

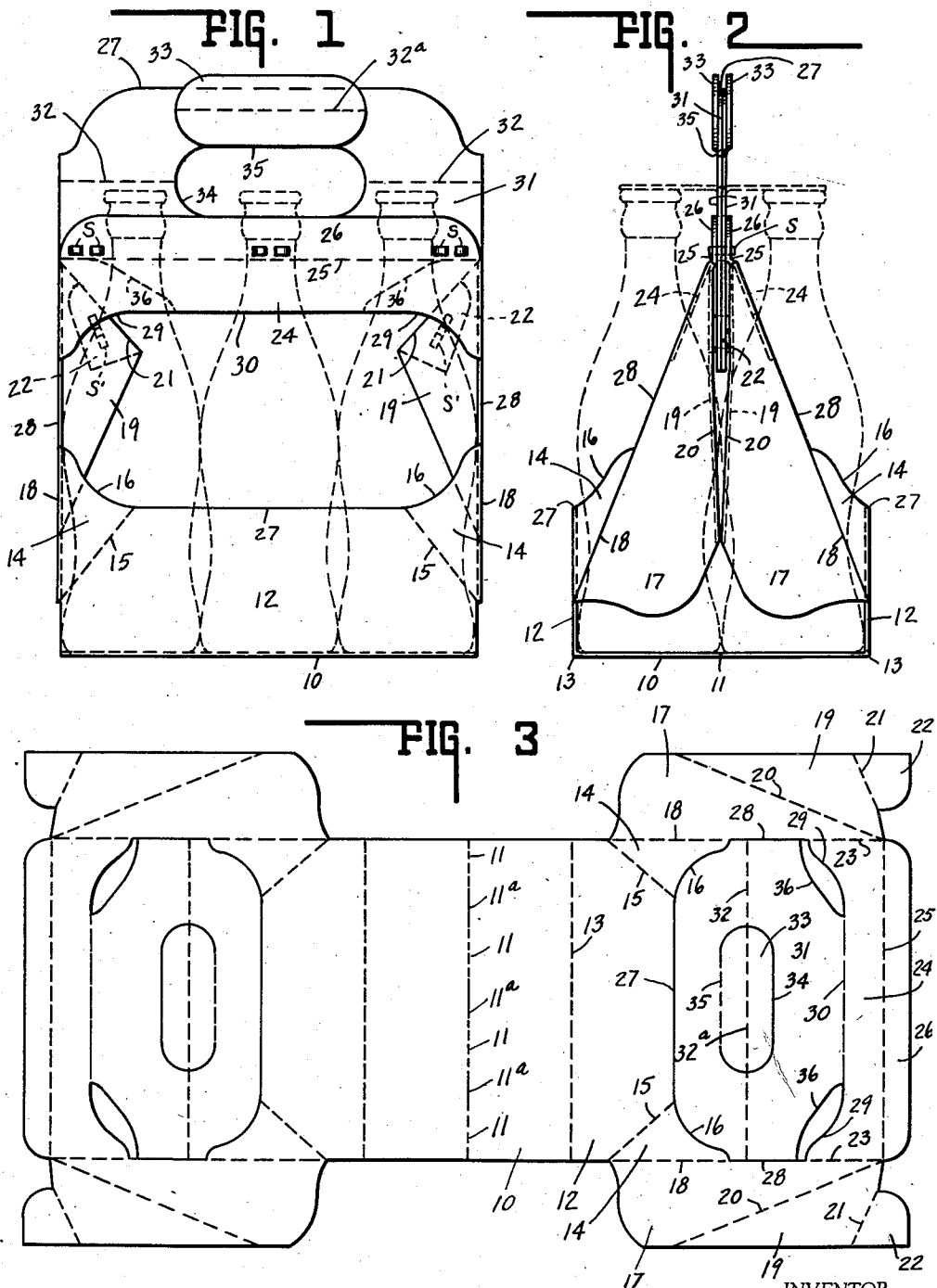
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ONE-PIECE, HANDLED BOTTLE CARRIER

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ONE-PIECE, HANDLED BOTTLE CARRIER

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This invention relates to bottle carriers designed for the packaging of a plurality of bottles of beverage or the like so that they may be carried conveniently by hand.

