May 14, 1968 D. WAINBERG 3,383,010

CARRIERS FOR BOTTLES AND THE LIKE

Filed May 5, 1966 3 Sheets-Sheet 1

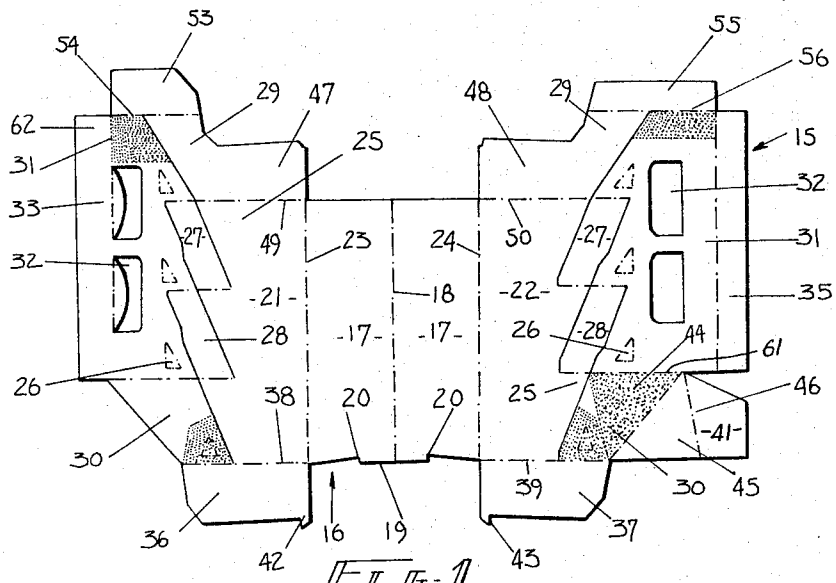


FIG-1

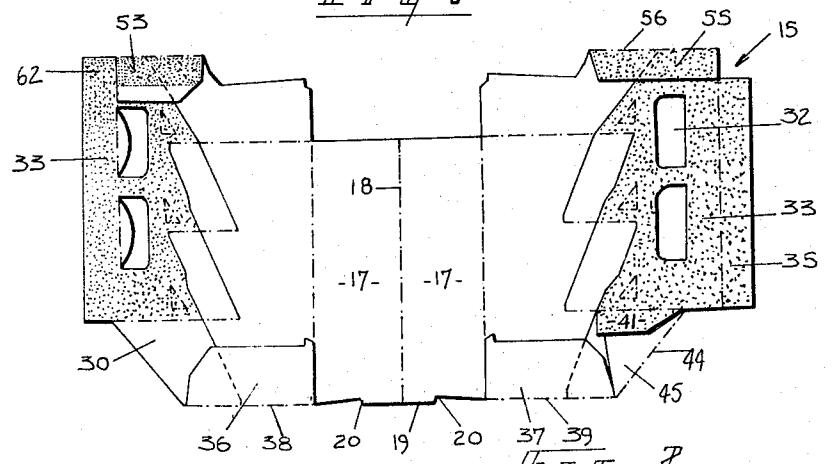


FIG-2

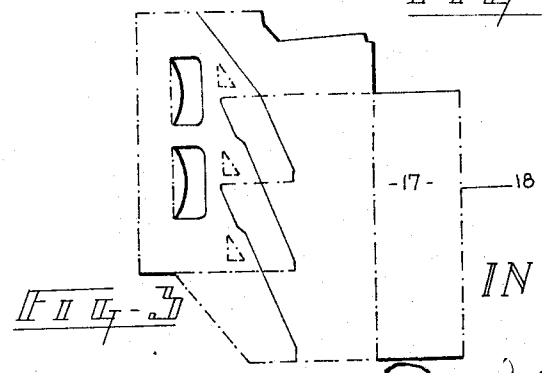


FIG-3

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CARRIERS FOR BOTTLES AND THE LIKE

