

April 4, 1944.

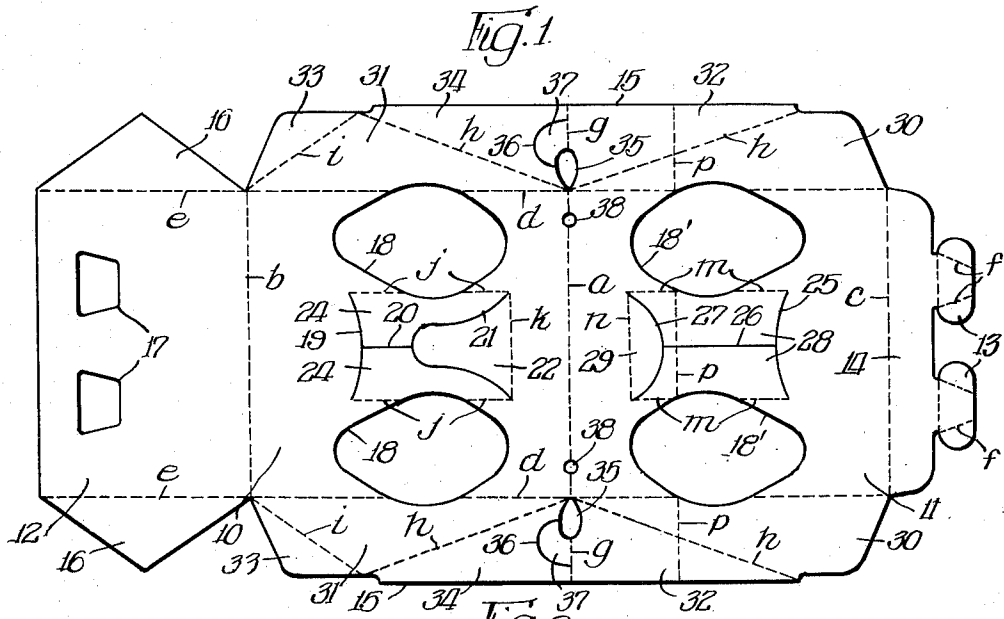
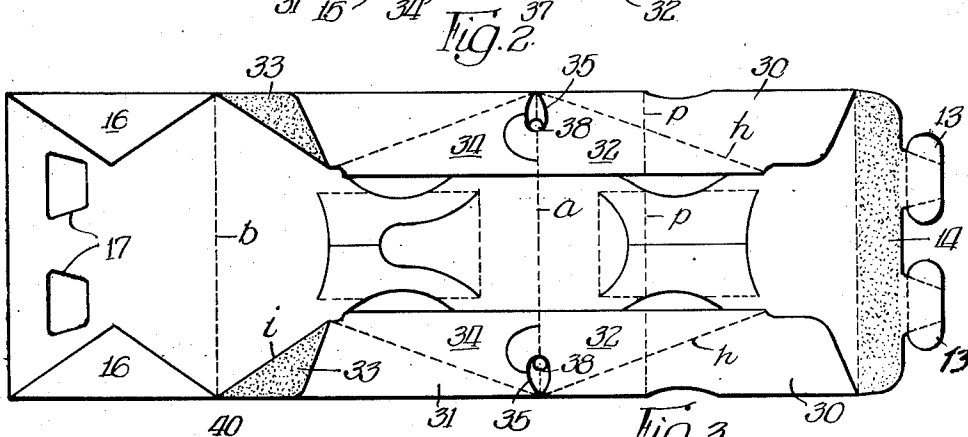
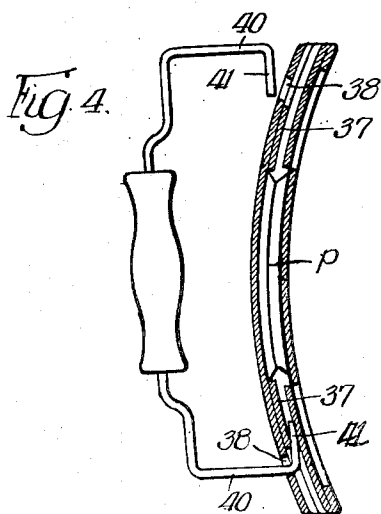
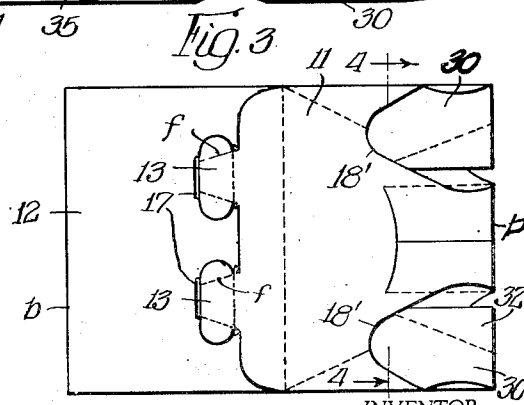
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2,345,567