The general object of the invention is to provide such a device having the following attributes, viz., a carrier adapted for repeated use; a carrier having four walls, bottom and handle, which can be fabricated in its entirety from an integral sheet of paper board; a carrier which can be fabricated economically in knocked-down or collapsed form and bundled in that form for shipment; a carrier which may be readily set up or erected from its collapsed condition; a carrier which when erected is self-sustaining in condition to be filled with its intended contents of bottles by hand or by suitable filling apparatus; a carrier which retains a plurality of the intended bottles securely yet permits intentional withdrawal of any or all of them without any unfolding or mutilation of the carrier; and a carrier which, when filled with the intended bottles, forms a package which can be stacked with others of like character for purposes of displaying their contents.

Another object of the invention is the provision of a bottle carrier having the aforesaid attributes and which can be fabricated completely and rapidly on paper board cutting, folding and stapling machines of conventional type.

A particular object of the invention is the provision of a carrier which may be made from a paper board blank of minimum length and which includes handles which extend beyond the ends of the blank but which are formed from material between the ends of the blank in such arrangement as to permit the collapsing and setting-up of the carrier and the insertion and removal of bottles without involving any folding or unfolding of the handles themselves and wherein the handles are so constructed and arranged as to provide a strong and reliable support for the weight of the package and to utilize the strength of the material to best advantage and to contribute to the strength and stability of the structure as a whole.

Other objects and advantages of the invention will be pointed out or indicated hereinafter or will be apparent upon use of the device itself.

For the purpose of explaining the invention, I show in the accompanying drawing one form in which it may be embodied. It is to be understood, however, that this is presented for purpose of illustration only and that the appended claims

are not to be regarded as limited to this particular structure.

In said drawing,

Fig. 1 is a side elevation of a carrier embodying the present invention, showing the same in its erected condition, with the positions of bottles therein indicated in dotted lines, the handle being shown in its normal elevated position;

Fig. 2 is an end view of the same, but showing in dotted lines the handle tabs swung down to a lowered position for convenience in stacking a plurality of such packages; and

Fig. 3 is a plan view of the one-piece blank from which the carrier illustrated in Figs. 1 and 2 is formed.

The nature of the invention will be most quickly ascertained from a detailed description of the embodiment shown in the drawing.

The blank shown in Fig. 3 is bilaterally symmetrical with respect to both its transverse and longitudinal median lines. Hence, a description of half of it will suffice, it being understood that the several parts referred to are duplicated symmetrically. The blank may be formed from paper board of suitable strength and stiffness, cut, creased and scored to provide a bottom formed of two panels 10 conjoined along the medial fold line formed by alternate creased portions 11 and scored portions 11a. The lower side panel portion 12 is conjoined with the bottom panel 10 along a crease line 13 whereon it is flexible to upstanding position at the outer side margin of the bottom panel. In the lower side panel portion 12 are formed a pair of inwardly and upwardly converging crease lines 13 which mark off triangular sections 14 whose upper edges 16 are curved for accommodation of bottles disposed in the relationship illustrated in Figs. 1 and 2. End panels are conjoined with the respective sections 14 along crease lines 18, each of said end panels including an end wall portion 17 and an end flap portion 19 set off by an oblique crease 20, and each of said end flap portions 19 is creased at 21 to set off a connecting tip 22 at the outer or upper end of the end panel. The end panels are conjoined along crease lines 23 with lateral margins of upper side panel portion 24, and said upper side panel portion is creased transversely at 25 to set off a terminal connecting and stiffening flap 26 which is located intermediate the tip portions 22.

Between the end panels, the side panel is slitted along lines 27, 16, 28 and 29 and scored along line 30, to define a bottle receiving aperture from which the inscribed portion of the blank may be

flexed along line 30 to form a handle flap 31. This handle flap 31 is preferably provided with a transverse crease 32 so located that it will be approximately at the elevation of the top of the bottles when the carrier is in erected condition and the intended bottles are standing upright on its bottom. The size of the bottle receiving aperture is such as to permit introduction of the intended bottles through it, bottoms first, and to accommodate the upper portions of three of such bottles standing in a row on the bottom.

There is also formed from a portion of handle flap 31 an elliptical grip tab 33, which is cut out along line 34 and creased along line 35 where the tab 33 remains connected with the tab 31. Corner portions of the handle flap 31 adjacent the slits 29 are relieved or cut off along lines 36 for a purpose hereinafter explained.