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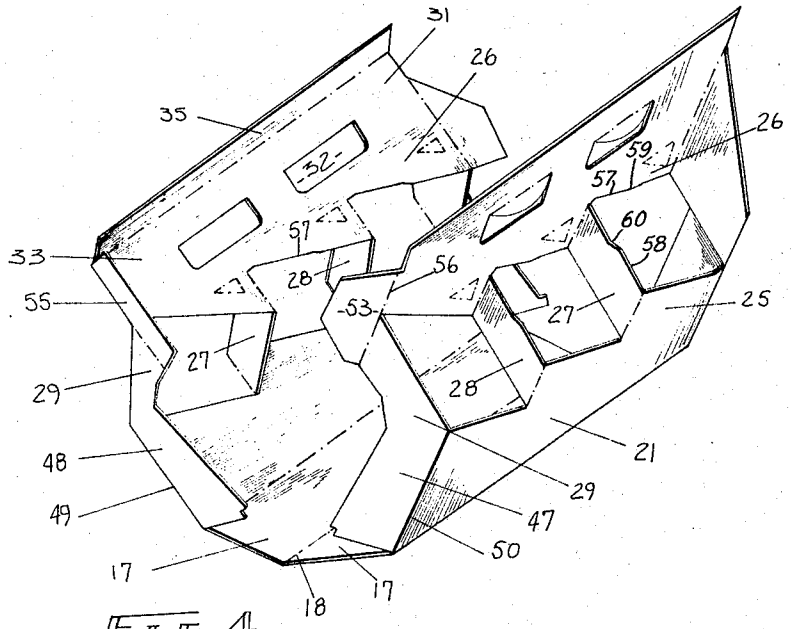


FIG 4

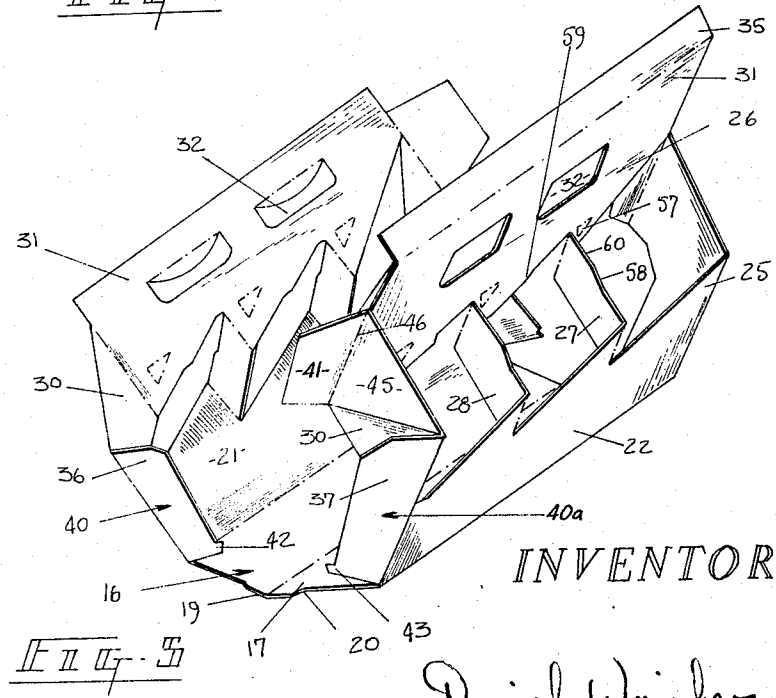


FIG 5

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CARRIERS FOR BOTTLES AND THE LIKE

