

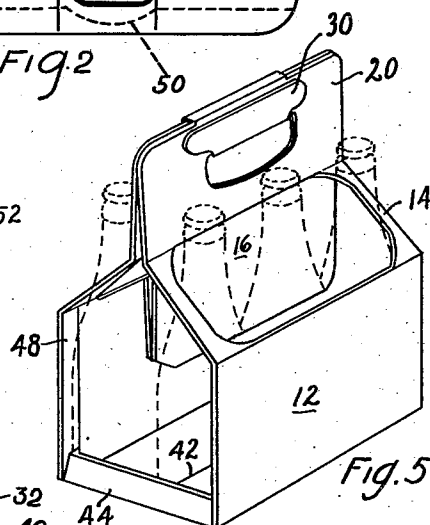
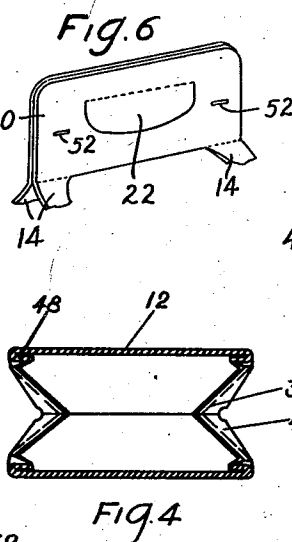
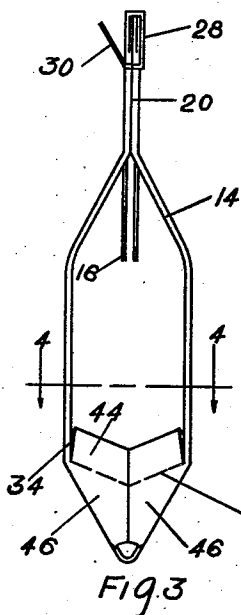
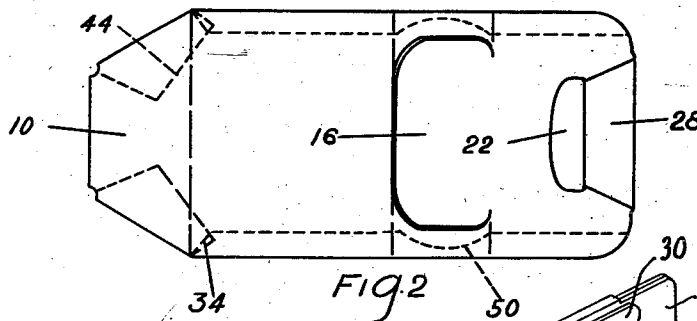
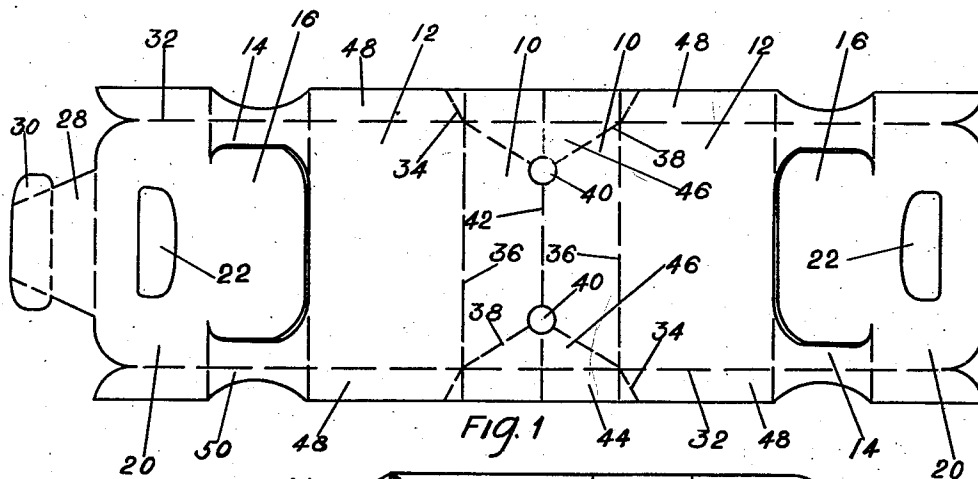
Nov. 21, 1944.

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BOTTLE HOLDER

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## UNITED STATES PATENT OFFICE

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## BOTTLE HOLDER

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7 Claims. (Cl. 224-45)

This invention relates to a new and improved carrier for the packaging of a plurality of articles, such as bottles of beverage or the like. The subject matter of this application is in the nature of an improvement on that of my co-pending application Serial No. 304,337, filed November 14, 1939.