The complete blank, formed as above described, can be cut from a single piece of sheet stock, such as suitable paper board, and it will be observed that the maximum dimensions of the stock required for production of this blank has an overall width determined by the outside margins of the opposite end panels and an overall length determined by the terminal edges of the terminal connecting flaps 26. It will be understood also that a blank such as shown and described may be formed complete by a single die operation on a conventional form of press which die cuts, creases and scores the sheet material in the form above described.

By way of illustration it may be pointed out that from an area of paper board approximately 11 inches wide and approximately 20 inches long, there may be cut a blank of the above described form suitable to make a bottle carrier of the form shown in Figs. 1 and 2 and having a base 5 inches in width and a total erected height, including a double ply handle, of 9½ inches. The features of the construction and the arrangement of the parts permit this to be done in spite of the fact that the width of the base (5 inches) plus twice the height (9½ inches) gives a total of 24 inches, which would be the minimum length of a blank required to produce a carrier of like height and bottom width if the handle flaps were formed at the extremities of the side panels. Moreover, a carrier produced from a blank of this form may have a side width of approximately 7 inches and an end width of 5 inches, or a total enclosed girth measurement of 24 inches taken at the plane of the lowermost junction of the side panels and end panels, although the maximum width of the blank itself is only 11 inches. A carrier having these dimensions has a capacity of six capped bottles which are each 7⅞ inches high and 2¾ inches in maximum diameter. It will be understood, however, that neither as to form nor as to utility is the present invention limited to a carrier having the specific dimensions above specified or designed for bottles of the particular dimensions stated.

To complete the fabrication of the carrier from the blank shown in Fig. 3, the handle tabs 31 are swung upwardly along lines 30 and folded outwardly onto side wall portions 24 and connecting flaps 26. After this has been done, the end portions of the blank may be swung toward each other so that the blank is folded along the median crease-score line 11-11a. This doubles the blank upon itself, bringing the two bottom panels 10 into surface contact with each other and the two handle tabs 31 into surface contact with each other and bringing the opposite pairs

of end panels into surface contact and coinciding relationship with each other. The terminal flaps 26 and tip portions 22 are likewise brought into coinciding relationship, with said coinciding parts in alignment transversely of the folded blank, so that the coinciding tip portions 22 may be fastened to each other by metal stitches or staples driven through them, and the terminal connecting flaps 26 and intervening portions of handle tabs 31 may likewise all be fastened together by metal stitches or staples driven through them. This stitching may be done in a conventional stitching machine, the staples being driven successively one at a time or simultaneously, as desired. Such staples should be located adjacent the ends of the connecting tabs 26, and there may be one or more therebetween, three being illustrated in Fig. 1, wherein they are designated S, the stitches in the end panel tips being designated S'.

This completes the fabrication of the carrier and it will be understood that as thus completed, it is in a flat folded condition with the two handle tabs 31 lying against each other and projecting beyond the ends of the connecting tabs 26 with the grip tabs 33 in register with each other but remaining in the planes of their respective handle tabs. In this flat folded condition the coinciding end panels project laterally from the connected side panels, the coinciding end panels being connected through their tip portions 22. To set up the carrier from this flat collapsed condition, pressure is exerted on the bottom panels at crease 11 to swing them apart from each other and to approximately coplanar relationship. This opens the carrier to semi-erected form, swinging the side panels away from each other and likewise swinging the lower portions of the coinciding end panels away from each other. Then pressure is exerted inwardly and downwardly upon the outer corner portions of the connected tips 22 to swing them inwardly between the diverging end flaps 19, the latter folding inwardly along creases 20 and the tips folding inwardly between them along the creases 21. By this operation, the end wall sections 17 are swung inwardly relative to the side panels along crease lines 18 and 23 until said end wall portions are at approximately right angles to the side panels. In this relationship of the parts the juxtaposed end flaps 19 lie face to face and the end wall sections 17 form upright end walls over the ends of the bottom. The carrier is thus in its set-up or erected condition. The carrier may be collapsed from this erected condition simply by folding the end wall sections 17 inwardly into parallel relationship with and between the side panels and swinging the side panels together and the bottom panels together by folding along the median crease line 11. In such collapsed condition the overall width of the carrier is the same as the width of a side panel and its total overall length is represented by the distance from the crease 11 to the terminal edge of a projecting handle flap. The length of the collapsed carrier may be further reduced by folding the bottom panels 10 upwardly and together in re-entrant relationship between the side panels. The carrier may be set up from this collapsed condition by swinging the bottom panels to coplanar relationship and swinging the end panels outwardly to the position where the end wall sections 17 are approximately at right angles to the side panels.