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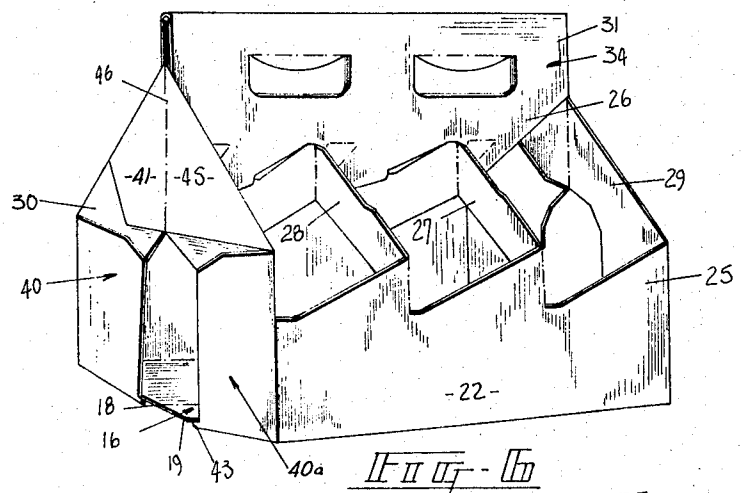


FIG - 6

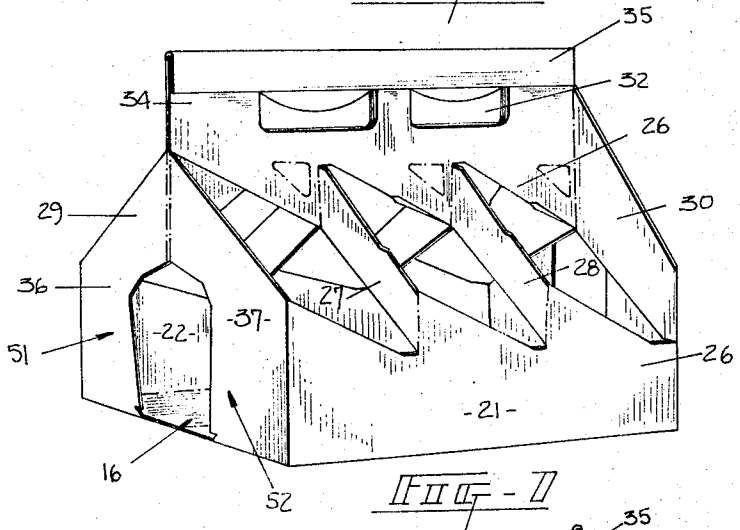


FIG - 7

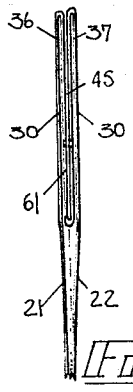


FIG - 8

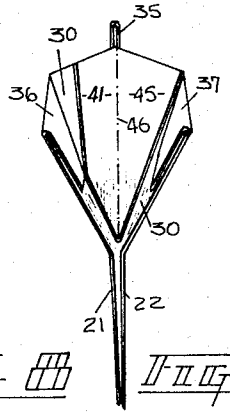


FIG - 9

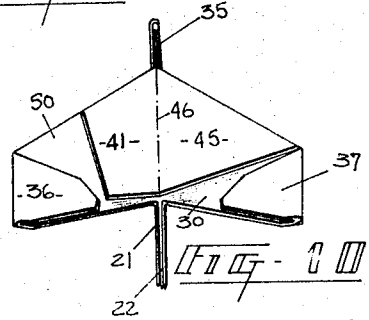


FIG - 10

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United States Patent Office 3,383,010 Patented May 14, 1968

3,383,010

CARRIERS FOR BOTTLES AND THE LIKE

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Filed May 5, 1966, Ser. No. 547,940
3 Claims. (Cl. 220—111)

ABSTRACT OF THE DISCLOSURE

A carrier having a pair of bottom integral walls having side walls which are formed with outer and inner upper sections integrally joined together by transverse intermediate inclined strips and transverse end members, and with longitudinal handle portions integral with the inner upper sections of the side walls and longitudinally glued together with the inner upper sections, the carrier being characterized by the fact that means are provided in the top edges of the intermediate strips and in the lower edges of the inner upper sections for their interengagement with one another in the carrier's collapsed position, and that at least one of its end transverse members has an integral extension flap which is folded in a back-to-back position across the faces of the adjacent end transverse members and glued thereto, together with the formation of notches in at least two of the adjacent ends of the bottom walls for engagement by hooks forming integral parts of the corner walls of the carrier.