BOTTLE HOLDER

Filed April 6, 1942

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

Fig. 5.

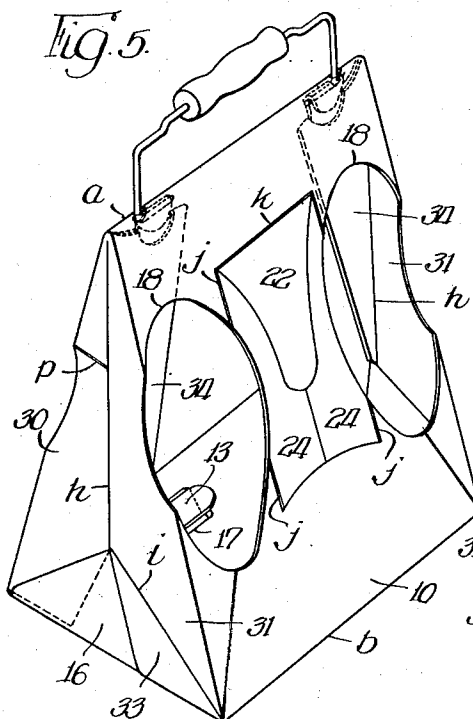


Fig. 6.

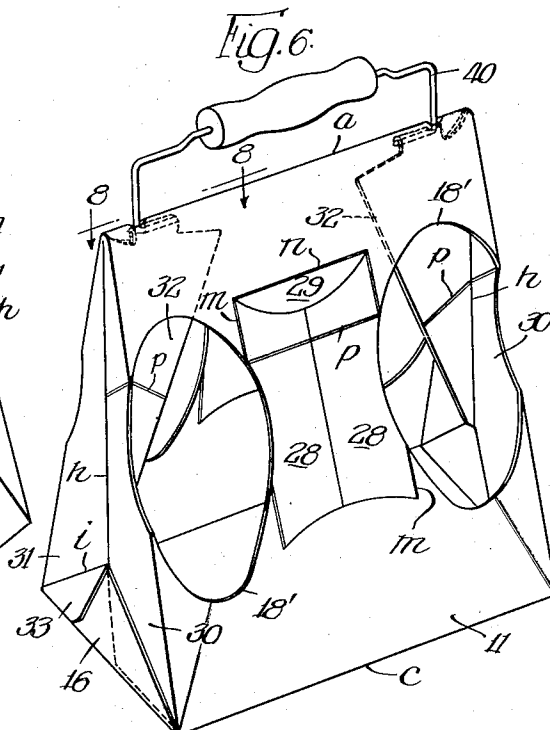


Fig. 7.

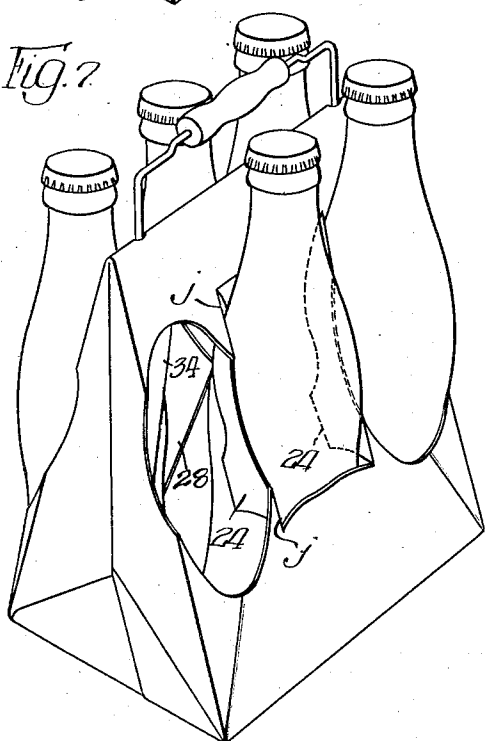
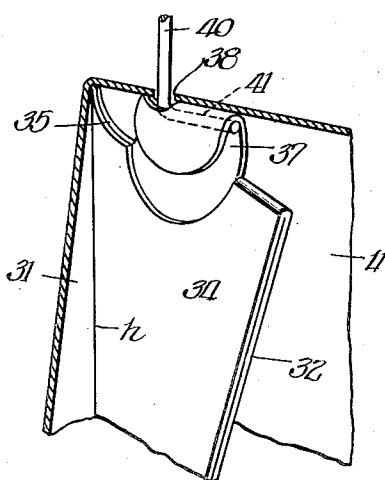