One of the objects of the present invention is to provide a carrier for bottles or similar articles, wherein a number of such articles may be conveniently and securely packaged for transportation and may be carried conveniently in the hand, as in instances where a half dozen bottles of beverage are purchased at one time for home consumption.

Another object of the invention is to provide a knocked-down or collapsible carrier which can be readily set up by the user without requiring stapling or other additional fastening means.

Another object of the invention is to provide a knocked-down bottle carrier which may be cut out of paper board as a unit, by a single die-cutting operation, in a form such that when set up it has reinforced bottom, wall and handle portions which qualify it to retain its contents securely and to support a heavy load with safety.

Still another object of the invention is the provision of such a bottle carrier which retains its receptacle form after being set up, even in the absence of any of its intended contents, but which can be collapsed to a flattened form in order to facilitate storage in small space after it has been returned to the bottling plant and is awaiting re-use.

An additional object of the invention is to provide such a bottle carrier which is particularly qualified for repeated use by virtue of the fact that it may be set up and collapsed very easily in a manner such that its various parts assume their proper positions automatically, and the contents may be placed in and removed from it without involving any unfolding, disconnecting or mutilation of any of its portions.

Other and further objects of the invention will be pointed out hereinafter or will be apparent upon an understanding of the disclosures in the accompanying drawing and following description.

One embodiment of the invention is shown in the drawing and hereinafter described but it is to be understood that this is presented for purposes of illustration only and is not to be considered as exhaustive of the forms in which the invention may be embodied nor to be construed to limit the appended claims short of the true

and most comprehensive scope of the invention in the art.

In the drawing:

Fig. 1 is a plan view of the complete unitary blank, as cut from a sheet of paper board or similar material, to form a bottle holder embodying the present invention;

Fig. 2 is a side view of the completely assembled bottle holder as formed by the folding of the blank shown in Fig. 1, the same being shown in its collapsed condition, as for storage or for shipment to the user;

Fig. 3 is an end elevational view of the device shown in Figs. 1 and 2 with its parts in intermediate positions which they assume in the course of its being set up for use from the collapsed condition shown in Fig. 2;

Fig. 4 is a sectional view on the line 4-4 of Fig. 3;

Fig. 5 is a perspective view of the device in erected condition, the positions of contained bottles being shown in dotted lines; and

Fig. 6 is a fragmentary perspective view of a handle construction of slightly modified form.

In the drawing, corresponding parts are designated by corresponding reference numerals, the numerals 10 indicating conjoined panels which form the bottom of the device and the numerals 12 designating side wall portions which are integrally and flexibly connected with the bottom along parallel crease lines 36. In the upper portions of the side walls are provided bottle-receiving apertures which are formed by the partial slotting out of flaps 16 between portions 14, said flaps remaining integrally connected with the sheet along their upper ends and being adapted to assume vertically depending positions in approximately parallel planes, as illustrated in Fig. 3, when the carton is set up, so that they form separators between bottles which are inserted through the opposite bottle-receiving apertures.

Integral with the upper ends of the side wall portions 14 are handle portions 20 which are provided with openings 22 adapted to accommodate the fingers of a person's hand so that the device may be grasped and carried in pendulous position. Extending from the upper end of one of the handle portions 20 is a connecting device comprising a strip portion 28 and a terminal tab portion 30 which is somewhat longer than the handle openings 22.

Each of the portions 10, 12, 14 and 20 is provided with lateral extension flanges or strips at its opposite margins, the same being marked off by crease or score lines 32, the portions of said

strips which are conjoined to the bottom portions being designated by the reference numerals 44 and the portions of the strips which are conjoined to the side walls are designated by the reference numerals 48 and 50. These lateral flanges are crossed by the creases 36, diagonal creases 34 are formed in the lateral flanges extending divergently from the intersections of said creases 36 and 32, thus marking off V-shaped gores in the lateral flanges 48.

The bottom is provided with a medial fold crease 42 at the junction of the bottom portions 10 and with openings 40 cut completely through the sheet at points on the crease 42 spaced from the creases 32, and the crease 42 continues across the flanges 48 beyond the ends of the bottom portions 10. Extending from each of the openings 40 to the adjacent outer corners of the bottom are diagonal or oblique crease lines 38 along which the end portions of the bottom are adapted to fold inwardly.