In this erected condition the side panels di-

verge downwardly from creases 25, in the relationship shown in Fig. 2, wherein the bottle receiving apertures are presented somewhat upwardly. The carrier is self-sustaining in this form, and the intended bottles may be inserted into it through the bottle receiving apertures by hand or the container may be presented to a filling machine by which all six bottles may be inserted in it simultaneously. When the bottles are inserted, they engage the lower side wall portions 12 and flex them outwardly somewhat as to locations shown in Fig. 2, where they grip the lower portions of the bottles and press those in opposite rows toward each other. The creases 15 facilitate conformation of the side wall portions to the bottles. By this gripping action the upper portions of the bottles are pressed against the upper side wall portions 24, and the carrier being properly proportioned for the bottles, the end walls 17 engage the end bottles of the rows and retain them against shifting endwise of the bottom.

It is to be noted that when the carrier is in its flat collapsed condition with the end wall portion 17 swung inwardly between the side panels, the cut-outs between the lines 29 and 36 afford the space requisite to accommodate the upper ends of the end flaps 19 when they are in the position which they attain after being swung inwardly and upwardly to permit the collapsing. As seen in Fig. 1, the space between the lines 21 and 36 accommodate this inward and upward movement of the end flaps 19.

To facilitate the carrying of the complete package by hand, the grip tabs 33 are swung outwardly from their apertures to the positions illustrated in Figs. 1 and 2, thereby providing a thickened grip portion with wide and smoothly rounded margins along the creases 35 for resting on the fingers, in which relationship the grip tabs 33 are effective to stiffen and lend additional strength to the handle itself. When it is desired to stack a number of the packages for purposes of display, the handle tabs may be swung apart from each other and downwardly to positions where they rest upon the tops of the bottles, as illustrated in dotted lines in Fig. 2. This gives the package a flat top upon which similar packages may be superimposed so that their weight is carried entirely by the bottles and the carrier thus safeguarded against a crushing vertical load.

The four-ply structure which is formed at the top of the carrier by the connection of the two terminal flaps 26 and the lower portions of the two up-turned handle tabs 31, in connection with the angularly diverging upper side panel portions 24, constitutes a very effective stay or stiffening element in the device, for maintaining the side panels in the proper relationship and resisting distortion from the contained weight as well as stresses exerted inwardly against the ends of the carrier. Moreover, the disposal and relationship of the handle flaps are such that the supported weight does not subject them to transverse tearing stresses at any point. It will be noted, moreover, that the lower portions of the handle flaps, which remain conjoined with the upper side panel portions 24 along the fold lines 30, stiffen said portions 24 for a substantial portion of their span across the bottle receiving apertures, and also reinforce the upper edges of the apertures at points where they are subjected to abrasion in the operations of inserting and removing the bottles.

By virtue of these several features whereby the strength of the material is availed of to the best advantage, and other structural characteristics of the device, plus the fact that the contained articles may be removed and the carrier refilled without involving any unfolding, dismantling or mutilation of it, it is particularly well adapted for durability and repeated use, which factors, in addition to the fact that it may be made complete from a comparatively short blank, render it a very economical packaging device.

It is to be understood that the particular embodiment of the invention herein shown and described is to be taken as illustrative and not as restrictive in character, and that it may be modified in various particulars without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A carrier for bottles and similar articles comprising a receptacle formed of sheet material cut and folded to provide a bottom with side panels conjoined to its lateral margins at their lower ends and extending upwardly therefrom with their upper portions in anticlinal relationship, said side panels being slitted to provide bottle receiving apertures spaced from their upper and lower extremities and to form handle tabs of portions of the sheet material within said apertures, said handle tabs being folded along the upper margins of said bottle receiving apertures to positions where portions of said tabs project upwardly beyond the upper ends of the side panels and being secured above their fold lines to form a two-ply handle having portions engageable above the upper extremities of the side panels to support the receptacle pendulously.

2. A bottle carrier as specified in claim 1 and wherein the side panels have connecting flaps at their upper portions which are secured together back to back.