Fig. 8.



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UNITED STATES PATENT OFFICE

2,345,567

BOTTLE HOLDER

Edwin L. Arneson, Morris, Ill., assignor to Morris Paper Mills, Chicago, Ill., a corporation of Illinois

Application April 6, 1942, Serial No. 437,736

12 Claims. (Cl. 229-52)

This invention relates to bottle holders such as may be made of paper board, which are designed for the packaging of a plurality of bottles of beverage and the like in a manner to permit their being carried conveniently.

A general object of the invention is the provision of such a container which may be fabricated easily and economically from paper board in a flat folded or collapsed condition, and which may be set up very quickly and easily by the user without requiring any sort of setting up apparatus or additional fastenings; and which in its set-up condition is adapted to receive and retain a plurality of bottles of beverage securely and with substantial areas of the contained bottles exposed for purpose of inspection or display.

A particular object of the invention is the provision of such a container equipped with a carrying handle of simple character in such fashion that the handle is retained securely assembled with the container and the latter safeguarded against being torn from the handle by the weight of the contents.

Another object is the provision of a bottle holder having the attributes above specified and which may be made of a height less than the bottles for which it is designed and in its plan dimensions does not materially exceed the area occupied by the contained bottles.

Other and further objects of the invention will be pointed out or indicated hereinafter or will be apparent to one skilled in the art upon an understanding of the invention or use of it in practice.

For the purpose of aiding in an explanation of the invention, I show in the accompanying drawings forming a part of this specification, and hereinafter described, certain forms in which it may be embodied. It is to be understood, however, that these are presented merely for purpose of illustration and hence are not to be construed in any fashion for the purpose of limiting the claims short of the true and most comprehensive scope of the invention in the art.

In said drawings,

Fig. 1 is a plan view of a complete blank of sheet material, such as may be cut out by a die, and which may be folded and fastened to produce one embodiment of the invention, the dotted lines indicating scores or creases on which portions of the blank may be folded;

Fig. 2 is a plan view of the same blank after portions thereof have been folded in the process of fabricating the container;

Fig. 3 is a plan view of the same blank after the

further folding and fastening together of some of its portions;

Fig. 4 is a detail showing the completely folded container flexed to an arched form incident to the assembling of one form of handle with it;

Fig. 5 is a perspective view showing the container in its fully set-up condition and with handle attached, ready for reception of bottles;

Fig. 6 is a perspective view of the same, but looking at the end of the container opposite that shown in Fig. 5;

Fig. 7 is a perspective view similar to Fig. 5 and showing all but one of the bottle content in place in the container;

Fig. 8 is a detail, on a larger scale, in the nature of a vertical section in the plane 8-8 of Fig. 6 and illustrating the fashion in which the handle is engaged with the container;

Fig. 9 is a perspective view of the completed container in an almost completely collapsed condition;

Fig. 10 is a plan view of a portion of a blank of modified form, with some of its parts folded, said blank being designed for the production of a modified form of container; and

Fig. 11 is a vertical section through the upper portion of such modified form of container with a modified form of handle assembled therewith.

The nature of the invention will be most quickly understood from the following detailed description of the illustrative embodiments shown in the drawings.