The foregoing describes the blank of Fig. 1, which may be cut from a sheet of paper board or the like by a simple die-cutting operation. To form up the device from this flat blank, the lateral flange portions 48 and 50 are folded inwardly along the crease lines 32 until they contact the adjacent inner surface portions of the side walls and the blank is partially folded upon itself along the bottom crease line 42 while the end portions of the bottom are folded inwardly, bellows fashion, along the diagonal crease lines 38. Consequently, when the side panels are swung into contact with each other, the triangular bottom portions 46 and the conjoined flange portions 44 will attain inwardly folded positions such as illustrated in Fig. 2, the V-shaped gores folding along the crease lines 34 to accommodate the angular relationship of flange portions 48 and 44, the flange portions 44 remaining in the planes of the triangular bottom sections 46 when in the in-folded position. When the parts are thus folded together along the bottom crease fold 42, the handle portions 20 will meet each other face-to-face and with the handle openings 22 in register. Thereupon, the handle portions may be secured together in their face-to-face relationship, which may be accomplished by swinging the strip 28 downwardly across the upper margin and against the opposite side of the opposite handle portion 20, inserting the locking tab 30 through both handle openings and folding it upwardly again against the outer side of its conjoined handle portion, in the relationship shown in Fig. 3. This gives the device its completely folded and assembled form but in its flat or collapsed condition illustrated in Fig. 2.

To set the device up for reception of its contents, it is necessary simply to swing the bottom portions 10 upwardly between the side wall portions, as in the fashion illustrated in Fig. 3, until both the bottom portions 10 are swung into a common plane. In this movement the side wall portions swing apart from each other along crease lines extended laterally from the upper and lower margins of the bottle-receiving apertures, and the triangular sections 46 of the bottom are automatically caused to swing outwardly and downwardly into the plane of the other bottom portions. At the same time the triangular bottom portions are thus caused to assume an angular relationship to the end flange portions 44, which latter are retained in up-standing positions at the ends of the bottom by

virtue of the connection of said flange portions 44 with the flange portions 48 through the medium of the triangular gores. Thus, by the simple operation of swinging the bottom sections 10 upwardly from the collapsed position, all the other parts of the device are caused to assume their set-up positions automatically, the side wall portions 14 assuming positions where they diverge downwardly from the handle portions 20 and the flaps 16 assuming their vertically depending positions midway between the side walls. Moreover, as the bottom reaches its unfolded position, the straightening of fold creases which define the ends of the bottom, together with the straightening of the flanges 44 along the ends of the bottom, produces a strut-like structure which holds the bottom in its unfolded condition and is effective to space or brace the side walls apart at their lower ends. Consequently, the device retains its set-up condition, with an approximately flat bottom upon which it will stand upright with the lower portions of the side walls extending upwardly from the opposite side margins of the bottom and the bottom end flanges 44 standing upright along the end margins of the bottom, all as illustrated in Fig. 5.

The bottles B or other articles for which the device is designed may then be placed in it by being inserted, bottoms first, through the bottle-receiving apertures to positions where they stand upright on the bottom in two rows, separated by the depending tabs 16 and with the necks of the bottles projecting upwardly through the bottle-receiving apertures. The end flanges 44 retain the lower ends of the bottles against sliding off the bottom and the sloping wall portions 14 prevent the endmost bottles from toppling outwards. When the package is lifted by the handle, the weight of the contents causes the side wall portions below the bottle-receiving apertures to be drawn inwardly so that the bottles are firmly gripped and pressed against the tabs 16 from opposite sides in such fashion that they are effectively held against rattling. The structure is well qualified to support the very considerable weight of a half dozen bottles or more of beverage, as the in-turned marginal strips 48 and 50 constitute load-carrying elements in addition to the side walls themselves. These lateral strips are held definitely in their in-turned positions against the inner surfaces of the side walls, by virtue of the re-entrant bends in said strips at the lower ends of the sloping wall portions 14 and the salient bends in said strips at the locations where the sloping side wall portions 14 join the vertically extending handle portions 20. Being thus securely retained in their inwardly folded positions, the strips 48 and 50 retain the bottom flange portions 44 against swinging outwardly.

In Fig. 6 is illustrated a modified form of handle construction wherein the strip portion 28 and locking tab 30 are eliminated and the handle portions 20 are fastened to each other in face-to-face relationship by other fastening means, exemplified by wire stitches or staples 52.

One or all of the bottles may be removed from the carrier without involving any unfolding or mutilation whatever. This is accomplished by first removing one or more of the intermediate bottles of the row, by drawing same upwardly through the bottle-receiving apertures, whereupon the endmost bottles may be moved inwardly to positions where they are clear of the side wall

portions 14 and then may be withdrawn upwardly. After all the bottles are removed, as after the device has been used to return empty bottles to the bottler, it may be readily collapsed to flat condition simply by swinging the triangular bottom sections 46 and end flanges 44 inwardly on the oblique crease lines 38 and swinging the side wall portions together. This permits quantities of the returned carriers to be stored compactly while awaiting reuse.