The invention relates to improvements in carriers for bottes and the like as described in the present specification and illustrated in the accompanying drawings that form a part of the same.

The invention consists essentially in the novel features of construction as pointed out broadly and specifically in the claims for novelty following a description containing an explanation in detail of an acceptable form of the invention.

The objects of the invention are to devise a carrier for bottles and other contents that may be made of a comparatively light weight paperboard or similar sheet material and formed from a one-piece pre-cut blank, and which is cut and creased to form longitudinal and transverse separator members for the introduction of bottles and other contents into the carrier.

Another object of the invention is to construct a carrier for bottles and the like in such a way that those portions of the carrier that are prone to tear, under stress and strain, such as at the joinder of the handle sections with the end panels or end walls of the carrier will be reinforced by integral material members and thereby materially reduce such possibilities.

A further object of the invention is to devise a carrier that will be formed from a plurality of parts in an economical manner and provided with increased strength at certain points where such increased strength is desired.

A still further object of the invention is to provide a carrier that may be made from a lighter stock of material than has previously been commonly used, and that will be comparatively cheap to manufacture, of sufficient durable strength to support the bottles, and yet permit of its disposal, together with the now emptied disposable bottles that it may have contained.

Still another object of the invention is to devise a collapsible carrier that can be quickly and efficiently erected by mechanical or manual means and capable of being automatically filled with bottles or other predetermined articles, and yet through its flexibility will permit limited variations of the sizes of the bottles that may be carried by the carrier.

The invention, together with the above and other objects and advantages, is set forth in more technical detail in the following description and accompanying drawings.

In the drawings:

FIGURE 1 is a plan view of the pre-cut blank for the bottle carrier.

FIGURE 2 is a plan view of the pre-cut blank for the bottle carrier, showing the initial folding stage and the initial gluing.

FIGURE 3 shows the bottle carrier assembled in a form ready for erection and suitable for shipping flat.

FIGURE 4 is a perspective exploded view of the bottle carrier in its partially erected position and prior to the initial gluing.

FIGURE 5 is a perspective exploded view of the bottle carrier and taken from the opposite end thereof to that illustrated in FIGURE 4 and prior to the initial gluing.

FIGURE 6 is a perspective view of the erected bottle carrier ready for use.

FIGURE 7 is a perspective view of the erected bottle carrier ready for use and taken from the opposite end to that illustrated in FIGURE 6.

FIGURE 8 is a perspective fragmentary view of the underside of one end of the carrier in its collapsed position.

FIGURE 9 is a perspective fragmentary view of the underside of one end of the carrier, as shown in FIGURE 8, in a partially collapsed position.

FIGURE 10 is a perspective fragmentary view of the underside of the same end of the carrier as illustrated in FIGURES 8 and 9, in its expanded or erected position.

Like numerals of reference indicate corresponding parts in the various figures.

Referring to the drawings, the carrier for bottles and other articles is formed from a one-piece pre-cut blank and made from any suitable stiff material such as cardboard, pasteboard, pulp, plastic, aluminum, composite and other materials capable of being cut, creased and folded to form the required configurations of carriers and handled through mechanical and automatic means for making the same.

The pre-cut blank, as indicated by the numeral **15**, consists of a bottom wall **16** formed of a pair of bottom sections **17** integrally hinged to one another by the longitudinal crease or folding line **18**, the bottom sections **17** having at least one of their common ends provided with an integrally projecting ledge **19** terminating into locking shoulders or notches **20**.