The blank illustrated in Fig. 1 may be cut out by means of a die from a sheet of paper board or the like having the requisite strength and stiffness. Portions of said blank are marked off by fold creases or score lines to provide side panels 10 and 11 which remain connected to each other at their upper ends along the fold crease *a*, and a bottom panel 12 which remains integral with the lower end of side panel 10 along a fold crease *b*. Side panel 11 has a connecting flap 14 at its lower end, said connecting flap being foldable angularly to the panel 11 along a fold crease *c*, and said connecting flap including locking tabs 13 with projecting or overhanging ends. The side panels 10 and 11 have lateral sections 15 extending beyond lateral fold creases *d*, and the bottom panel 12 has end sections 16 marked off by end fold creases *e*. The bottom panel is provided with locking apertures 17 located symmetrically in reference to the locking tongues 13 and of less width than said tongues, but adapted to permit passage of the tongues through them

when the projecting or overhanging ends of said tongues are flexed angularly along fold creases *f*.

The lateral sections 15 are provided with fold creases *g* in alignment with the crest fold crease *a*, diagonal fold creases *h* diverging from approximately the point of intersection of creases *a* and *d*, and flexing scores or creases *i* diverging from the opposite ends of the fold crease *b*. Portions of the side panels 10 and 11 are cut out to provide lateral bottle receiving apertures 18 and 18' in symmetrical arrangement, and between its apertures 18 side panel 10 is slotted through with slots 19, 20 and 21 and provided with fold creases *j* and *k* to form a separator tongue 22 and a pair of separator flaps 24. Side panel 11 is slotted through at 25, 26 and 27 to provide a pair of separator flaps 28 and a top flap 29 which are flexible out of the plane of the side panel along fold creases *m* and *n* respectively. Side panel 11 is also provided with a transverse fold crease *p* extending across the lateral sections 15 and the flaps 28 and interrupted by the apertures 18'.

The diagonal fold creases *h* subdivide the lateral sections 15 into the end wall portions 30 and 31 and tuck portions 32 and 34, and score lines *i* mark off securing portions 33 from sections 31. In locations adjacent the intersection of the fold creases *a* and *d*, the tuck portions are punched to provide apertures 35, and the tuck portions 34 are slotted through along curved lines 36 extending from said apertures 35 to the fold crease *g* to provide a hook-shaped bearing tongues 37. On the crest fold crease *a* the side panels are punched to provide handle holes 38 located a short distance inwardly from the fold creases *d*.

The blank having been formed as above described, the further fabrication of the container is proceeded with by first folding the lateral sections inwardly along the fold creases *d* until they are brought flat against the side panels, and likewise folding inwardly the bottom end flaps 16 along the fold creases *e* until they are brought flat against the bottom panel. The securing portions 33 are then re-folded outwardly along the scores *i* until they come flat upon the adjacent end wall portions 31. As thus folded the blank is in the form illustrated in Fig. 2. Adhesive is then applied to the connecting flap 14, but not to the tongues 13, and to the upwardly presented surfaces of the securing portions 33, as in the areas marked with stippling in Fig. 2. Then the bottom panel is folded over along the fold crease *b* so as to bring the bottom end sections 16 against the upwardly presented surfaces of the securing portions 33, so that those parts are secured to each other by adhesive. Then the side panel 11 is folded over along the fold crease *p*, which brings the connecting flap 14 down onto the upwardly presented surface of the bottom panel and positions the locking tongues 13 over the apertures 17, the connecting flap thereby being fastened to the bottom panel by the adhesive. The parts as thus folded bear the relationship illustrated in Fig. 3, which completes the fabrication of the container. It will be observed that the container as thus fabricated is in a flat folded or collapsed condition and, when viewed from the side opposite that shown in Fig. 3, has the aspect shown in Fig. 9. It is to be observed, however, that in Fig. 9 the overlying portions have been drawn slightly away from the underlying portions so that the parts may be more clearly shown. In the flat collapsed condition the containers may be stacked and packaged for shipment in very compact arrangement.

For assembly with the container above described, I provide a rigid pre-formed handle such as illustrated in Fig. 4, which comprises a bail having leg portions 40 with journal-like support portions 41 extending toward each other in alignment from the ends of the leg portions. The leg portions at the point where they join the support portions 41 are spaced from each other a distance corresponding to the spacing of the handle holes 38 of the container. Such handle may be formed of stiff wire and is supplied to the user separate from the container. To attach such a handle to a container, the latter, in its flat collapsed form, is flexed to an arched form as illustrated in Fig. 4, thus bringing the handle holes 38 to positions where the ends of the support portions 41 may be inserted through them and through the openings 35. After the support portions have been thus inserted, the arched container is released and allowed to spring back to its normal straight form, thereby moving the handle holes 38 out to the leg portions 40 and mounting the container on the support portions 41 with the latter underlying the bearing tongues 37.