I claim:

1. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and lateral flanges extending along side margins of the side walls and end margins of the bottom and flexible inwardly relative to adjacent portions of the side walls and bottom, the bottom having a bottom fold crease between and parallel with its side margins to permit it to be folded upon itself when the side walls are swung together and having openings cut through it across said bottom fold crease, the bottom having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom, whereby end portions of the bottom and the flange portions conjoined to them may be folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls when the sheet is folded upon itself along said bottom fold crease, and means for connecting the upper end portions of the side walls to each other face to face.

2. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and lateral flanges extending along side margins of the side walls and end margins of the bottom and flexible inwardly relative to adjacent portions of the side walls and bottom, the bottom having a bottom fold crease between and parallel with its side margins to permit it to be folded upon itself when the side walls are swung together and having openings cut through it across said bottom fold crease, the bottom having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom, whereby end portions of the bottom and the flange portions conjoined to them may be folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls when the sheet is folded upon itself along said bottom fold crease, a handle being provided at the upper portions of the side walls whereby the set-up device may be carried in pendulous position.

3. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and lateral flanges extending along side margins of the side walls and end margins of the bottom and flexible inwardly relative to said margins, the bottom having a bottom fold crease between and parallel with its side margins to permit it to be folded upon itself when the side walls are swung together and having openings cut through it across said bottom

fold crease, the bottom having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom and the flanges having oblique fold creases extending across them divergently from the outer corners of the bottom, whereby end portions of the bottom and the flange portions conjoined to them may be folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls when the sheet is folded upon itself along said bottom fold crease, and means for connecting the upper end portions of the side walls to each other face to face.

4. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and lateral flanges folded inwardly along side margins of the side walls and extending along end margins of the bottom and flexible to angular positions relative to the bottom, the bottom having a bottom fold crease between and parallel with its side margins along which it is folded upon itself to permit the side walls to lie against each other, said bottom having openings cut through it across said bottom fold crease inwardly from said flanges and having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom, end portions of the bottom and the flange portions conjoined to them being folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls, and means connecting the upper end portions of the side walls to each other face-to-face, the side walls being creased transversely in their upper portions to permit their lower portions to swing apart when the bottom is unfolded.

5. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and flanges folded inwardly along side margins of the side walls and extending along end margins of the bottom and flexible to angular relationship thereto, the bottom having a bottom fold crease between and parallel with its side margins along which it is folded upon itself to permit the side walls to lie against each other, said bottom having openings cut through it across said bottom fold crease and having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom, end portions of the bottom and the flange portions conjoined to them being folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls, and means connecting the upper end portions of the side walls to each other face-to-face, a handle being provided at the top of the device whereby it may be supported in pendulous position.

6. A bottle carrier comprising a sheet of paper board shaped and creased to provide a bottom on which bottles may stand and side walls flexibly connected to opposite side margins of the bottom so as to be swung to angular positions relative to the bottom and lateral flanges connected to side margins of the side walls and extending along end margins of the bottom and flexible to angular relationship with adjacent portions of the side walls and bottom, the bottom having a bottom

fold crease between and parallel with its side margins along which it is folded upon itself to permit the side walls to lie against each other, the bottom having openings cut through it across said bottom fold crease and having oblique fold creases extending from the respective openings to the adjacent outer corners of the bottom, end portions of the bottom and the flange portions conjoined to them being folded inwardly bellows fashion along the oblique fold creases to collapsed condition between other portions of the bottom and side walls, and means for connecting the upper end portions of the side walls to each other face-to-face, the side walls being creased transversely in their upper portions to permit their lower portions to swing apart and being provided with apertures of size to permit insertion of the intended bottles bottoms first through them.

7. A collapsible bottle carrier comprising a sheet of paper board creased and shaped to form a receptacle having a bottom on which bottles may stand and side walls flexible to and from upstand-

ing positions along opposite side margins of the bottom and flanges bent inwardly from side margins of the side walls and extending along end margins of the bottom and flexible to and from upstanding relationship thereto and normally occupying upstanding positions when the bottom is in normal angular relationship to the side walls, the bottom having a bottom fold crease midway between and parallel with its side margins and extending across said flanges, and the bottom having openings cut through it across said bottom fold crease adjacent the ends of the bottom and having divergent fold creases extending from each of said openings to the adjacent outer corners of the bottom, whereby the bottom may be folded upon itself to collapse the receptacle with the flange portions which are along the ends of the bottom swung inwardly and folded upon themselves, said folded flange portions being moved to normal upstanding and unfolded positions automatically when the bottom is unfolded to normal position in the setting-up of the receptacle.

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