversely extending cut spaced from and parallel with its appropriate one of said lines of fold and also spaced from the longitudinal margins of the blank, each one of said transversely extending cuts at each end thereof meeting a cut extending longitudinally of said section and having a line of fold at each end and leading to the margin of said section, each section having a hand-hole aperture and an outwardly foldable panel section apertured to receive bottle necks.

7. A carrier for beverage bottles, said bottles each having a neck portion and a body portion terminating in a horizontal bottom upon which it is adapted to stand, said carrier comprising a central vertical panel with an opening providing a hand hold, and a depending sling portion consisting of a continuous loop of sheet stock, said loop being attached at its upper edges only to the central panel, said loop of sheet stock being creased to define a bottom wall of a width substantially equal to twice the diameter of the bottoms of the bottles to be carried, two vertical side panels hinged at their lower ends to the bottom wall, the height of the side panels being less than the height of the bodies of the bottles to be carried, and top walls each of a width slightly greater than the diameter of the bodies of the bottles to be carried and extending from the tops of the side panels to which they are hinged at their outer ends, to the central panel to which they are hinged at their inner ends, said top walls lying on opposite sides of the central panel and said top walls each having an opening therein each opening being of a width substantially equal to the full width of the top wall and of a length substantially equal to the sum of the diameters of the bodies of said bottles carried on each side of the carrier, whereby all the bottles on each side singly or together may be freely moved into or out of said opening when the sling portion is not put under tension, upward pull on the central panel tensioning the top walls in diagonal position so that said openings are contracted upon the bodies of the contained bottles, tending to pull the bottles on each side toward the center, the weight of the bottles imposed upon the bottom wall tending to bulge the bottom wall downward and pull the bottoms of opposed pairs of bottles in the carrier toward each other.

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