The container, with its handle thus attached, is now ready to be set up for reception of the intended bottles. With the container in the condition illustrated in Fig. 9, this is accomplished by pressing the fold crease *p* toward the opposite fold crease *b*, which has the effect of raising the crest fold crease *a* and swinging the side panel 11 upwardly along fold crease *c* and side panel 10 upwardly along fold crease *b*, and at the same time flexing the side panels to angular relationship with each other along crest fold crease *a*. As side panel 10 swings upwardly away from the bottom panel, end wall portions 31 and end sections 16 will be swung outwardly to approximately vertical positions over the ends of the bottom panel, and as the portions of side panel 11 which are above and below fold crease *p* approach alignment with each other, end wall sections 30 are pressed away from side panel 11 by the fingers so as to swing them outwardly to upstanding positions over the ends of the bottom panel. This outward swinging of end wall sections 30 and 31 causes flexing of the sheet along fold creases *h* and moves tuck portions 32 and 34 into surface engagement with each other in positions where they extend inwardly from end wall sections 30 and 31 over approximately the median line of the bottom panel. The tuck portions 32 and 34, by virtue of their surface engagement with each other and their connection at their upper ends, stiffen the end wall sections 30 and 31 and brace them against being swung outwardly past the ends of the bottom panel. The connection of the end wall sections 31 to the bottom panel by means of the portions 33 and 16, and the engagement of the lower portion of end wall sections 30 against the bottom end sections 16, also retain the end wall portions against being forced outwardly beyond the ends of the bottom. When the end wall sections 30 and 31 are swung out to positions over the ends of the bottom panel, the upper ends of the tuck flaps 32 and 34 are swung downwardly away from the crest crease line *a*, so that they slope downwardly from the upper corners of the container, as illustrated in Figs. 5, 6 and 8. It is to be observed, however, that the journal portions 41 of the handle are engaged under the tongues 37 and, consequently, either at the time that the

upper ends of the tuck flaps 32 and 34 are swung downwardly from the crest crease *a*, or at some subsequent time in the setting up or filling of the container, the handle draws the tongues 37 upwardly from the ends of the tuck flaps 32 and 34, as to the position illustrated in Fig. 8. Accordingly, when the container and its contents are suspended by means of the handle, these tongues 37 form reinforcements or buffers between the crest of the container and the handle journals, and relieve the material along the crest crease of a considerable proportion of the stress, thereby providing a safeguard against the tearing out of the handle. Such engagement of the bearing tongues 37 with the handle journals also relieves the crest portion of the container from the wearing action of the handle journals, and also forms an additional anchor for holding the tuck sections 32 and 34 against being swung outwardly past the ends of the bottom panel.

At a convenient time in the setting-up procedure, either before or after the container is expanded to its wedge or triangular form, the locking tongues 13, from the position shown in Fig. 3, are pressed inwardly through the locking apertures 17, so that they reach positions such as illustrated in Fig. 5, where they constitute interlocking connections between the connecting flap 14 and the bottom panel 12. This interlocking connection is provided for the purpose of safety, so that the connection of the parts for support of the weight of the contents is not dependent entirely on the adhesive attachment of the bottom panel and connecting flap. Consequently, even though the adhesive connection may be rendered entirely ineffective, the parts will still be retained securely connected by this interlocking connection so as to carry the contents safely and securely.

After the device has been set up as above described, it has the appearance illustrated in Figs. 5 and 6, and is ready to receive the contents of bottles. As here shown, the container is designed to hold six bottles standing upright on the bottom panel in two rows of three bottles each. The length of the bottom panel is approximately the same as the length of a row of three of the intended bottles standing upright and in contact with one another and the width of the bottom panel is approximately the same as the width of two bottles standing side by side. The apertures 18 and 18' are of a size to permit insertion of the bottles, bottoms first, and in the loading of the container, the four bottles may be inserted simultaneously into the said apertures. The bottles so inserted rest laterally against end wall sections 30 and 31 and their insertion between the opposite side panels forces portions of the latter which are below the apertures 18 and 18' outwardly somewhat, with the result that the side panels securely grip said bottles when they are standing upright on the bottom panel. The tuck sections 32 and 34 constitute separators which keep the bottles in the opposite apertures 18 and 18' from grinding against each other. After the four outermost bottles have thus been inserted, the two intermediate bottles may then be inserted simultaneously, one at each side. The intermediate bottle which is inserted through the side panel 10 is pressed, bottom first, against the tongue 22 and separator flaps 24, and at the same time the bottle at the opposite side is pressed, bottom first, against the separator flaps 28. As these bottles are pressed toward each other, the