3. A bottle carrier as specified in claim 1 and wherein upper end portions of the two side panels are secured to each other alongside the upwardly folded handle tabs.

4. A bottle carrier as specified in claim 1 and wherein the upper end portions of the two side panels and upwardly folded portions of the handle tabs are all secured together in four-ply relationship at a distance above the upper margins of the bottle receiving apertures.

5. A carrier for bottles and the like comprising a receptacle formed of a sheet of paper board creased transversely to provide a bottom and a pair of side panels conjoined at their lower ends to opposite side margins of the bottom and fastened to each other adjacent their upper ends, said side panels being slitted to provide bottle receiving apertures extending transversely of them and spaced from their upper and lower ends and to form handle tabs of portions of the sheet within said apertures, said handle tabs being folded along the upper margins of said bottle receiving apertures to positions where portions of said tabs project beyond the upper ends of the sheet, said upwardly projecting portions of said handle tabs being disposed face to face with each other and being provided with apertures to form a two-ply handle by which the receptacle may be supported pendulously.

6. A bottle carrier as specified in claim 5 and wherein the lower portions of said upwardly folded handle tabs are positioned between the two side panels.

7. A bottle carrier as specified in claim 5 and

wherein the lower portions of said upwardly folded handle tabs are positioned between the two side panels and are fastened together therewith in four-ply relationship.

8. A carrier for bottles and similar articles comprising a blank of sheet material formed with a pair of bottom panels conjoined along a fold line running transversely of the sheet and a pair of side panels conjoined respectively at their lower ends to the opposite side margins of said bottom panels, each of said side panels being provided with a pair of end panels flexibly conjoined respectively to its lateral margins and projecting outwardly therefrom and each of said side panels having an end portion forming a transversely extending terminal connecting flap, the end panels having end portions adjacent said terminal flaps formed as connecting tips set off by fold lines extending obliquely across the end panels; the said blank being folded upon itself along said transverse bottom fold line, the said terminal flaps being secured to each other in coinciding relationship, the connecting tips of one side panel being disposed in coinciding relationship with and connected to the connecting tips of the other side panel, and the end panels being provided with fold lines extending obliquely from their junction with the side panels adjacent the connecting tips, whereby the connecting tips may be swung inwardly between portions of their conjoined end panels and the end panels may be swung inwardly to positions between the side panels.

9. A bottle carrier as specified in claim 8 and wherein the side panels are provided with a handle projecting beyond their connected ends.

10. A bottle carrier as specified in claim 8 and wherein the side panels are provided with bottle receiving apertures formed intermediate their oppositely disposed end panels for admission of bottles to upstanding positions on the bottom panels.

11. A bottle carrier as specified in claim 5 and wherein the handle tabs are approximately as wide as the side panels.

12. A bottle carrier as specified in claim 8 and

wherein the handle tabs are approximately as wide as the side panels.

13. A carrier for bottles and similar articles, comprising a receptacle formed of sheet material cut and folded to provide a bottom and a pair of converging side panels extending upwardly from opposite side margins of the bottom, one of said side panels being slit to provide a bottle-receiving aperture in its upper portion and spaced from its upper end and with a tab of sheet material within said aperture remaining attached at its upper end to the side panel, said tab being folded upwardly between the upper portions of the side panels to a position where it projects above their upper ends, said side panels being fastened to each other above the bottle aperture, and the upwardly projecting tab affording a hand hold above the side panels whereby the carrier may be supported pendulously.

14. A carrier as specified in claim 13 and wherein the said upwardly folded tab is fastened to upper portions of the side panels above the bottle-receiving aperture.

15. A carrier for bottles and similar articles comprising a receptacle formed of sheet material cut and folded to provide a bottom and side panels conjoined at their lower ends to lateral margins of the bottom and extending upwardly therefrom and coming together at their upper ends over approximately the median line of the bottom, said side panels being slitted to provide apertures in their upper portions for accommodation of bottles standing on the bottom in collateral rows and to form tabs of portions of the sheet material from within said apertures, said tabs remaining attached to the side panels along upper marginal portions of the said apertures and at least one of the tabs being folded upwardly between the rows of bottles to a position where portions of it project above the upper ends of the side panels, an upwardly projecting portion of such tab above the side panels being formed as a handle whereby the receptacle may be carried pendulously.

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