The side walls **21** and **22** are integrally formed with the bottom wall **16** and extend the full length thereof and foldable therefrom by the longitudinal crease or fold lines **23** and **24**. Each of the side walls **21** and **22** have their upper outer sections **25** joined to their upper inner sections **26** by a plurality of intermediate inclined strips or transverse partitions **27** and **28** and end members **29** and **30**. The upper inner sections **26** merge with the handle sections **31**, the latter having one or more coinciding finger-engaging openings **32** and glue strips **33** extending longitudinally above the openings **32** and adapted to be glued to one another to form the handle **34**. One of the glue strips may be provided with an integral longitudinal glue flap **35** which is adapted to overlap the adjacent glue strip of the opposing inner section, when the upper inner sections **26** are in abutting position, for adhesively joining them together, and thus reinforce the handle.

The side walls **21** and **22** and their integral end members **30** have the integral lateral extensions **36** and **37**, separated therefrom by the crease or fold lines **38** and **39**, these lateral extensions having their upper portions glued to the outer faces of the end members **30** to complete

end corner walls 40 and 40a of the carrier and forming a central archway. The inner lower ends of the corner walls 40 and 41 are provided with integral hooks 42 and 43 that are adapted to engage with the notches or locking shoulders 20 of the projecting ledge 19 for holding the bottom wall in an approximately horizontal position while the bottles or other articles are being inserted into the carrier.

The end member 30, that joins the upper outer section 25 to the upper inner section 26 of the side wall 22, is diagonally creased at 44 to form the end extension flap 45, which is adapted to articulate inwardly therefrom, and is adhesively secured to the outer faces of the end member 30 and its adjacent counterpart that forms the joinder between the upper inner section and the upper outer section of the side wall 21. The end extension flap 45 is shaped to conform with the contour of the outer edges of the adjacent end members 30 and is vertically creased at 46 so as to be in alignment with the integral inner vertical crease or fold line 61 of its end member, and thus adapted to conform with the folding and unfolding operations to collapse or erect the carrier.

This extension flap 45 actually forms a hinge member to join the two adjacent end members to one another, and since the end members are integral with the adjacent inner upper sections this provides a limited hinge effect to that end of the inner upper sections. As illustrated in FIGURES 8, 9 and 10, the result is that in the collapsed position of the carrier, the space formed between the inner upper sections at that end will be expanded, and as the carrier is being erected this space will gradually be contracted, until when the carrier is fully erected the space will be completely closed, thus allowing expansion of the end members to expand with the minimum of strain thereon and reduce the possibility of any tearing of the same and at the same time strengthen the end of the carrier.

The lateral extensions 47 and 48 are integral with the other ends of the side walls 21 and 22 and inwardly foldable therefrom by the crease or fold lines 49 and 50 in order to form the end corner walls 51 and 52. These lateral extensions 47 and 48 also form an integral part of the end members 29 and incorporate therewith to form a central archway.

The glue flap 53 forms an integral part of the end member 29 and handle section 31 of the side wall 21 and is bendable therefrom at the vertical crease or fold line 54 so as to be in a back-to-back position with the inner face of the handle section 31 and the inner face of the inner upper section 26 and adhesively secured thereto.

The glue strip 55 forms an integral extension of the end member 29 and the handle section 31 of the side wall 22 and is foldable therefrom at the vertical crease or fold line 56 so as to engage with the inner face of the handle section 31 and the inner face of the inner upper section 26 and adhesively secured thereto. The other flat surface of the glue strip 55 is adhesively secured to the glue flap 53 and the upper inner face portion of the handle section 31 of the side wall 21.

From the foregoing it will be noted that the integral handle 34 of the carrier is not only strengthened and reinforced throughout its length and at its ends but also, in the lateral directions through the inclined strips and the end members that join the inner upper sections of the side walls to one another so as to complete the integral and intermediate longitudinal handle 34, and also through the formation of the archways created by the end members combined with the end corner walls.