tongue 22 and the flaps 24 and 28 are all swung inwardly, tongue 22 swinging inwardly along line *k*, flaps 24 along lines *j*, and flaps 28 along lines *m*, so that when the intermediate bottles are forced to upright position on the bottom panel, the tongue 22 will be a separator between them and the flaps 24 and 28 will be separators between the intermediate and lateral bottles. With the six bottles thus loaded into the container, all are very firmly held, but at the same time very extensive proportions of them are exposed to view, which is desirable for purposes of inspection and advertising effect.

The filled package may be carried very conveniently and safely by means of the handle, as the weight of the contents is supported through the end walls 30 and 31, and is not dependent to any substantial extent upon the relatively narrow connections of the flap portions along lines *j* and *m*. Any of the bottles may be removed with facility without disturbing any of the others or involving any dismantling or unfolding of the container. After even all of the bottles are removed, the container still remains in its set-up condition for reception of the empty bottles. Upon return of the device to the bottler, in order to conserve storage space, it may be again folded to flat collapsed form until required for use for the packaging of another lot of filled bottles, at which time it may be set up quickly and with facility as above described.

In Figs. 10 and 11 I show a modified form of construction which may conform to the foregoing in all particulars with the exception that it is adapted for the use of another type of handle. The various parts correspond in general to those above described, and the corresponding parts are designated by like reference characters. The difference between the two forms resides primarily in the fact that instead of the two spaced handle holes I provide a comparatively long continuous slot 50 along the crest fold crease, and instead of slotting out the bearing tongues at the upper ends of the tuck flaps, I leave them integrally connected at their middle portions by means of parts 51. Fig. 10 shows the blank before the final folding, but with part of the bottom panel omitted.

For use with a container of this character, I provide a handle such as shown in Fig. 11. This handle is blanked out of heavy cardboard so as to provide a bail portion 52 the width of which corresponds to the length of the handle slot 50. Projecting in opposite directions from the ends of the bail portion are support or shoulder portions 54 having upwardly and outwardly sloping edges. This handle may be inserted through the handle slot 50 from within the container before it is completely set up in the triangular form, and when in its final position, the outer and upper end portions of the support portions 54 engage the side panels at the top crease line *a'* closely adjacent the weight-supporting end walls 31, and the strap portions 51 rest upon the sloping upper margin of said support portions. This provides a strong and secure support for the container upon the handle. In forming the finger opening 55, a portion of the material 56 is left in place and is creased so that it will roll or bend laterally along parallel lines to form a gripping portion of a width considerably exceeding the thickness of the handle. In addition to providing a comfortable grasping surface, this also acts as a stop to prevent the handle dropping downwardly through the opening 50

when the device is empty. In this form of device, as well as in that first above described, the height of the bail portion of the handle exceeds that of the tops of the contained bottles, which in turn are at an elevation somewhat above the crest of the container, but the handle may be pressed downwardly to an extent such that the top of the bail is below the tops of the bottles. This is for the purpose of permitting stacking of a number of the filled containers one upon another. The support portions 54 of the handle are interposed between and contacted by the tuck flaps 32 on one side and 34 on the other, whereby the tuck flaps function to maintain the support portions in the plane of stress, thus availing of the strength of the material to best advantage by supporting them against distortion. By their pinching action upon the support portions of the handle, particularly when there are bottles in the carrier, the tuck flaps operate to hold the handle in its elevated position, although permitting it to be slid downwardly when desired.

A distinct advantage of the device resides in the fact that neither its height nor its area dimensions materially exceed the corresponding overall dimensions of the group of bottles which it carries, and, as a consequence, a plurality of the complete packages may be placed in a tray or crate of standard and conventional size and form designed for the carrying of a corresponding number of bottles.

Subject matter herein disclosed but not claimed is claimed in my co-pending application Serial No. 442,915, filed May 14, 1942, for bottle holders.

What I claim is:

1. A bottle carrier comprising a receptacle formed of a sheet of paper board or the like and having a bottom and side panels arranged in triangular relationship and provided with a handle at the upper ends of the side panels, said bottom and panels being foldable relative to one another along parallel transverse crease lines to permit collapsing of the receptacle to flattened condition, end sections flexibly connected to end margins of the bottom and foldable inwardly onto the upper surface thereof, lateral sections flexibly connected to lateral margins of the side panels and foldable inwardly onto the inner surfaces thereof, the lateral sections which are connected to adjacent margins of the side panels being connected to each other at their upper ends and the lateral sections of one side panel being connected to the end sections and being flexible relative thereto along fold lines extending obliquely relative to the bottom, and said end and side sections being shaped to form end walls extending angularly from the lateral margins of the side panels and end margins of the bottom in locations between the side walls when the receptacle is in its set-up triangular form.

2. A bottle carrier formed of sheet material and having a pair of side panels connected to each other at their upper ends and extending in divergent relationship therefrom, said side panels carrying lateral sections having end wall portions extending angularly from lateral margins of the side panels and tuck portions extending angularly from said end wall portions approximately midway between the side panels, and a handle extending through the sheet between the lateral margins of the side panels and having a bail portion disposed above the upper ends of the side panels and support portions engaged with said tuck portions between the side panels.

3. A bottle carrier as specified in claim 2 and wherein the adjacent tuck portions of opposite side panels have connections joining them at their upper ends and the handle has support portions extending outwardly from the bail into supporting engagement with said connections.

4. A bottle carrier as specified in claim 2 and wherein the adjacent tuck portions of opposite side panels have connections joining them at their upper ends and bearing tongues flexible upwardly therefrom and the handle has support portions engaged under said bearing tongues.

5. A bottle carrier as specified in claim 2 and wherein the handle extends through the sheet at the upper ends of the side panels.

6. A bottle carrier comprising a receptacle formed of sheet material and having a bottom panel on which bottles may stand and side panels having their upper ends conjoined in angular relationship and their lower ends conjoined to opposite side margins of the bottom panel and having lateral sections extending angularly from lateral margins of the side panels to form end walls at the ends of the bottom panel, portions of said lateral sections being deflected angularly from said end walls and forming strengthening members disposed between the side panels, and a separate handle extending through the sheet substantially on the line of junction of the side panels and having a bail portion disposed above the upper ends thereof and support portions extending outwardly from the bail portion under the crest of the receptacle and having supporting engagement with the receptacle in the crotch between the side panels closely adjacent the planes of the end walls.

7. A bottle carrier as specified in claim 6 and wherein certain of said lateral sections are connected at their lower ends to portions of the bottom panel between the side panels.

8. A bottle carrier as specified in claim 6 and wherein the side panels are provided with bottle-receiving apertures extending throughout the greater portion of their width and wherein certain of said lateral sections are connected at their lower ends to portions of the bottom panel between the side panels.

9. A bottle carrier as specified in claim 6 and wherein the support portions of the handle are frictionally engaged between oppositely disposed portions of the lateral sections.

10. A bottle carrier as specified in claim 6 and wherein the handle is formed of sheet material and its support portions are engaged on opposite sides by oppositely disposed portions of the lateral sections.

11. A bottle carrier comprising a receptacle formed of sheet material and having a bottom panel on which bottles may stand and side panels which are conjoined at their upper ends and at their lower ends are conjoined to opposite side margins of the bottom panel, lateral sections conjoined to side margins of the side panels and having portions extending angularly therefrom to form end walls and flaps extending angularly from the end walls over the bottom, certain of the end walls being connected at their lower ends to the bottom panel, and the adjacent flaps being connected to each other in their upper portions.

12. A bottle carrier comprising a receptacle formed of sheet material and having a bottom panel on which bottles may stand and side panels which are conjoined in angular relationship at a crest at their upper ends and at their lower ends

are conjoined to opposite side margins of the bottom panel, lateral sections conjoined to the side margins of the side panels and having portions extending angularly therefrom to form end walls and having flaps extending angularly from the end walls over the bottom approximately midway between the side panels, the receptacle having a slot along a portion of its crest, and a separate

5 handle extending through said slot and affording a bail portion disposed above the crest and support portions which extend outwardly from the bail portion along and below the crest and having parts frictionally engaged between the flaps of the juxtaposed lateral sections.

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