The lower edges 57 of the inner upper sections 26 and the upper edges 58 of the intermediate inclined strips 27 and 28 correspond in contour to one another and are provided with corresponding shoulder and offset portions 59 and 60, the positioning of these offset portions being in opposite directions to those forming a part of the side wall 21 and to those forming a part of the side wall 22. In this way, when the carrier has been assembled in a form ready for erection and is in a flat condition for shipping, any possibility of the entanglement or interengagement of the opposing intermediate inclined strips to one another will be reduced to a minimum, as the inclined strips are trapped in position on the side of the handle of the carrier to those inclined strips trapped on the other side of the handle of the carrier.

In the initial folding stage and initial gluing of the pre-cut blank, the integral lateral extensions 36 and 37 are folded inwardly to engage with and to be adhesively secured to the lower portions of the outer faces of the end members 30, while the end extension flap 45 is bent in a back-to-back position with the upper portion of the outer face of its integrally hinged end member and adhesively secured thereto and leaving its outer integrally hinged flap portion 41 free for later engagement with the outer face of the opposing end member. The glue flap 53 is bent inwardly to adhesively engage with the inner face of one end of the adjacent handle section 31 and the inner face of its accompanying inner upper section 26 and is adapted to extend below the lower edge of that portion thereof. The glue strip 55 is turned inwardly and has the upper portion of its inner face adhesively secured to the inner face of the adjacent handle section 31 and extends downwardly therefrom to the full depth of the end of its adjacent end member to which it is integrally and foldably secured.

In the final folding and gluing stage, one half of the pre-cut blank is folded over the other half of the blank along the longitudinal folding line 18 so that the inner faces of the adjacent bottom sections 17 of the bottom wall will come into face-to-face engagement as well as the inner faces of the side walls, the inner upper sections and the lower outer sections and the handle sections thereof. The inner face of the hinged flap portion 41 of the extension flap 45 is adhesively secured to the upper portion of the outer face of the opposing end member of the side wall 21, and the outer face of the glue strip 55 is adhesively secured to the inner face of the corner edge portion 62 of the opposing handle sections 31 and also is adhesively secured to the outer face of the glue flap 53.

The longitudinal glue flap 35, which is integral with one of the handle sections 31, overlaps the top edge of the opposing handle section of the side wall 21 and is glued to the inner face thereof and thus completing the handle 34 and the assembly of the carrier, which is collapsible to a flat position for shipping purposes and is easily erected for immediate use.

Since certain changes may be made in the above invention and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What I claim is:

1. A carrier for bottles and the like formed from a one-piece pre-cut blank and comprising side walls, a pair of bottom sections integral with said side walls and with one another and separated from each other by a longitudinal crease line and forming a bottom wall in which at least one end of said integral bottom sections is provided with notches located between the longitudinal crease line separating the bottom sections from one another and the joinder of said side walls with said bottom sections, an outer upper section and an inner upper section forming a part of each of said side walls, intermediate transverse inclined strips and end inclined transverse members integral with and joining said outer upper section and said inner upper section of each wall to one another, a handle section integral with said inner upper sections of each side wall, lateral extensions integral with said end transverse members and said side walls to complete end corner walls and form a central archway,

hooks integral with the lower inner ends of certain of said lateral extensions and adapted to engage with the notches of said bottom sections, and means for securing the handle sections to one another and to said inner upper sections together.

2. A carrier for bottles and the like as claimed in claim 1, characterized by the fact that at least one of the transverse end members has an upper diagonal crease line separating it from an integral extension flap which is folded in a back-to-back position with the upper portions of the outer faces of its integrally hinged transverse end member and the opposing transverse end member and secured thereto and having a vertical crease line in alinement with the fold line formed between the joinder of its integral transverse end member and its adjacent inner upper section.

3. A carrier for bottles and the like as claimed in claim 1, characterized by the fact that the lower edges

of the inner upper section and the upper edges of the intermediate transverse inclined strips correspond in contour to one another and are provided with corresponding shoulders and offset portions, which positions are arranged in opposite directions to one another and are adapted to interlock the inner upper section and the outer upper section of each side together in the collapsed position of the carrier.

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